





The COVID-19 pandemic has revealed how indispensable technology has become to business success.

Many companies have doubled down on their tech investments, enabling them to survive the most disruptive time in their history. But a small minority took a different approach. They have compressed digital transformation with a more aggressive and progressive technology strategy that has helped them turn the challenge of the past year into an opportunity.

They have not just survived. They have thrived.

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Executive Summary

In 2019, our landmark research on enterprise technology strategies and their impact on performance showed that tech Leaders were growing revenues at 2x the speed of tech Laggards.

Leaders converted their strength in adopting new technologies across their organization into a large and growing innovation achievement gap between themselves and others.

Curious about the effects of the pandemic on these companies' technology strategies and performance, we completed a second round of research in early 2021 and discovered the following: **Technology Leaders**—the top 10% of the sample—have moved even further ahead of the pack and are **now growing at 5x the rate** of Laggards—the bottom 25% of the sample—on average in the past three years.

Among the Others—the remaining 65% of companies—there is a group of organizations that has been able to break previous performance barriers. These "Leapfroggers" are growing 4x faster than Laggards.

Representing 18% of the entire sample,
Leapfroggers have two distinguishing attributes:
First, their enterprise IT exhibits a requisite level
of "Systems Strength," affording them sufficient
strategic agility and scalability. Second, they have
a large "Flip Size"—that is, they are shifting their
IT budget from operations to innovation-related
activity. This includes speeding up software
development cycles, changing business processes
and building new capabilities.

We also found that, like Leaders, Leapfroggers demonstrate three strategic imperatives that are crucial to their success:

They **replatform**, building Systems Strength by committing to the cloud in a big way. They move to and innovate in the cloud.

They **reframe**, adopting an innovation-led strategy. They shift their focus, change their mindset, and adapt as needed. This often means prioritizing progress over perfection and collaborating with ecosystem partners and startups in building new IT systems and platforms.

They extend their **reach**, by expanding access to technology across functions, and widening business priorities around employee reskilling, well-being and sustainability.

This report explores these three Rs—and their interrelationships—to help businesses adjust their tech strategies to accelerate their digital transformation, reduce the innovation achievement gap and strengthen their revenue growth.

At the leading edge

The pandemic has compressed digital transformation

To understand the current landscape, it's important to look at our 2019 study, in which we surveyed more than 8,300 global executives to explore how companies were investing in and creating value from enterprise IT systems.¹

We identified 10% of surveyed organizations as Leaders, based on their Systems Strength. This is a measure of their technology adoption, the extent of technology adoption across organizational processes, and organizational and cultural readiness for tech-enabled innovation. Our financial analysis showed that **Leaders (the top 10%) were growing at 2x the rate of Laggards** (the bottom 25% of organizations in terms of Systems Strength).

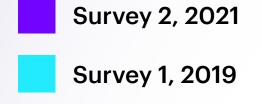
Fast forward to 2021. COVID-19 has helped to compress transformation. The rate of tech adoption has accelerated—but not equally (see Figure 1). The benefits of increased tech adoption aren't equally distributed either. Our latest research shows that, despite the challenging business environment,

Leaders have extended their advantage over Laggards, and are now growing 5x faster.

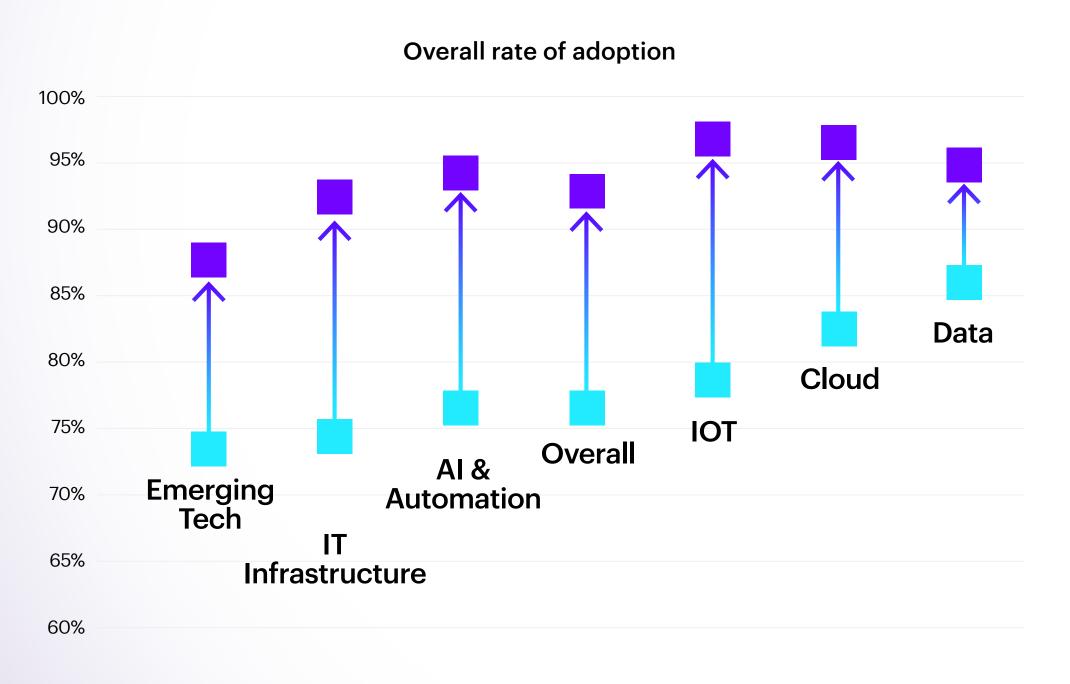
COVID-19 has only widened the gap between Leaders and Laggards.

Figure 1

The COVID-19 pandemic has accelerated the rate of tech adoption



Survey 1 (Total: 8356) Survey 2 (Total: 4300)



Source: Accenture Research

Emerging tech: blockchain, extended reality, open source, 3D printing, robotics

IT Infrastructure: DevSecOps, serverless computing, cloud native applications, containers, docker and kubernetes, microservice architectures, distributed logs/event hubs, react/event driven architectures, FaaS.

AI & Automation: deep learning, machine learning

IoT: Internet of Things, edge/fog computing

Cloud: Saas, laas, Paas, hybrid cloud

Data: Data lakes/repository, streaming/real-time data, big data analytics



Being a technology Leader in a world changed by COVID-19

Leaders tend to adopt innovative technology sooner and reinvest more frequently—and they make smarter decisions with their tech investments.

As our previous study showed, Leaders become Leaders by building boundaryless, adaptable and radically human systems capable of scaling innovations repeatedly and making their organizations strategically agile.¹ Leaders direct a greater percentage of their IT budget toward innovation, and they accelerate their investments in innovation faster than the rest. Additionally, Leaders concentrate not just on technology adoption, but the next vital, strategic steps. These include scaling tech across the enterprise, including putting in place the right culture, and reskilling and upskilling their workforce (see About the Research).

As the pandemic intensified, Leaders doubled down on their tech investments. When the pandemic began, they scaled their investments in key technologies such as cloud and AI. This helped them not only absorb impacts quickly but also refocus on growth. According to our 2021 global survey of 4,300 executives, companies compressed transformation by investing in these digital technologies at historic rates to respond to both new operational challenges and rapidly shifting customer demands.

More than 50% of Leaders increased investment in core and emerging technologies

7)%

68%

70%

59%

of Leaders accelerated investments in cloud security.

of Leaders accelerated investments in hybrid cloud.

of Leaders accelerated investments in Internet of Things (IoT) technology.

of Leaders accelerated investments in Al and machine learning.

of Leaders accelerated investments in robotic process automation.

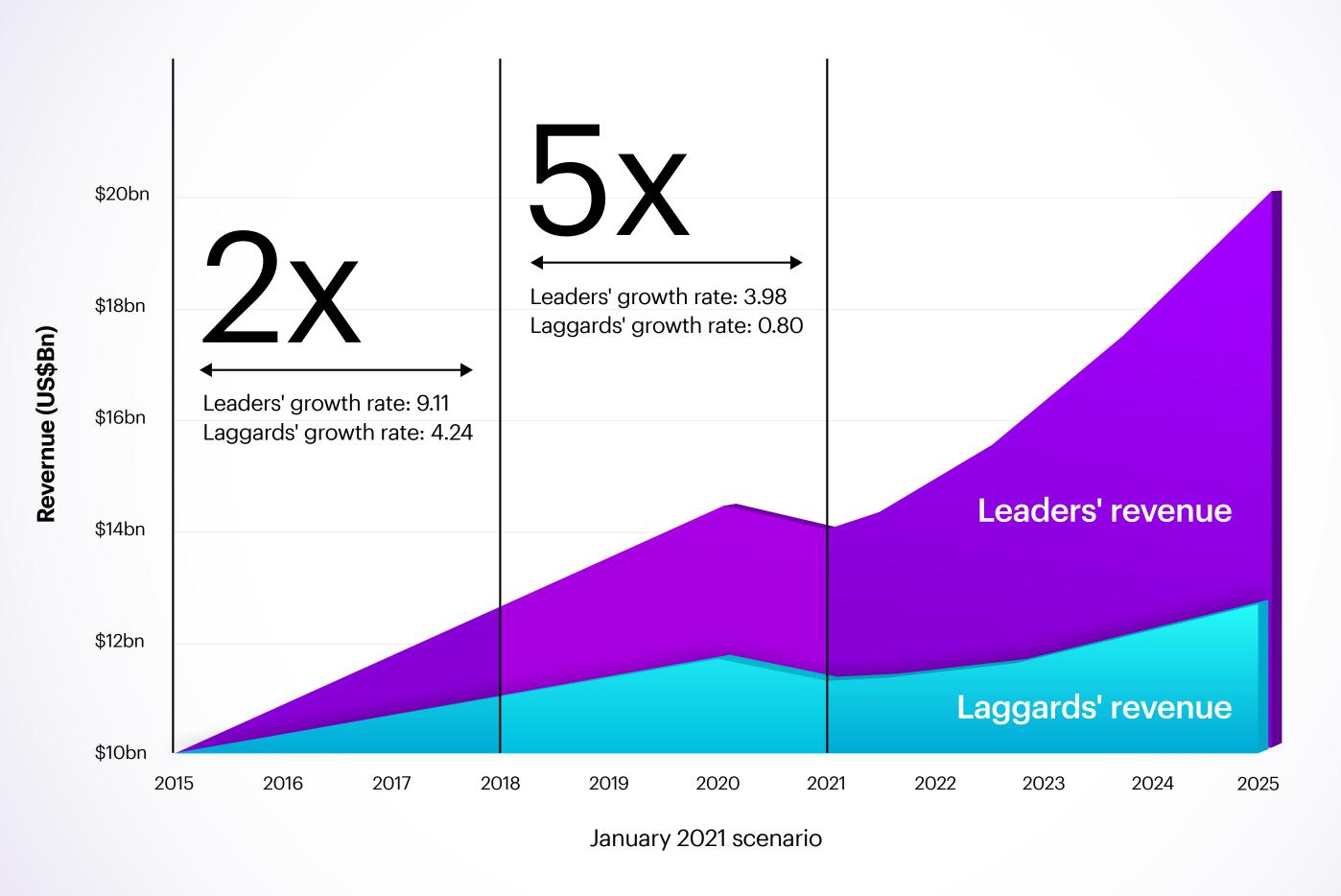
Survive or thrive?

In sharp contrast, many Laggards invested in newer technologies for the first time just to keep their companies operational. As the COO of one large bank explained: "During COVID-19, we are spending our IT budget on running the bank, not changing the bank. The initial moves to the cloud we made have been about keeping the lights on." This puts Laggards in a position where they're playing catchup and taking longer to recover to pre-pandemic growth rates.

What's the evidence? We used the same model from 2019 for comparing progress of a Leader and a Laggard company, each starting out with \$10 billion in revenue in 2015. We see that, with a growth rate 5x that of Laggards over the past three years, and with more optimistic expectations about returning sooner to pre-pandemic growth levels, Leaders are poised to pull away from the Laggards after the pandemic (see Figure 2).

Figure 2

Leaders have extended their revenue growth gap over Laggards



Revenue growth drop during the COVID-19 pandemic for Leaders was 55% while it was 80% for Laggards. Model based on two companies, one Leader and one non-Leader, with \$10 billion revenue at the end of 2014 and with average revenue growth rates from our survey for the two groups. For realized values, we use the most recent survey responses available from our 2019 and 2021 surveys. For projections, we asked executives when they expect to return to pre-pandemic level revenue growth and apply the 5-year CAGR (2015-2019) as the pre-pandemic revenue growth. A linear increase in revenue growth is assumed during the recovery period.

Leaders create value for all stakeholders

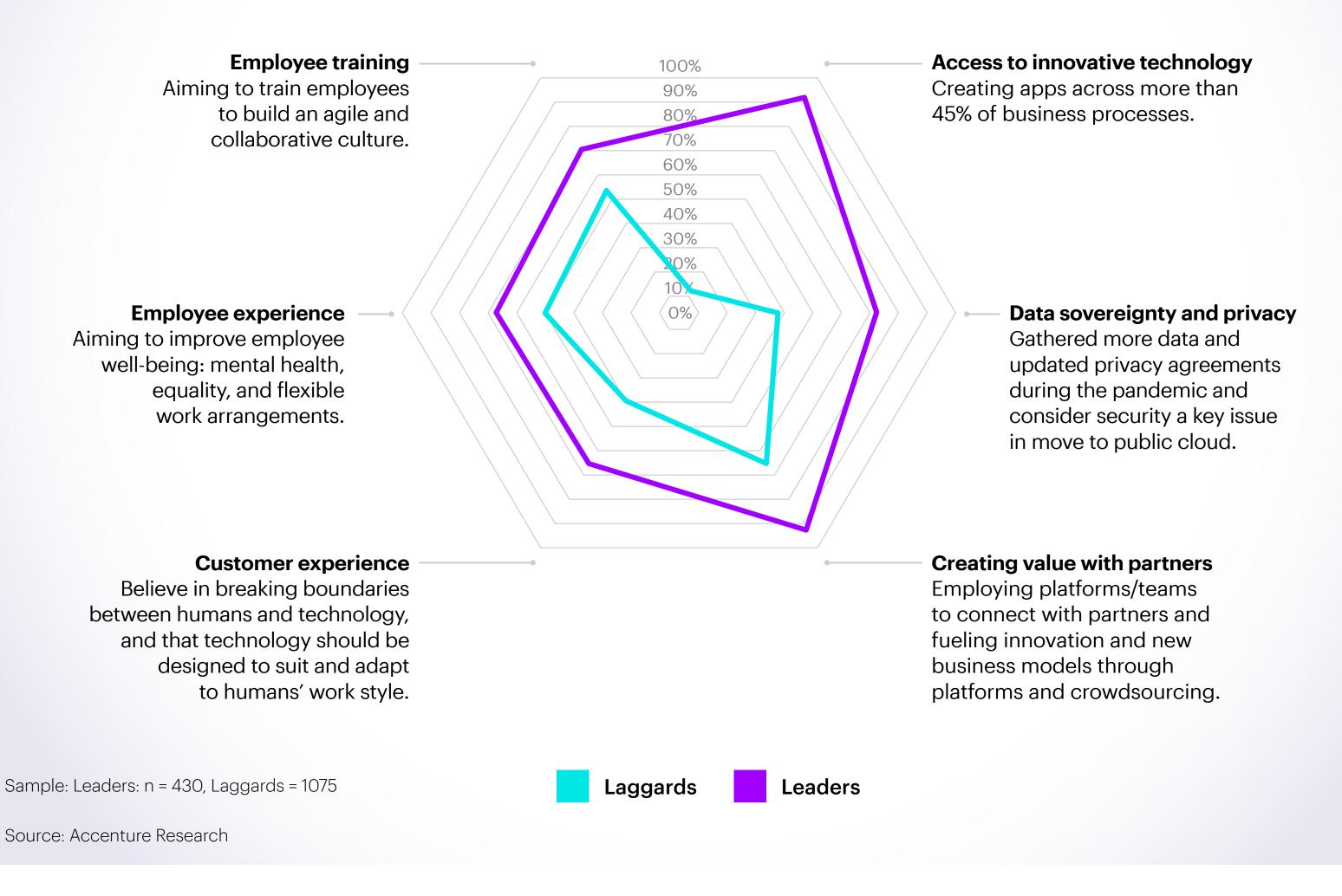
Leaders also distinguish themselves in another dimension: Creating new value for all stakeholders. This value is delivered by reskilling employees, promoting their well-being, ensuring data sovereignty and privacy for customers, leveraging ecosystem partners, democratizing innovation across the enterprise and designing human-centric technology (see Figure 3).

For instance, during the pandemic, 70% of the Leaders looked to aggressively increase funding on training to build an agile and collaborative organization as opposed to 52% of the Laggards.

Figure 3

Leaders focus on a broader value agenda

Percentage of companies achieving specific goals and activities



Scaling technology for performance and success

Some leading companies focus on innovative outcomes that extend beyond classic economic measures.

A good example is India's **Jio**, a telecommunications subsidiary of Indian conglomerate Reliance Industries. In less than five years, Jio has grown into a tech Leader on the strength of strategic investments in fixed assets like cell towers, fiber optic cables and cloud data centers.

Because of these investments, Jio is in a position today to accelerate the digital transformation of the Indian economy.² Under a 10-year strategic partnership with Microsoft, the two companies will work together to hasten the adoption of data analytics, AI, edge computing and other newer technologies among small and medium enterprises across India. Jio has performed well during the pandemic and is now poised to roll out 5G network services this year, a significant achievement.



Leaders embrace experience

Leaders focus on delivering the best possible user experience to engage with employees and customers more effectively. Almost all industries were required to do business virtually because of the COVID-19 pandemic. Leaders seized this opportunity to create new, meaningful experiences.

In financial services, institutions turbocharged efforts to enhance mobile banking, enabling customers to deposit checks, transfer funds or pay bills from their phone.

Chase, the U.S. bank, made it a corporate communications priority; the company used Instagram to link people to the mobile web, then to the app store to download its app.³

Automotive companies began selling vehicles through online channels to avoid in-person spread of the virus. One carmaker, **Geely**, even offered "key dropoff" via drone for a completely contactless experience.⁴ Large brick-and-mortar retailers like **Home Depot** quickly implemented

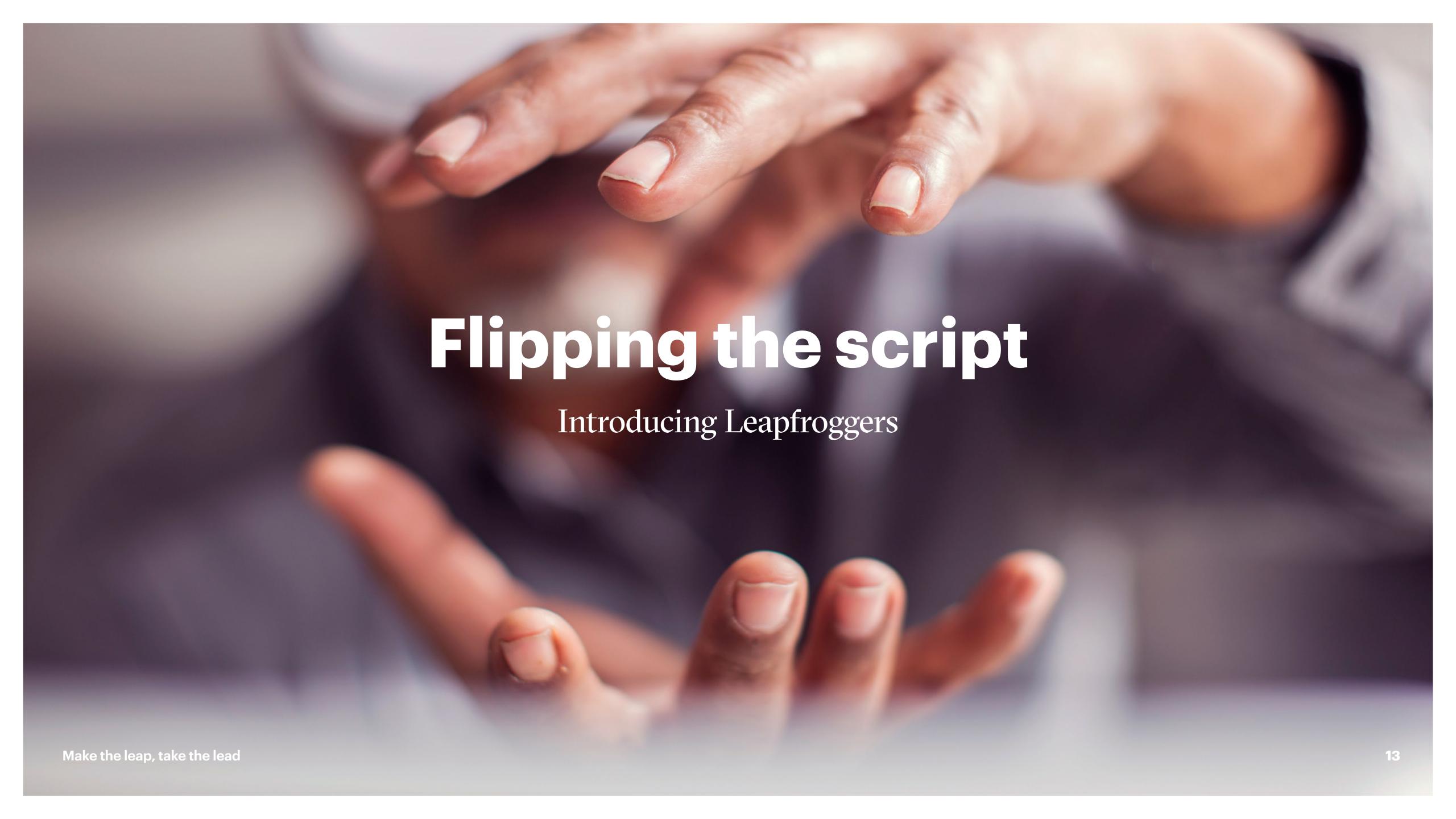
curbside pickup, blending the traditional in-store experience with a new digital experience to create something that's not only safer for customers but more seamless. Electronics retailer **Best Buy** even turned its stores into online fulfilment centers.⁵ All this was possible because of these companies' technology leadership.

In general, Leaders are more dedicated to creating seamless interactions between humans and machines than Laggards (66% to 48% in our survey). Leaders bring innovation to the employee experience in other ways, too. For example, 65% of Leaders prioritize employee well-being by providing digital-based flexible work arrangements, compared with only 43% of Laggards.

66% vs 48%

Leaders are more dedicated to creating seamless interactions between humans and machines than Laggards

Autodesk, the fast-growing design software company, harnessed data analytics and AI to create "Netflix-like" experiences on its internal corporate website for employees. The site features personalized recommendations for training and tools based on a user's profile. It also helps the company understand how much time people spend using certain apps. That gives managers key insights for optimizing tools and workflow processes.⁶



The situation described above might imply that we are moving into an era of winner-take-all, where only Leaders will emerge victorious—and only Leaders can offer an actionable model for business improvement. We find that's not the case at all.

Leaders aren't the only group of organizations making strides despite the strong headwinds caused by COVID-19. In fact, a significant number of companies (18% of the entire sample) are also turning the crisis into opportunity. Their success, growing at 4x the rate of Laggards between 2018 and 2020, provides a roadmap to those that need to accelerate change.

We call these companies Leapfroggers. Leapfroggers demonstrate several qualities that other struggling companies might emulate.

What makes a Leapfrogger?

We see the combinatorial effect of two factors:

Leapfroggers have requisite Systems Strength

They have adopted advanced and emerging technologies and scaled them across their enterprises while fostering the right kind of organizational change needed to take advantage of these tech investments. As a result, their systems afford them strategic agility and scalability.

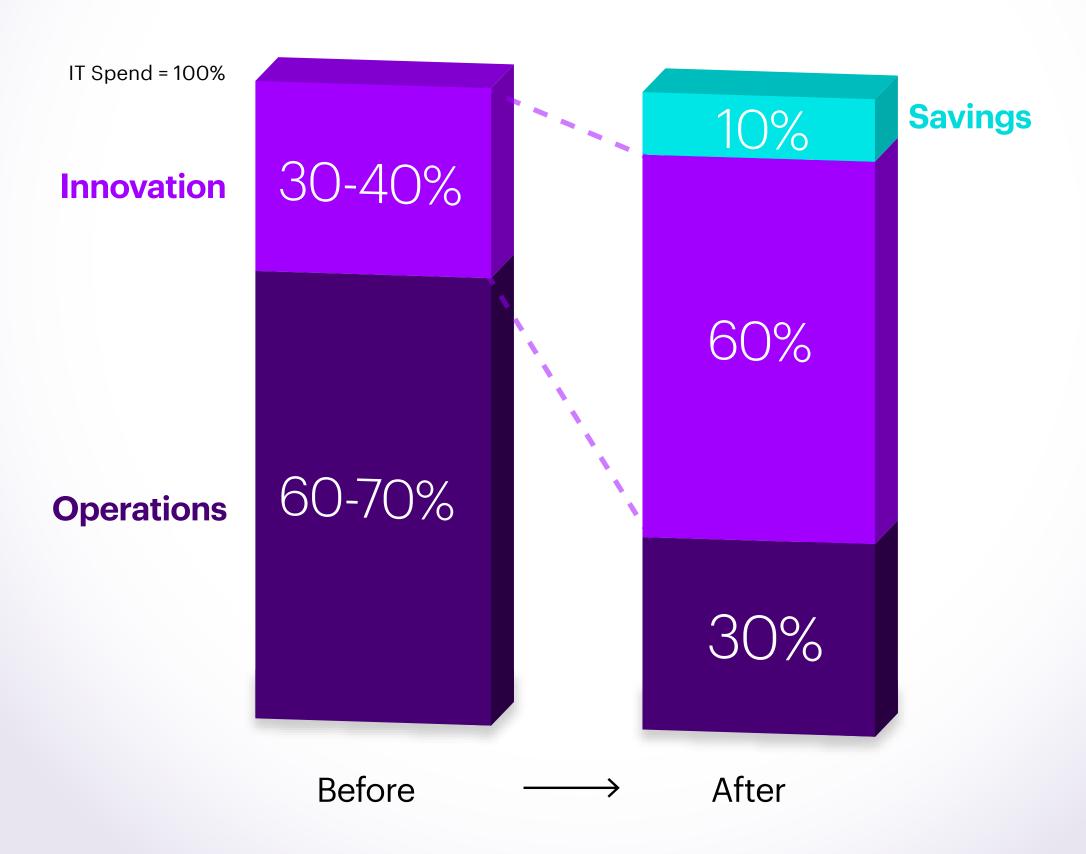
Leapfroggers flip their IT budget allocation to favor innovation

Based on our experience working with major clients across the world, most IT budgets today have a 70/30 split: 70% for operations and maintenance and 30% for innovation and discretionary spending (see Figure 4). The flip occurs when organizations migrate their IT estate to the cloud and free up capital to invest in innovation activities, such as automating software development cycles and building capabilities to deploy new technologies. The IT budget doesn't increase, and maintenance and operations are not ignored but rather become more cost-effective because of the cloud. Using a measure called "Flip Size" Accenture Research has been tracking this breakdown in IT budgets since 2017. As one might suspect, Leaders were the first to make that "flip," taking advantage of the efficiencies from automation. Now Leapfroggers are following suit.

Figure 4

Making the flip to innovation

Share of IT spend on operations and maintenance versus innovation and discretionary spending



Source: Accenture Research

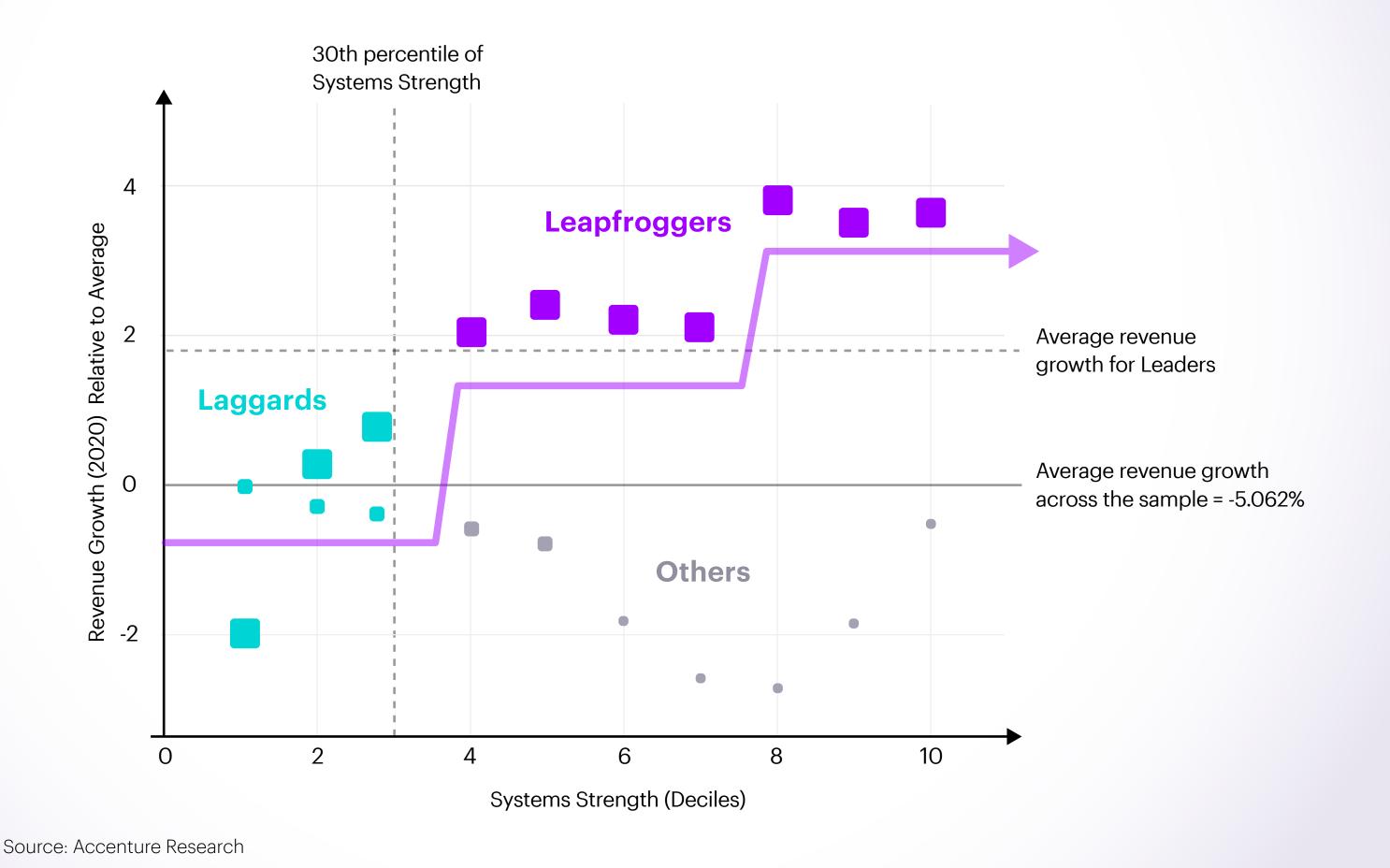
Leapfroggers, companies with high Systems Strength and Flip Size, demonstrated an unmistakable positive spike in performance during the pandemic.

Between 2018 and 2020,

Leapfroggers grew at 4x the rate
of Laggards. In fact, their growth
rate during the pandemic was even
higher than the average Leader
(see Figure 5).



Figure 5
Impact of flipping the IT budget spend during the pandemic



Recommended strategies

- If you have high Systems Strength, and a high Flip Size, continue to increase both Systems Strength and Flip Size in steps.
- If you have a low Systems Strength, regardless of Flip Size, focus on building Systems Strength.
- If you have high Systems Strength, but low Flip Size, focus on flipping the IT budget allocation toward innovation.

Sample: Leaders = 430; Leapfroggers = 773; Others = 3097

Note: Size of the squares indicate the average acceleration of flip at each decile of System Strength.

Leapfroggers flip towards innovation

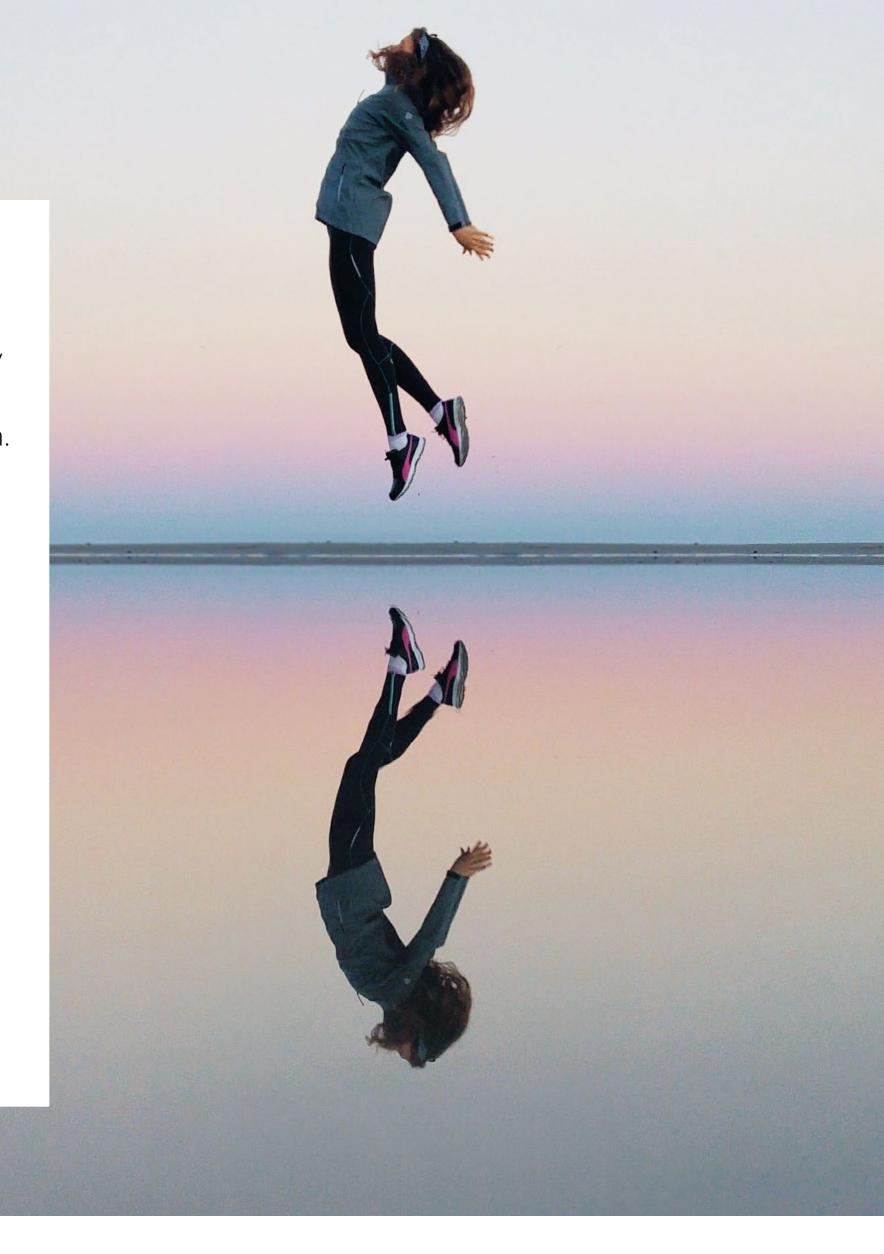
Leapfroggers leverage the combinatorial dynamic between Systems Strength and Flip Size. Our research shows that the minimum requisite level of Systems Strength is above the 30th percentile. In other words, if your Systems Strength is better than 30% of your peer group, then you are poised to reap benefits of flipping your IT budget allocation. As Figure 5 shows, the interaction of Systems Strength and flipping the IT budget produces the most significant positive impact on revenue growth for companies above the 30th percentile of Systems Strength.

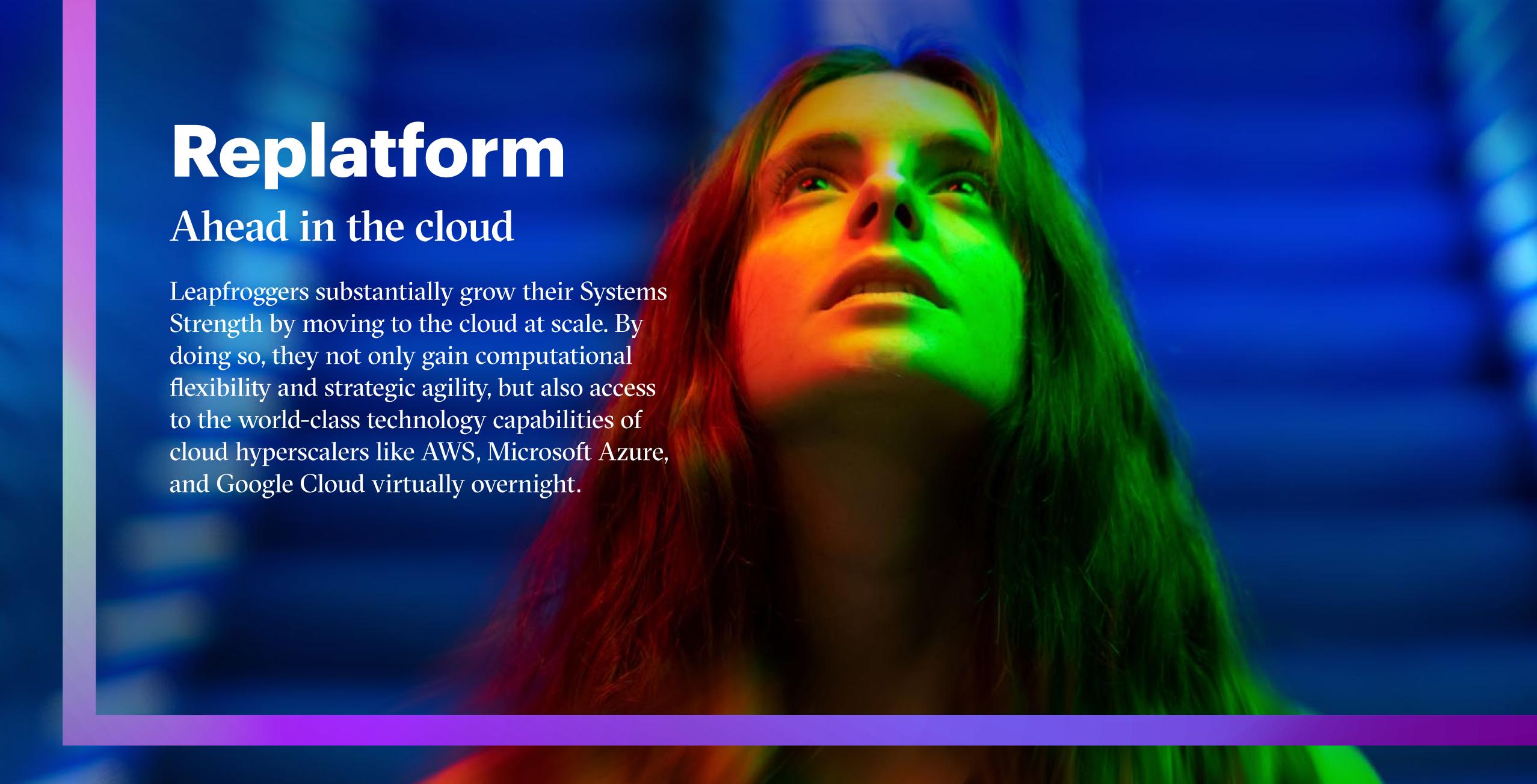
There is historical precedence for such combinatorial effect of technology. For example, even though deep learning techniques were being researched in labs for decades, they did not achieve superhuman ability in strategy games like chess until the requisite computer power and data resources became available in the early 2010s.^{7,8} Now, we've reached a point where it is impossible for humans to beat machines trained using these techniques in games such as chess or Go. To take advantage of such combinatorial effects of technology, Leapfroggers undertook compressed digital transformation and outpaced Laggards in

adoption of technologies such as Cloud, big data analytics, AI, and cybersecurity during the pandemic.

What is also clear from our regression models (see gray dots on the lower-right of Figure 5) is that Systems Strength alone is not sufficient for high revenue growth. So, it is possible that many companies have modern IT estates but use their IT to keep the "lights on," not to drive business value through innovation. Or, that they are innovative but only within IT.

In analyzing Leapfroggers, we identified three practices that can help companies compress transformation, by building Systems Strength and flipping their IT budget: replatform to the cloud, reframe their strategic mindset, and reach for a new set of business priorities.





Decoupling tech to close the achievement gap

With migration to the cloud, Leapfroggers begin to remove unnecessary dependencies and redundancies in their IT stack.

And they often design new interoperable systems using solutions from ecosystem partners. They also spur creativity and collaboration in the workforce using cloud-based apps. They understand and engage with their customers in dynamic ways using new data tools, and scale innovations across the enterprise.

During the pandemic, not only did Leapfroggers outspend Others on all nine types of cloud technology included in our survey and on complementary technologies/capabilities in the cloud, they also increased their adoption of all technologies by 17%.

This change in adoption is 1.4x the increase in adoption we observe for Others. For instance, pre-pandemic, 81% of Leapfroggers had adopted some form of cloud technology by 2017. The same figure rose to 98% after the pandemic. Similarly, the post-pandemic adoption level of automation and data technologies for Leapfroggers was 97% and 98%, respectively.



Leapfroggers increased their adoption of all technologies by

170/

1.4X

increase in adoption of technologies compared to Others

Building Systems Strength in the cloud

Banco Santander SA, the Madrid-based multinational financial services firm, shows replatforming at work.

In 2017, Santander relaunched its longtime online bank, Openbank, with a new cloud-based IT system and web platform and app. In 2019, the company further replatformed: It consolidated all its digital services into a single global unit, removed potential duplication of apps and systems, and ensured that any new platforms are built "only once."9

In replatforming, Santander dismantled internal silos. Systems now clearly map to capabilities. Investments in IT bring together all stakeholders across the organization, instead of creating shadow IT systems and leaving some groups out in the cold.

Santander uses the cloud to extend digital capabilities across new markets and applications. The same year that Santander restructured digital services into one global unit, the company signed a multi-year partnership agreement

with Microsoft Azure to drive a hybrid-cloud strategy, part of a broad-based €20 billion digital transformation plan.¹⁰

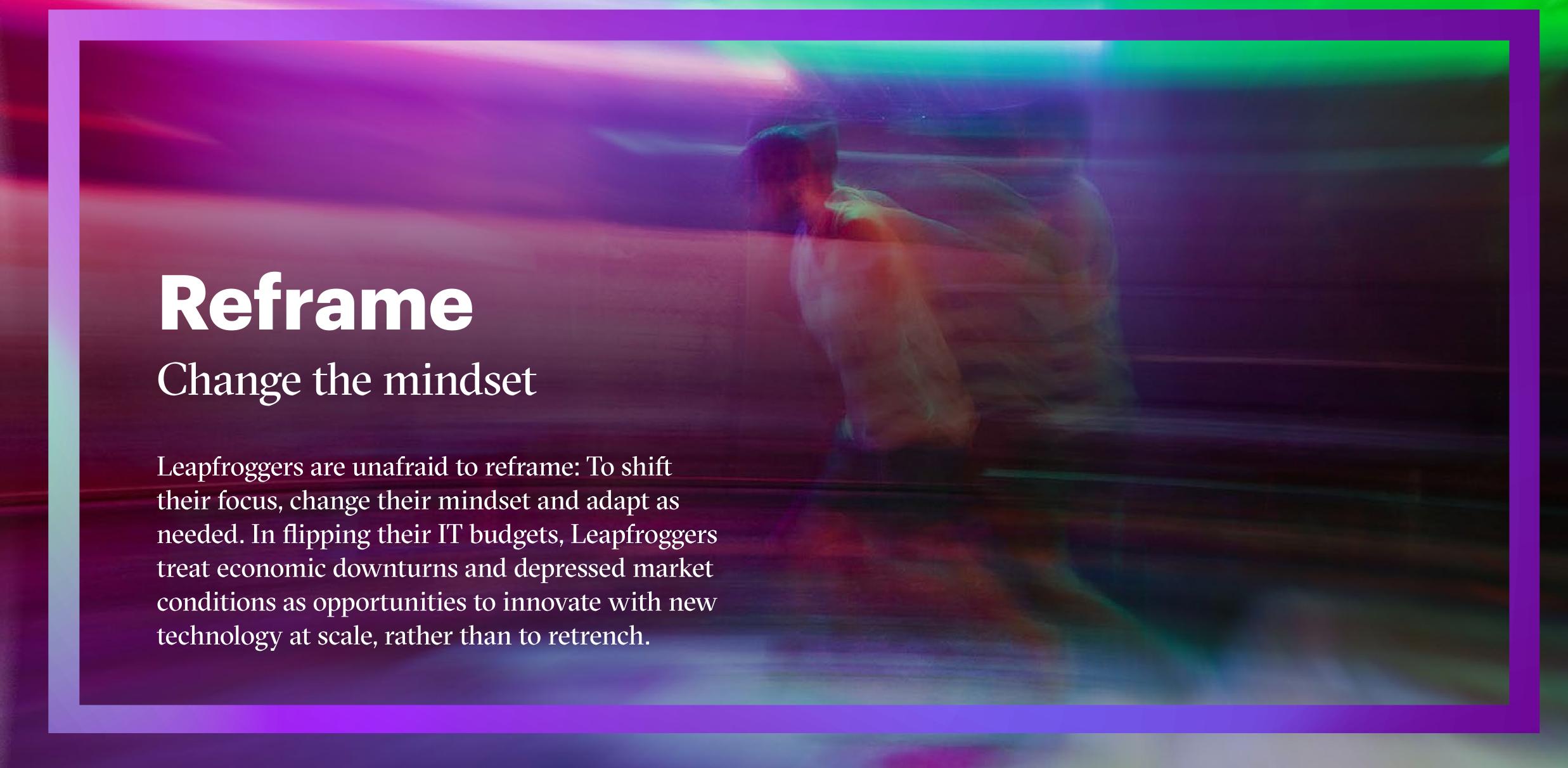
Replatforming has helped Santander moderate the impact of COVID-19 disruptions. The company's core markets, spanning from Brazil to Spain, have been some of the hardest hit by the pandemic. Record low interest rates and weaker emerging market currencies have only exacerbated the pain.

Fortunately, Santander has been able to mostly recover, and has even been hiring IT staff amid the pandemic.¹¹ In September 2020, Santander launched a new customer-facing virtual banking agent called Sandrine. Sandrine leverages the Al platform boost.ai's proprietary Natural Language Understanding (NLU) technology to provide customers with instant answers to questions related to the bank's products and services.

per week, and automatically passes the customer's query to a human agent if it is outside its scope.¹²

Thanks to these replatforming efforts, the bank's app was recognized as the Best Bank for Digital Services in Spain in 2020. The number of users of the app has gone up by 4x over the past three years, while, thanks to new features, the average connection time also increased by 27%.¹³

Sandrine can handle thousands of customer chats



Second-mover mindset: innovation and collaboration

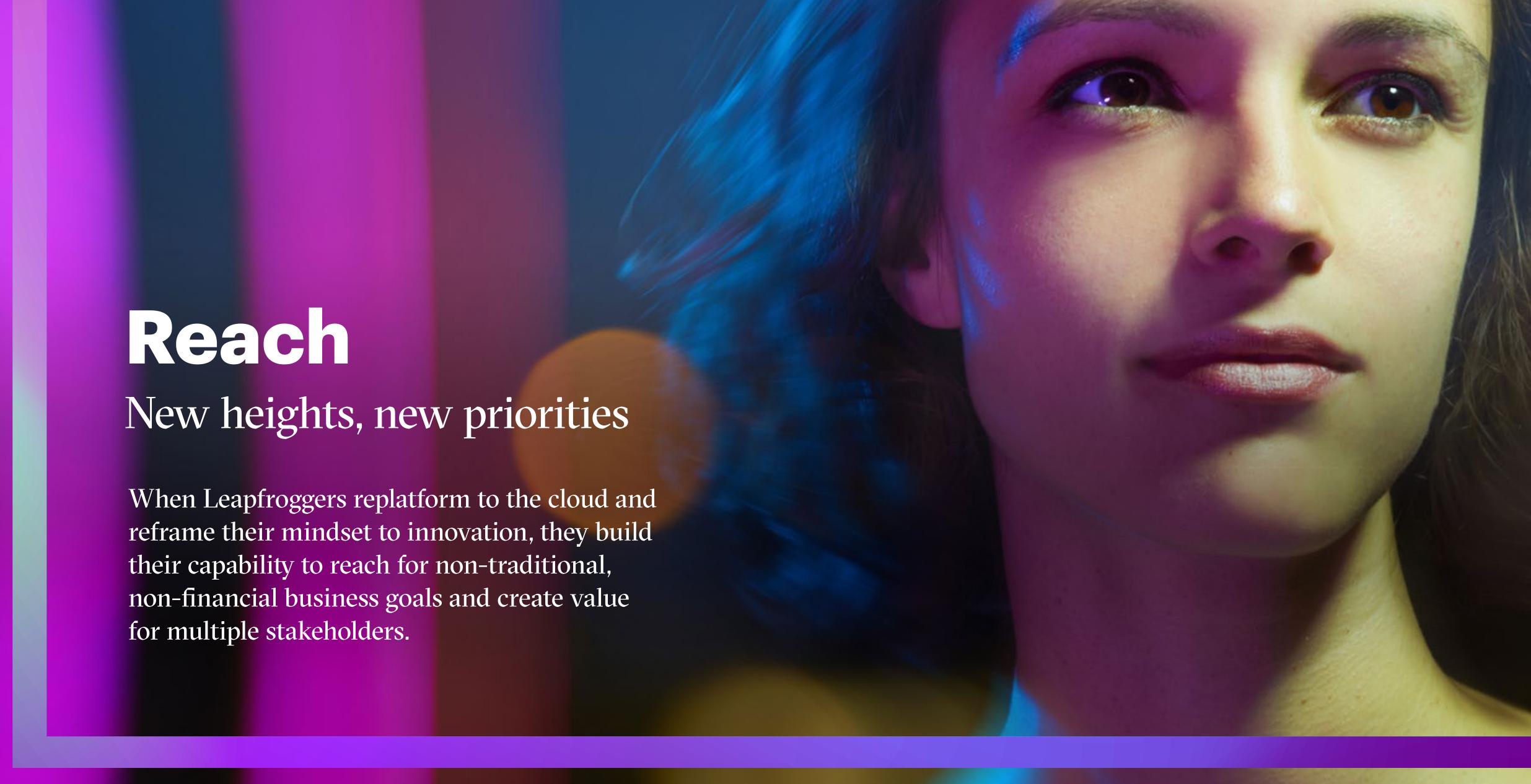
Instead of trying to build their own expensive IT systems and platforms, they partner with public-cloud providers and startups. (About 89% of Leapfroggers—the highest proportion of any group we studied—believe in building partnerships across the ecosystem.) Instead of being protective and defensive, they have the humility to learn from, and work with, others. They understand "second-mover" advantage. The shift in mindset to innovation is evident in their actions: Scaling new innovations was their first priority during the pandemic and 67% of Leapfroggers looked to aggressively increase revenue from non-core business lines compared to 53% of Others.

We see this mindset embodied in France's Carrefour Group, one of the world's biggest supermarket chains. Over the past three years, Carrefour has been undergoing a major overhaul to boost sales and profits and transform itself into a digitally savvy food retailer. Driving its strategy? Innovation. The company wants to increase food e-commerce sales to 4.2 billion euros by 2022.¹⁴ To get there, the company has invested 2.8 billion euros in its digital transformation and has partnered with the likes of Google to create innovation labs and reinvent the customer experience. Carrefour has also focused on collaborating with startups and fostering external innovation. Notably, in 2017, Carrefour Poland's C4 Retail Lab incubator was shortlisted for an Open Innovation Award.

During the pandemic, Carrefour and Google launched a voice-activated grocery shopping service in France. Users who adopt Google Assistant can link their Google and Carrefour accounts to add items to a shopping list by just saying

words like "butter," "milk," "eggs," or product and brand names. After placing an order, customers can pick their preferred delivery method—home delivery or pickup. The focus on digital has lifted Carrefour's overall financial performance, and the company is now on target to meet its goal of increasing food e-commerce sales to 4.2 billion euros by 2022. In 2020, globally, Carrefour drove growth of more than 70% in food commerce, reaching 2.3 billion euros. In Brazil, where Carrefour operates 96 stores, the investments in innovation technologies paid off when the pandemic hit: in Q2 of 2020 alone, Carrefour's e-commerce saw a growth of 377%, outgrowing the overall food e-commerce Brazilian market by 39%.





Embracing a broader value agenda

Leapfroggers expertly extend the reach of their tech-enabled innovations across the various departments within their organizations. They close internal innovation gaps between business functions that are "tech-haves" and "tech have-nots." They personalize training programs for employees and invest in their mental health. They provide their people with a collaborative working environment and work schedules that allow them to succeed. For both their customers and partners, they design systems that prioritize data privacy, leverage partner expertise and make interactions seamless. This puts them in striking distance of established Leaders.

Our data suggests that Leapfroggers are making a strong commitment to reach beyond traditional business priorities. For example, they are targeting 2x more

business processes within the enterprise for technology transformation, bringing innovative technology access to more departments. They are also ahead in terms of funding and focusing on upskilling their workforce and providing the right work environment and culture (see Figure 6).

And they lead when it comes to using technologies to deliver better training experiences. For example, 65% of Leapfroggers (vs. 56% of Others) were already using AI, analytics and machine learning to predict and match training to job requirements before the pandemic and 60% also implemented experiential training (immersive methods such as gamification and AR/VR) in the past three years (vs. 51% of the Others).



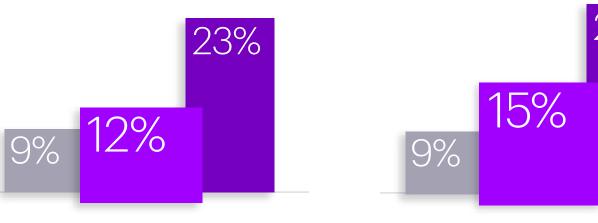
Leapfroggers reach beyond the traditional business goals

A larger share of Leapfroggers are following Leaders in aiming to extend their horizon beyond traditional goals of profitability, and reimagining their company as a reflection of the society they serve by investing in their workforce.

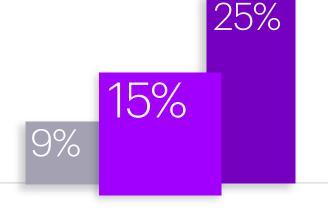


Source: Accenture Research

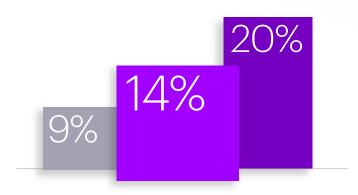
Percentage of companies that aim to improve employee well-being and workforce culture



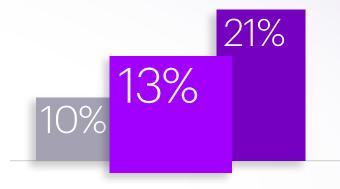
We are planning to increase the proportion of our workforce that has flexible work arrangements (time and place)



We are planning to increase funding on training to build an agile and collaborative culture



We are planning to increase funding on programs for mental health



We are planning to increase funding on programs for workforce well-being and equality

Expanding access to technology

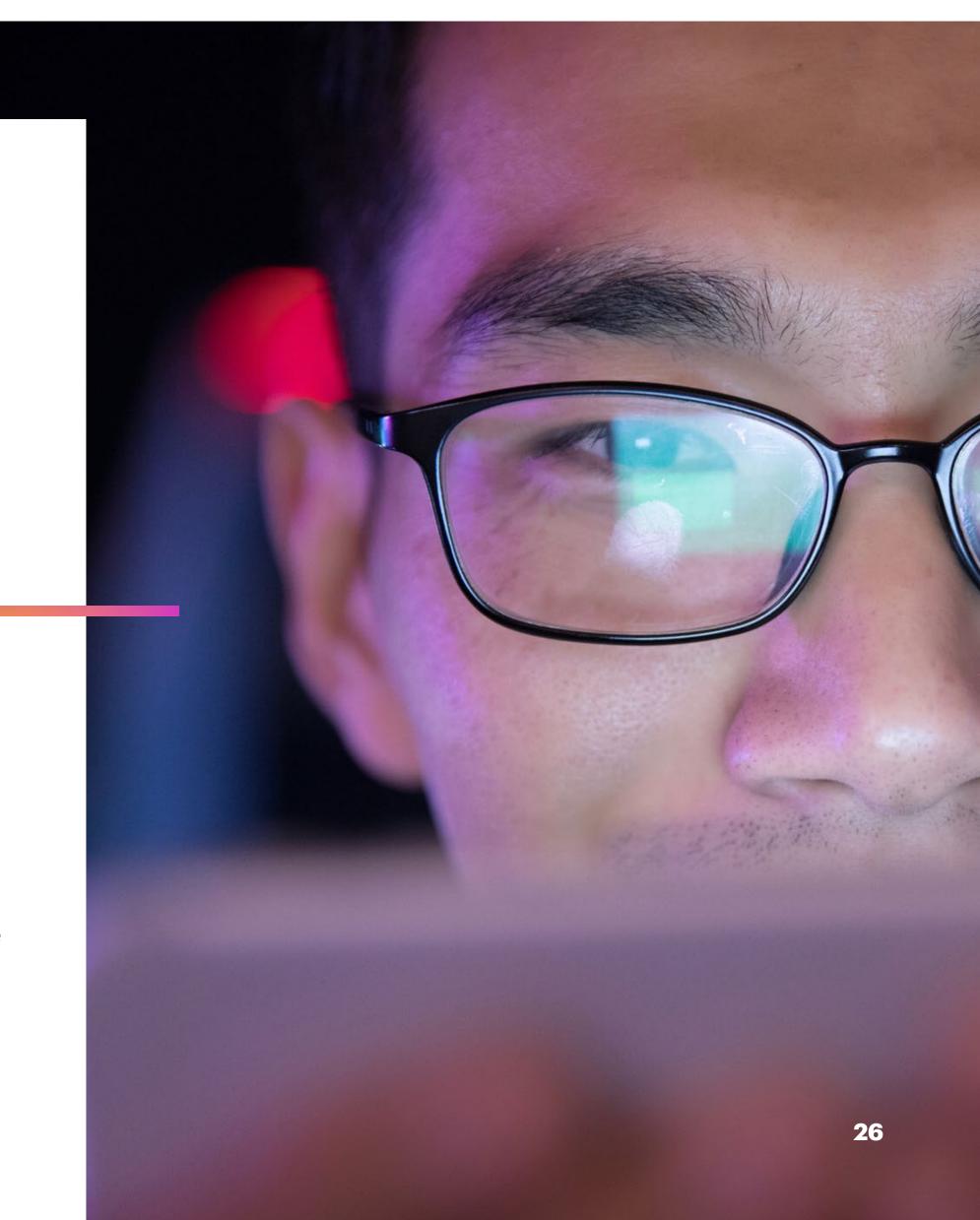
Germany's Deutsche Telekom (DT) embodies what it means to reach. The telecom giant has performed well in a difficult business environment and has been a model of resilience. Within days of COVID-19 lockdown restrictions being put in place, Deutsche Telekom's networks faced an onslaught of traffic. The number of digital conferences increased 322%, and the number of people watching Netflix soared 3074%. Yet DT's communications networks remained stable and secure, and the company was able to move 16,000 service and call-center employees into their home offices within a very short time.

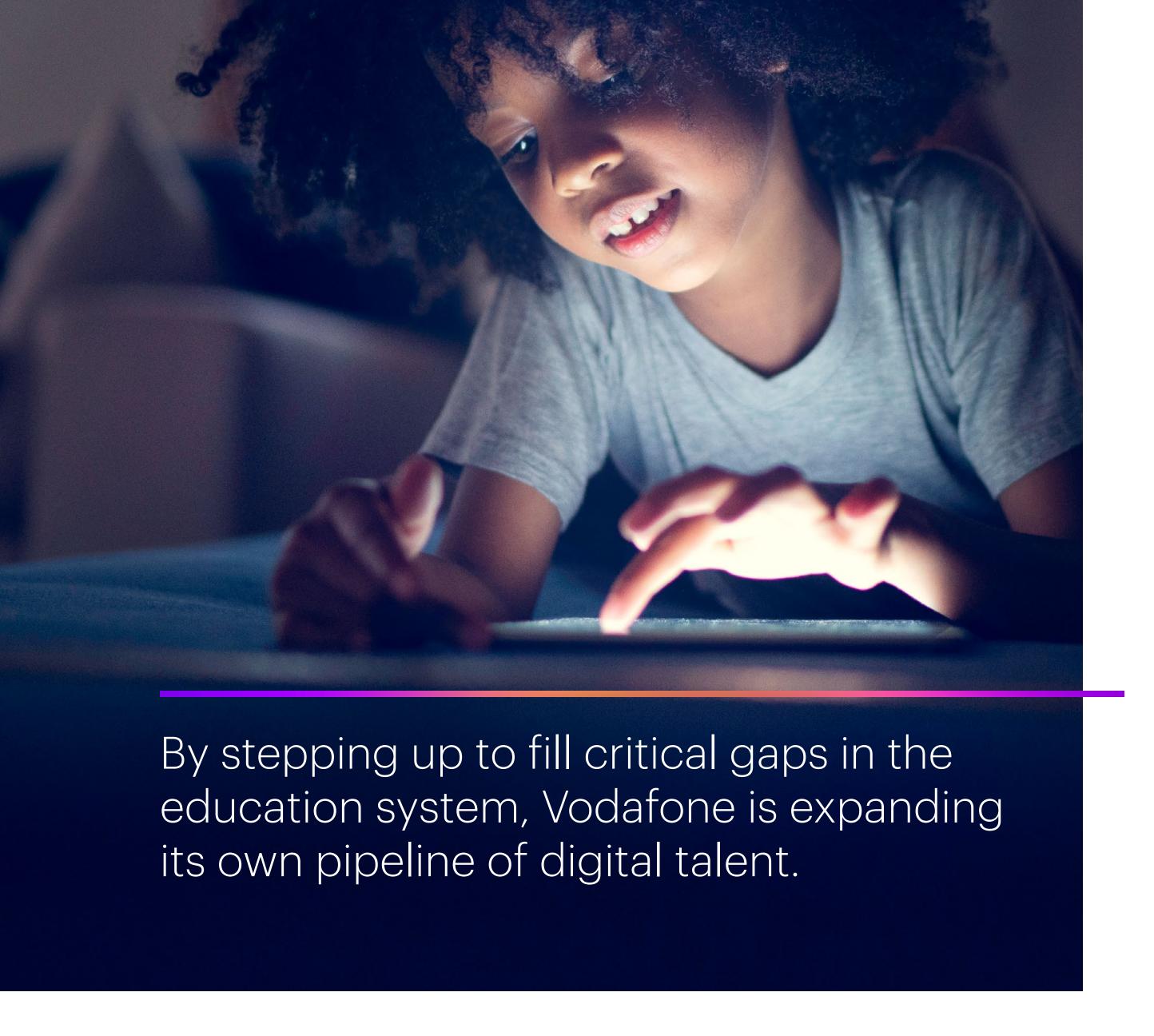
Why? Because of a decision by DT in 2016 to modernize its IT estate and invest in cultural and technological innovation.¹⁷ The enterprise-wide transformation initiative was aimed at improving employees' skills, democratizing access to technology, and restoring stability and reliability to its IT organization. Based on our own study, Leapfroggers provide access to modern IT tools and capabilities across the enterprise, transforming 2x as many work processes compared to Others.

DT was flexible, resilient and innovative during the pandemic—for both their employees and customers—as opposed to merely focusing on survival.

as many work processes transformed compared to Others

Deutsche Telekom is actively using AI to create new experiences for customers: Chatbots, smart speakers and an app that "knows" the best available internet connection for your phone. DT is even using AI to help strategic planners decide where to build out new fiber-optic network services. As part of the program, an aerial vehicle flies over an area, and using sensors and laser-scanning technology, gathers data on landscape features, like houses, grass and trees.¹⁸





Beyond the business

Vodafone, the U.K.-based multinational telecom company also reaches in ways that create value for multiple stakeholders.

It embraced big data, automation and AI to improve productivity and drive business growth—but has also made sure new opportunities are created for the next generation of workers. Vodafone has a relentless focus on digital training, including learning digital "by doing" and instilling a digital way of thinking in its people.¹⁹

This shift in mindset extends to recruitment. Vodafone was one of the first major multinational companies to create education and mentoring programs for university students, digital entrepreneurs and employees interested in a digital career.²⁰ The company recently pledged €20 million to fund programs aimed at helping people develop skills using digital technologies, particularly in parts of the world with big digital divides.²¹

Reaching beyond traditional business KPIs and creating value across multiple stakeholders' places Vodafone in a league of its own compared to competitors: It gets high marks from third party firms for its recruitment, employee learning opportunities, and work culture. For instance, it is the only telecom company to feature in the top 10 of UK's Best Big Companies to Work For.^{22, 23}





How you begin is how you win

Our research makes it clear that those companies that invest in replatforming to the cloud and in using their new capabilities and efficiencies toward innovation are best placed to compress transformation. As a result they can drive change across their business and thrive in the post-crisis economy.

For those that maintain the status quo with their technology investments, methods and decisions, the performance gap with peers will widen. Companies must create digital fluency across the enterprise to continually evolve their collaboration and technology capabilities.

But the pandemic has also awakened business leaders to reach for a wider set of responsibilities, starting with their people.

Our analysis shows that evolving tech strategies with the three Rs is most successful when applying them in sequence (see Figure 7). Though each organization's path is unique, most should start with **replatforming** to build Systems Strength, primarily by accelerating migration to the cloud.

Companies can then **reframe** how they view and leverage their IT by flipping the IT budget allocation toward innovation.

And finally, the combinatorial power of Systems Strength and Flipping will allow companies to **reach** beyond traditional business priorities and create value for multiple stakeholders.

This approach has been central to the success of companies that have not only proved resilient in the past year, but that have embraced change to strengthen their competitive advantage.

Figure 7

Leaders and Leapfroggers demonstrate how bolder and broader enterprise tech strategies are crucial for success

Replatform

How

Start with cloud to advance your business growth objectives.

Why

Thriving companies harness key cloud technologies including AI to outpace peers.

Where to start

Build Systems Strength

Migrate and modernize your IT landscape with cloud through careful assessment, disposition and prioritization.

Reframe

How

Rethink IT investments to strengthen your innovation muscle

Why

The top technology priority for thriving companies during the pandemic has been scaling innovation. If your IT budget is primarily to 'keep the lights on,' you'll continue falling behind peers.

Where to start

Flip the IT budget allocation

Prioritize freed-up capital to further invest in new technology innovation.

Reach

How

Democratize tech, invest in well-being and equality to turbocharge talent and value delivery.

Why

Thriving companies expand access to innovative technology for twice as many enterprise processes and reskill at almost twice the rate (1.7x) of pre-COVID peers.

Where to start

Reach beyond traditional business priorities

Scale technology and talent based on value to drive exceptional customer experiences and new value propositions.

Source: Accenture Research

As we enter a new, post-pandemic era, business leaders are reimagining their company's purpose by embedding responsible practices and creating multidimensional value at the core of their strategies. As they extend their mission, enterprise technology must move in lock-step, reaching beyond current priorities.

That means tech-enabled innovation that is scaled not just across IT, but across all enterprise processes. It requires innovation designed not just to improve people's performance, but also their well-being. And it calls for radically human systems that help meet the values of customers, partners and wider society.

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Paul Daugherty is Accenture's Group Chief Executive – Technology & Chief Technology Officer. He leads all aspects of Accenture's technology business. Paul is also responsible for Accenture's technology strategy, driving innovation through R&D in Accenture Labs and leveraging emerging technologies to bring the newest innovations to clients globally. He launched Accenture's Cloud First initiative to further scale the company's market-leading cloud business and is responsible for incubating new businesses such as blockchain, extended reality and quantum computing. He founded and oversees Accenture Ventures, which is focused on strategic equity investments and open innovation to accelerate growth.

Paul is responsible for managing Accenture's alliances, partnerships and senior-level relationships with leading and emerging technology companies, and he leads Accenture's Global CIO Council and annual CIO and Innovation Forum. He is a member of Accenture's Global Management Committee.



Bhaskar Ghosh

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Dr. Bhaskar Ghosh is Accenture's Chief Strategy Officer, with responsibility for all aspects of the company's strategy and investments—including ventures, acquisitions, and Accenture Research. He also oversees the development of all assets and offerings across Accenture's Services, has management responsibility for Industry X (digital manufacturing and intelligent products and platforms) and for driving responsible business and sustainability services. Before being named to his current position in 2020, Bhaskar was advisor to the CEO—focused on growth and investment strategy, business performance, organizational effectiveness, and restructuring. Prior to that, he was the group chief executive of Accenture Technology Services with overall responsibility for the Accenture Application and Infrastructure Services business. As an innovator, he has been awarded six patents in the area of software engineering and platform development. Bhaskar is a member of Accenture's Global Management Committee.



Annette RippertMannette Rippert

Annette Rippert is Accenture's Group Chief Executive, Strategy & Consulting. S&C works with C-suite executives and boards of the world's leading organizations, helping them accelerate their digital transformation to enhance competitiveness, grow profitability and deliver sustainable value. Annette's global team of more than 40,000 people includes strategists and consultants, industry and function experts, data scientists and human performance professionals—with a collective mission to help clients apply data, analytics, artificial intelligence, assets and innovation to deliver business outcomes at speed and scale.

Annette co-sponsored the launch of Accenture's Cloud First initiative to address how businesses operate, connect with customers and embed continuous innovation. A strong champion for 360-degree value for clients, Annette directs her team to address not only economic value but also the value for their people, stakeholders and communities. Annette is a member of Accenture's Global Management Committee.



Ramnath Venkataraman

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Ramnath Venkataraman is Accenture's Integrated Global Services lead, responsible for Technology sales, solutioning, assets, offerings, and Advanced Technology Centers around the world. He is also a member of Accenture's Global Management Committee. Prior to this role, Ramnath led the technology services business for Accenture Products, serving clients in the air, freight, and travel services; automotive; consumer goods and services; industrial equipment; infrastructure and transportation services; life sciences; and retail industries.

Ramnath has extensive experience working with a variety of clients in multiple industries across strategy, consulting, technology transformation and talent transformation. He has also successfully led large-scale execution of technology programs that drive quantum cost optimization while modernizing the technology landscape for several clients.



H. James Wilson

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H. James Wilson is global managing director of IT and Business Research at Accenture Research, where he leads global research programs on the impact of technology on enterprises and work. Wilson is co-author of the best-selling book "Human + Machine: Reimagining Work in the Age of AI" (Harvard Business Review Press).

He is author or contributing author of eight books on the impact of technology on work and society, including most recently, "AI, Analytics, & The New Machine Age" (HBR Press 2019) and "How to Go Digital" (MIT Press 2019). Wilson wrote "The Jobs Artificial Intelligence Will Create," MIT Sloan Management Review's #1 Most-Read article of the year and is a longtime contributor to The Wall Street Journal and HBR. He is currently finalizing a new book on the future of enterprise technology with Paul Daugherty (HBR Press).

About the research

We employed a multi-method research approach. Specifically, the research program included surveys, interviews, case study research and economic modelling. Our research, and that of our ecosystem partners, employs ethical and responsible research methods. Respondents reveal their identities voluntarily, we anonymize all data from companies in our data set, and report results in aggregate. We commit to not using the data collected to personally identify the respondents and/ or contact the respondents.

1. Survey

The Accenture survey, completed in early 2021, collected data on: a) Technology adoption, b) Application of technologies at scale across organizational processes, c) Organizational and cultural readiness to adopt and create symbiotic systems of technologies, d) Multiple measures of financial and operational performance, and e) The impact of COVID-19 on organizational strategies and goals.

The graphic on page 36 summarizes the survey demographics.

2. Qualitative research

We complemented our quantitative data collection with qualitative case studies. Overall, through secondary research and interviews, we collected 20 case studies focusing on issues organizations are facing because of their current IT stack and their response to COVID-19.

3. Economic modelling

How does future Systems Strength translate into differential performance? We combined company level survey-based indicators of systems strength with financial performance indicators into econometric modelling to answer this question. First, we defined and grouped companies into Systems Strength Leaders and Laggards. That is, we identified companies that are ahead in terms of Systems Strength and those that aren't. We then investigated if leadership in Systems Strength, and its change during the COVID-19 pandemic, was related to financial performance. We did so in four steps:

Step 1: Dataset construction and defining Systems Strength

Our dataset includes company data on revenue growth before and after the pandemic, measures of their Systems Strength as well as other demographic characteristics. We created a Systems Strength score leveraging our survey. The score measures company strength along three dimensions: 1. Technology adoption. 2. Extent of technology adoption across organizational processes, and 3. Organizational and cultural readiness for technology adoption. We called the top 10% of companies on this score Leaders and the bottom 25% Laggards. The remaining 65% are referred to as Others. Within Others, we identify "Leapfroggers" (See step 3). When available, we crosschecked and supplemented self-reported revenue growth in our survey data with latest available financial data published by companies on their 2020 performance.

Step 2: Estimating the Systems Strength performance differential

Using the group definitions above, we compared financial performance, measured by average revenue growth, and calculated the difference in performance between various groups. More precisely, to look at how the premium in revenue growth has changed for Leaders compared to Laggards, we computed the 3-year CAGR in revenue growth for years 2018, 2019, and 2020. While the ratio of revenue growth between Leaders and Laggards was 2x in our first study, the same ratio is now 5x, indicating that the revenue growth premium for Leaders has increased further during the pandemic.

Step 3: IT budget flip and the Leapfroggers advantage

We defined Flip Size, the growth of IT budget allocation towards innovation between 2019 and 2020, as a key determinant of revenue growth during the pandemic. For sake of economic modelling only, we categorized companies into Flippers, those who maintain a high Flip Size (above 90th percentile) in 2020; or, those who show growth in Flip Size in 2020.

Once the measure of the flip was defined, we then divided the sample of Others into estimated deciles based on their Systems Strength and estimated the impact of the flip on revenue growth across companies with the flowing equation:

 $Revenue\ Growth_i = \textstyle \sum_{j=1}^3 \beta_{1,j} Category_{ij} + \beta_2 Covid + \textstyle \sum_{j=1}^3 \beta_{3,j} Covid * Category_{ij} + \textstyle \sum_{k=1}^n \beta_k X_{i,k} + \epsilon_i$

where i is the index for companies, the index j for Category identifies whether a company is a Leader, Laggard or a Flipper; COVID indicates the year 2020 or the time during the pandemic; Xk is the vector of controls such as industry dummies, year dummies, and company size measured by revenue.

We found that before the pandemic, the revenue growth for Flippers and Others was statistically not different. During the pandemic, flipping at and beyond the 30th percentile of Systems Strength is associated with revenue growth that is equal to or higher than the revenue growth compared to Leaders. Based on these results, we defined all flippers above the 30th percentile of Systems Strength as Leapfroggers.

Step 4: Scenarios for revenue growth until 2026

Finally, we built scenarios for revenue growth to consider the opportunity cost for Laggards and Others of not building on their Systems Strength or not accelerating their Flip Size. To do so, we first assumed that at the beginning of 2015, a representative company from each group started with the same revenue level of \$10 Billion. We used the most recent realized values of revenue growth for time periods between 2015 and 2020.

To build the scenario, we utilized responses on a question from the survey that asks executives when they expect to return to pre-pandemic revenue growth, and assumed the 5-year CAGR (2015-2019) as the pre-pandemic revenue growth levels companies are returning to. We assumed a linear interpolation of revenue growth rates for the transition period between 2020 and whenever executives expect to resume growth.

Demographics

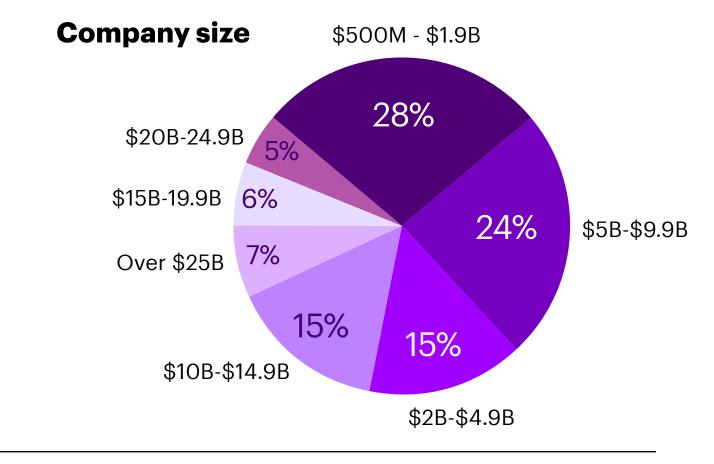
We employed a multi-method research approach. The research program included surveys, interviews, case study research, and economic modelling for diagnostics. The survey was fielded between December 2020 and January 2021

4,300 executives, global

50% of respondents with IT role

50% of respondents with non-IT role

C-level only



20 Industries

Financial Services

Banking (218) Capital Markets (216) Insurance (215)

Communications, Media & Technology

Media and Communications (216)
Telecommunications (216)
High Tech (216)
Software and Platforms (216)

Resources

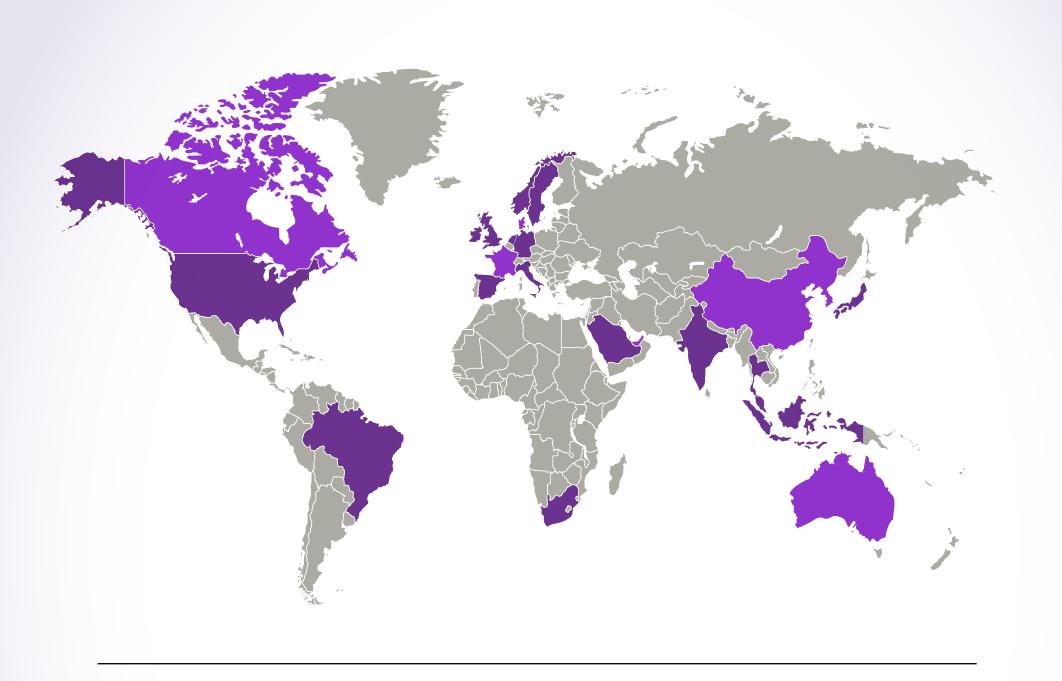
Utilities (215)
Energy (Oil and Gas included) (216)
Chemicals (216)
Metals and Mining (215)

Health & Public Service

Health (216)
Public Services (216)
US Federal Government (200)

Products

Retail (216)
Consumer goods and services (215)
Travel (215)
Industrial Equipment (217)
Life Sciences (215)
Automotive (215)



25 Countries

Australia (200)
Netherlands (100)
Brazil (200)
South Africa (100)
Canada (200)
Spain (200)
China (450)
Switzerland (100)

France (200)
United Kingdom (250)
Germany (200)
United States (1200)
India (100)
Nordics (Sweden, Denmark,
Norway) (100)
Italy (200)

South-East Asia (Thailand, Singapore, Malaysia, Indonesia) (200) Japan (200) Middle East (United Arab Emirates, Saudi Arabia) (100)

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About Accenture

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