

# TALENT RADAR

How the best  
companies get  
the skills they  
need to thrive in  
the digital era



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## Human talent in the digital age

Talent is the lifeblood of any organization. As Bill Gates said, “The inventory, the value of my company, walks out the door every evening.” And as Infosys founder and former CEO N.R. Narayana Murthy stated, “We have to make sure they come back the next morning.” These assets are, of course, the employees, the talent. In a low unemployment market, how do companies find them, develop them and keep them coming back the next morning?

Infosys has been studying this question for several years and, in early 2019, surveyed hundreds of U.S. executives on the topic of workforce development, primarily addressing skills and gaps. The survey unveiled several findings — most important, about workplace reliance on new

skill development, lack of significant investments in digital training, underutilization of education partnerships and undervaluation of soft skills by companies.<sup>1</sup>

In mid-2019, Infosys extended this research as a worldwide study and surveyed more than 1,000 senior management executives globally — spanning business, human resources and technology roles. The research covered companies with more than \$1 billion in annual revenue in a variety of industries across the United States, Europe, Australia, China and India. The objective of the survey and the primary interviews that followed was to understand demand drivers for digital talent, the rising demand for skills, skill gaps, and what leading

companies are doing to address them. To supplement that data, we interviewed 20 industry practitioners and technology experts in order to better understand leading practices in hiring, developing and retaining digital talent.

As a result of this research, we discovered the types of digital transformation projects companies are pursuing, as well as the hard and soft skills they need most to staff these projects. The study also addressed what the best among them are doing to identify, acquire and develop the talent they need in order to respond to customer needs and take their businesses to the next level.



## The talent famine

The digitization of business is driving demand for new technical skills that companies across industries are struggling to find. The World Economic Forum predicts that although 75 million jobs will be eliminated by 2025 because of automation technologies and artificial intelligence, another 133 million new roles will be created.<sup>2</sup> However, they must be staffed in order for companies to realize the value of these new roles.

At the same time, organizations recognize the importance of such soft skills as teamwork, emotional intelligence, creativity, adaptability and critical thinking to carry out

their digital initiatives. Taking a long-term perspective, since 1980, job growth has been the strongest in occupations requiring both cognitive and social skills, according to research by Harvard Associate Professor David Deming.<sup>3</sup> In fact, U.S. jobs requiring social skills grew by 24% from 1980 to 2012, compared with only 11% growth for math-intensive tasks.<sup>4</sup> Our research confirmed this trend that social or so-called soft skills have more or less caught up with hard skills in importance.

This demand for talent with both technical expertise and social skills has placed unprecedented pressure

on organizations. More than 92% of executives surveyed by The Wall Street Journal say they have a difficult time finding people with both sets of these attributes — a problem that spans age groups and experience levels.<sup>5</sup>

“We used to call it a talent war, but it’s really a talent famine,” says Richard Cardwell, vice president and head of Infosys’ Midwest region. “The talent is just not there.” An Infosys survey of U.S. organizations found that 75% of hiring managers agree that finding people with adequate technical and digital skills is difficult.<sup>6</sup>



## The ongoing digitization of business

Nearly 95% of our survey respondents say they are digitally improving their business. But for most of the large companies (with annual revenues of at least \$1 billion), digitizing the business is not about disruption or transformation. Instead, they are using digital technologies to meet focused objectives such as improving customer experience and increasing productivity. (See Figure 1.) This is contrary to much of the earlier rhetoric that large companies must quickly make exponential change to survive against the digital upstarts. Large, complex organizations do need to transform, but they have found that the best route is through focused initiatives. They use a combination of traditional metrics, agile methods and new technology where they are proven to operate at

scale. While it is not surprising that digital natives are a large portion of the top performers, it is worth noting that incumbents represent a robust 40% contrary to the conventional wisdom that incumbents don't have it figured out.

"I know it's fashionable to call everything digital transformation, but our core intent is to eliminate the manual labor involved in our workflows and transactions so that we deliver every service with the same degree of surety, repeatability and quality," says Arvind Sivaramakrishnan, CIO for Apollo Hospital Group in India.

One way Apollo is trying to address the shortage of health care services in India is by using prescriptive analytics, machine learning and artificial intelligence to reduce

errors among its medical staff when treating patients. For example, if a patient complains of chest pain, Apollo uses technology to guide staff members in following evidence-based practices with alerts and reminders that ensure they perform certain procedures at the right time, in the right sequence and the right clinical context. The result is consistently high levels of care no matter how long practitioners have been working or how many patients they've seen that day.

"We're never going to bridge the gap between the demand for health care and our capability to supply it with just a group of sincere, committed people," Sivaramakrishnan says. "It's only going to happen with a group of sincere, committed people backed by powerful technology."

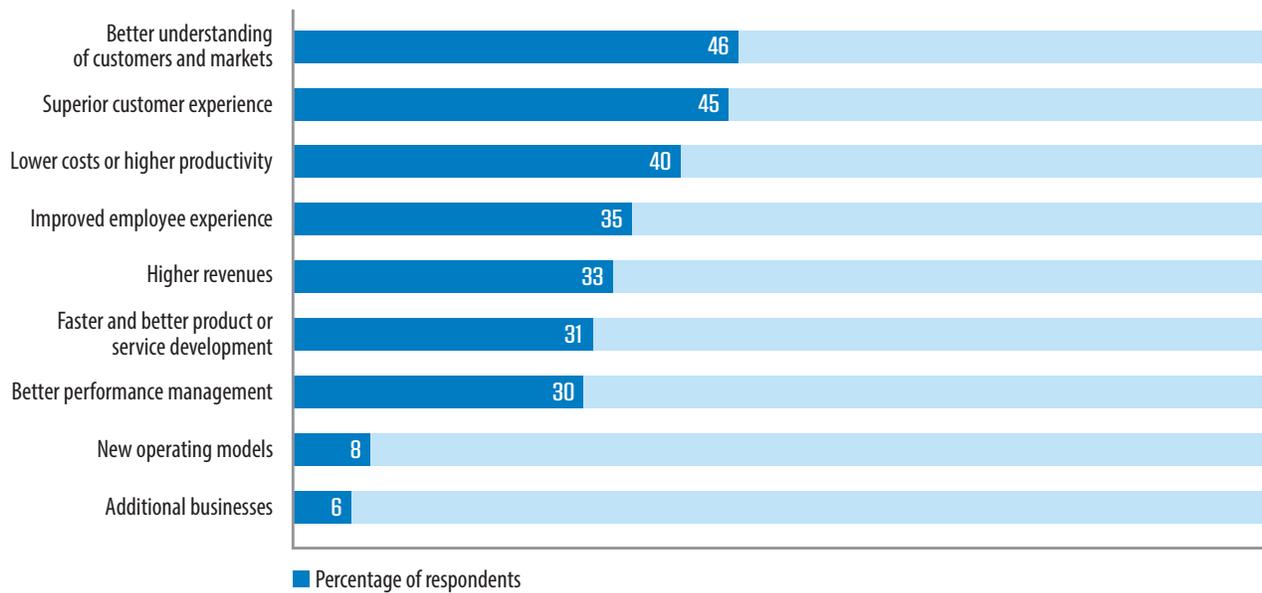
But to compete with digital natives, incumbent companies often fall into the trap of trying to carve out a separate entity to digitize and scale their business rather than repurposing the entire organization and upskilling the workforce. “Every large enterprise wants to build an ultimate model with a new set of people to compete with digitally native firms,” says

Ravi Kumar, president and deputy COO of Infosys. “But if you want to compete, you have to repurpose yourself. To repurpose yourself, you have to rescale your capabilities by refactoring your talent pool.”

Walmart, for example, has evolved from a brick-and-mortar retailer into an e-commerce titan, a reinvention that would not have been possible

without sustained investment in developing skilled digital labor. Rather than break from its traditional business model, the retailer continues to leverage its physical assets and personal relationships with customers across units in order to drive digital transformation for mutual benefit.

Figure 1. Incumbents digitize their businesses for focused objectives



Source: Infosys Knowledge Institute analysis

## Meeting the need for talent – Talent Readiness Index

Digital initiatives require skills that can and will evolve. Organizational processes and culture determine the readiness to meet any talent need. We analyzed in these five key areas how well our respondent companies are positioned to meet their talent needs:

1. Planning
2. Hiring
3. Training
4. Incentives
5. Workplace

From their responses to questions in each of these areas, we developed a Talent Readiness Index as a metric for how an organization is positioned to meet its talent needs to keep pace with current and future needs and drivers such as technology. Each company was assigned an index score from 0 to 100, according to their responses in these five key areas.

The average Talent Readiness Index score across industries is 55. There was no significant variance between the averages across industries; the health care industry index has the highest average index score of 62, while the energy and utility industry has the lowest index score of 51. We sorted companies by their Talent Readiness Index score, and three clear clusters emerged — Followers, Challengers and Leaders. (See Figure 2.)

### 1. Followers

**Followers have fewer approaches to develop talent and don't measure their results or effectiveness. They:**

- Rely on traditional training methods such as instructor-led classrooms and new-hire training.

- Restrict themselves to hiring from traditional sources such as universities that offer bachelor's and advanced degrees.
- Pursue one or two mechanisms to retain talent, such as increasing benefits and compensation, and are not good at matching talent to work.
- Do little to develop better workspaces or improve their employees' experience.

### 2. Challengers

**Although challengers invest heavily in anywhere, anytime training, they still rely on traditional sources for talent acquisition. They:**

- Hire people with traditional academic qualifications, also those returning from a career break.
- Provide fresh opportunities and responsibilities to employees with newly developed skills.
- Have effective talent management strategies and plans, and measure the results of their development programs.
- Are implementing smarter workplaces to promote better collaboration.

### 3. Leaders

**Leaders build lifelong learning culture and use it to retain top talent. They:**

- Pursue multiple talent approaches and initiatives to not only meet current needs but also be well prepared for future talent demands.
- Are leaders in providing training programs and inculcating a lifelong learning tradition.

- Have rigorous hiring methods and don't compromise on quality of hires, but they are open to nontraditional sources.
- Aggressively work toward sustainably smarter infrastructures.

Leaders recognize that digitization is not only changing the way we work, but also the roles themselves. They anticipate these changes and forecast the skills they'll need for the next year and beyond. For example, the CIO at Apollo starts determining the unit's talent needs four months prior to the next financial year. After consulting with health care, IT and manufacturing experts on emerging technology and health care trends, he and the other senior executives decide which digital initiatives to pursue and whether they have the necessary skills to carry out those projects.

At a leading American multinational oil and gas corporation, strategic planning advisors conducted a workforce planning study using numerous scenarios to determine the IT skills the company will need in three to 10 years as it becomes more digital. "We thought about what the future of digital could look like within our company, what kinds of people we might need and what IT operating model we would be functioning under," says a strategic advisor at the company.

Companies that score high on our readiness index have established forward-thinking processes to hire and develop their talent, such as purpose or learning maps that show workers how to get from one skill level to another. Some are using artificial intelligence programs to assess workers based on their

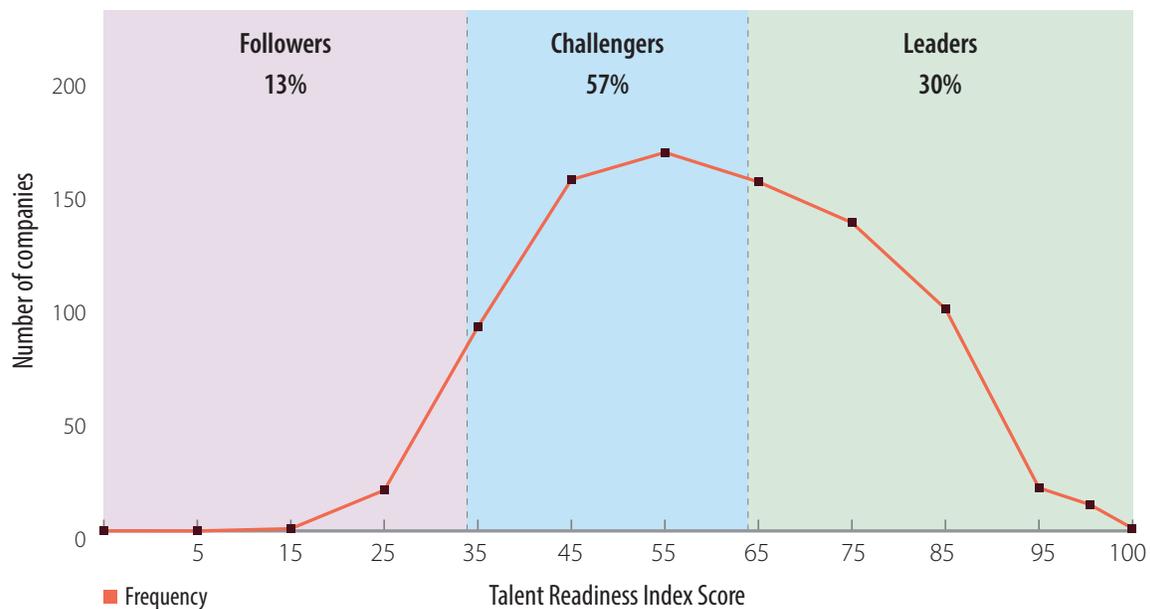
profiles and work experience, and to identify and suggest how to rectify skills gaps.

Leaders are more than twice as likely to measure and track their employees' hard and soft skills as well as the results of their talent development initiatives. And to retain employees, these companies offer better compensation and benefits packages and give employees greater responsibility, autonomy and authority.

Implementing smarter workplaces also plays a role in talent development and retention. The leaders in our survey are more than twice as likely to create more collaborative, sustainable work environments equipped with IoT-enabled visitor management systems, smart kiosks, intuitive video conferencing and flexible office layouts to improve the employee experience.

“Collaborative workspaces are very important because we rarely work within one domain,” says Shankar Venugopal, head of technology innovation, knowledge management and the technical academy at Mahindra & Mahindra. “When you work alongside different types of people, you come up with more insightful ideas and get used to their jargon and ways of thinking. Innovation and productivity go up.”

Figure 2. The Talent Readiness Index stratifies companies into three clusters



Source: Infosys Knowledge Institute analysis

## The rising demand for skills

The digital initiatives require people with sophisticated technical skills; and with more focus on creating superior customer experiences, soft skills have become just as important as technical ones.

### Hard skills – An expert today, a novice tomorrow

With new technology platforms and languages emerging all the time, it can be challenging for workers to keep up with the latest digital skills that companies require. Just ask Eric Patridge, a data lead and ontologist at tech startup ReactiveCore. He's participated in clinical trials, learned two new computer languages, and become familiar with graphic databases and multiple ways to query data to enable AI and machine learning.

The demand for technical skills will never dampen; they are the primary skills to meet technology demands. The five technical skills in greatest demand to deliver projects today are user experience (67% of digital initiatives), analytics (67%), automation (61%), IT architecture (including cloud) (59%) and artificial intelligence (58%). Hard skills such as analytics, automation and user experience are required to deliver digital initiatives at scale. Large companies need lots of them. (See Figure 3.) And as the cycle for new technology continues to shorten, it becomes even more important for the Eric Patrignes of the world to continually update their technical skills. "Your ability to learn coding languages is probably in 18-to-24-month cycles," says Cardwell. "By the time you learn one, it's time to go on to the next thing."

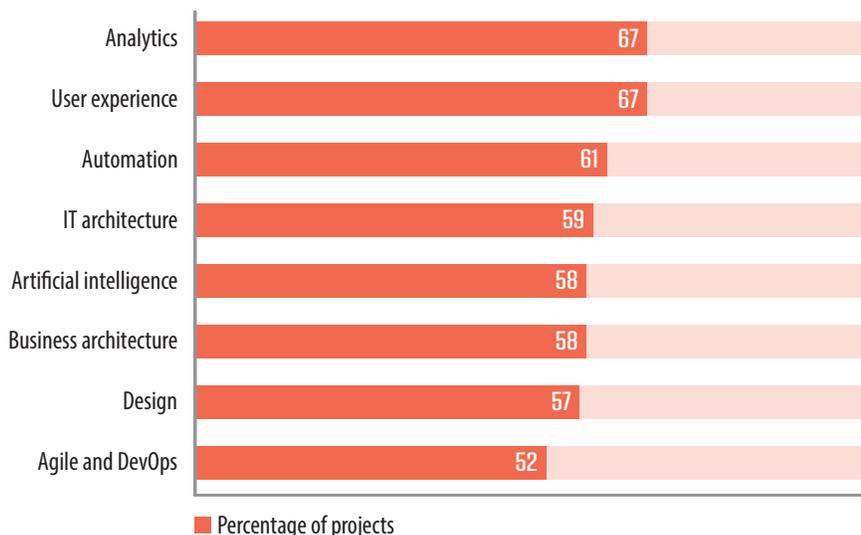
### Soft skills – Collaboration skills are more valued than individual skills

But the pressure on talent extends beyond technical prowess. As IT development becomes less about writing a specification and coding it and more about finding problems and creating solutions, soft skills have become just as important. Those in greatest demand in our survey are teamwork (74% of digital initiatives), leadership (70%), communication (68%), creativity (66%) and critical thinking (66%). (See Figure 4.) These three skills are usually associated with collaboration, and scored higher than the others, which are normally considered as individual skills. Soft skills accounted for just as many hard skills we found in highest demand.

"For a long time IT was back office, but today IT is the business," says Tan Moorthy, global head of education, training and assessment at Infosys. "Gone are the days when people knew exactly what they wanted and would give you the requirements. Now it's not just about solving a problem, it is also about helping identify a problem."

That's a tall order that requires a unique combination of technical know-how and emotional intelligence. But it also heralds a new era in talent valuation. For decades, legacy technology created a divide between employees with strong technology backgrounds and those without. The digital technology revolution bridges this gap by attaching value to a wide range of skills, from Java programming to creativity and adaptability.

Figure 3. Technical skills in demand for digital initiatives



Source: Infosys Knowledge Institute analysis

Contrary to technical skills, which have a shelf life, soft skills once developed and practiced stay relevant. These are foundational skills that are inherent, and many leaders believe they can be developed with the right training and mentoring.

Teamwork and leadership have become particularly high-value skills in the current fail-fast environment in which companies are expected to pivot quickly, and employees must embrace agile ways of working and collaborating with others across cultures, customs and time zones. Digital transformation projects are complex and have large-size teams; success of these projects is hugely dependent on team members exhibiting these qualities.

Yet our survey findings indicate that some skills remain underrated. For instance, respondents ranked empathy as the least important soft skill for their digital initiatives. That's a missed opportunity for businesses seeking to become more customer- and employee-centric, because they must be able to understand the pain points of their users in order to develop better experiences.

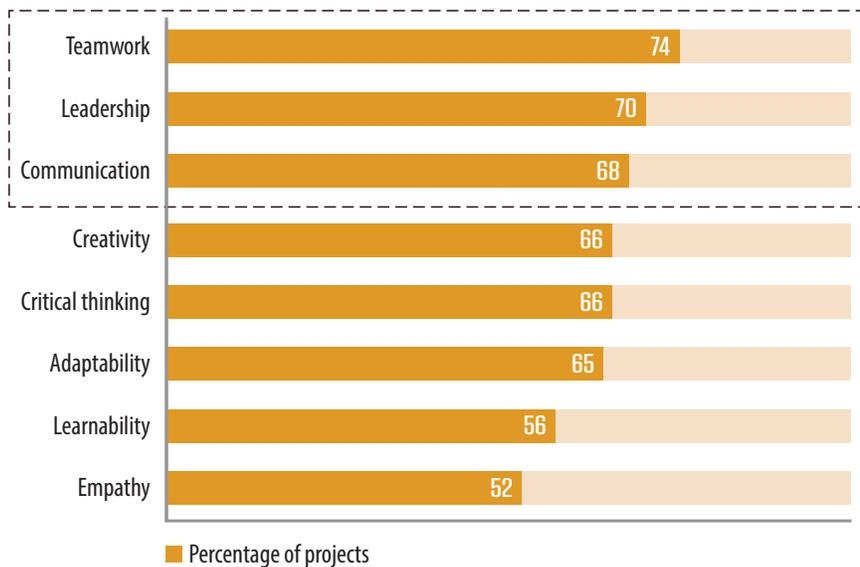
"Things like empathy can't be outsourced," says the chief human resources officer of a leading consumer goods company. "We need to start thinking of things like passion, curiosity and empathy as the things that differentiate good employees from not-so-good employees."

Soft skills have become so important that some businesses use tools to test whether candidates are well-rounded. For example, AQAL Capital, a German company that invests in sustainability-focused startups, tests executives for three skills to see whether they will play well with senior executives and the rest of the management team: collaboration, contextual thinking and cognitive complexity.

"One of the biggest problems we have, particularly when it comes to artificial intelligence, is cognitive bias because people develop applications based on their own mindsets," says AQAL Capital co-founder Dr. Mariana Bozesan. "If we want to avoid developing AI systems that are racist or not inclusive, we need to make sure that the AI developers are also educated in emotional mastery, morals and ethics, and learn how to grow from being egocentric or ethnocentric to taking a global-centric view of the world." In other words, candidates must have a lot more than just technical skills.

Learnability was also undervalued by respondents. While our research has shown it to be a foundational skill core to all others, companies tend to focus on acquiring skills for a particular purpose or project, rather than as a foundation for long-term success. Learnability is also addressed in the section on barriers later in this report.

Figure 4. Collaboration skills are more valued than individual skills



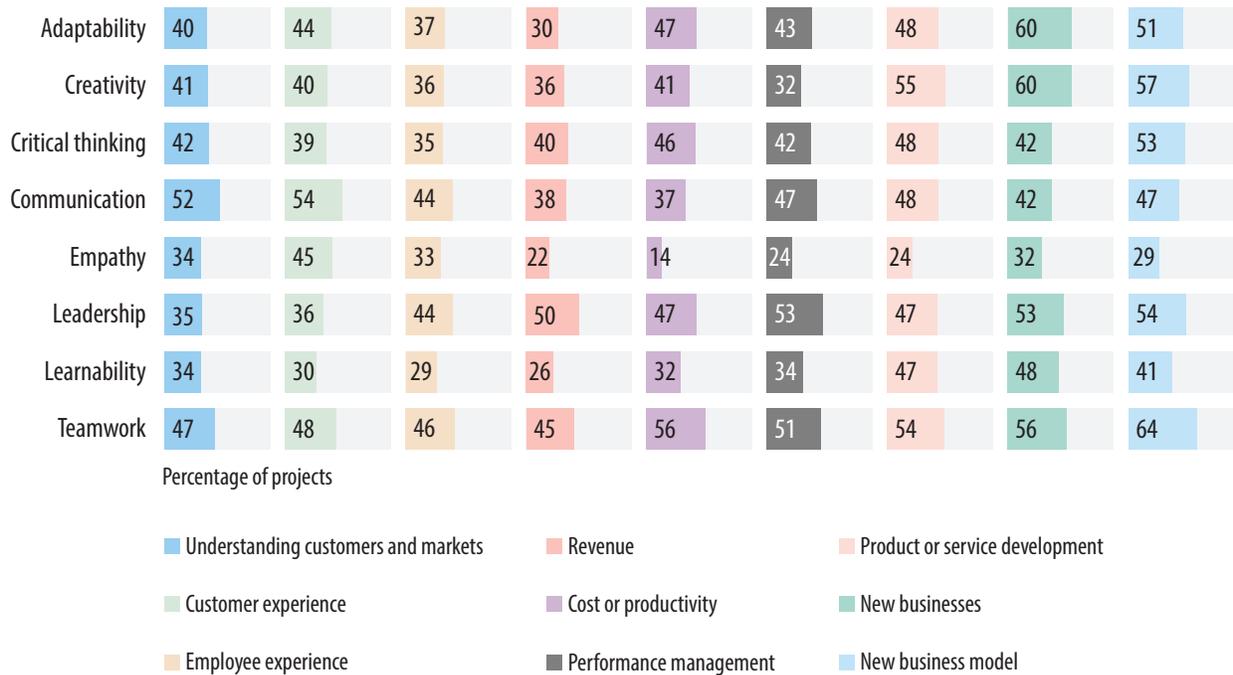
Source: Infosys Knowledge Institute analysis



## Which skills are most important? It depends on the initiative

Whether a company places greater emphasis on specific soft or hard skills depends on what it is trying to achieve with its digital initiatives. For creating new businesses, our respondents ranked creativity, adaptability and leadership as the most important soft skills. For improving customer experience, they rated empathy and communication highest. (See Figure 5.)

Figure 5. Soft skills in demand for digital initiatives



Source: Infosys Knowledge Institute analysis

“One aspect of developing soft skills is making sure that everyone understands your business processes and adheres to them,” says Venkatanaryanan R., president of HR and IT at Rane Group, an India-based auto parts manufacturer. “For example, if we make a commitment to deliver certain parts to our customers in Europe in four days and

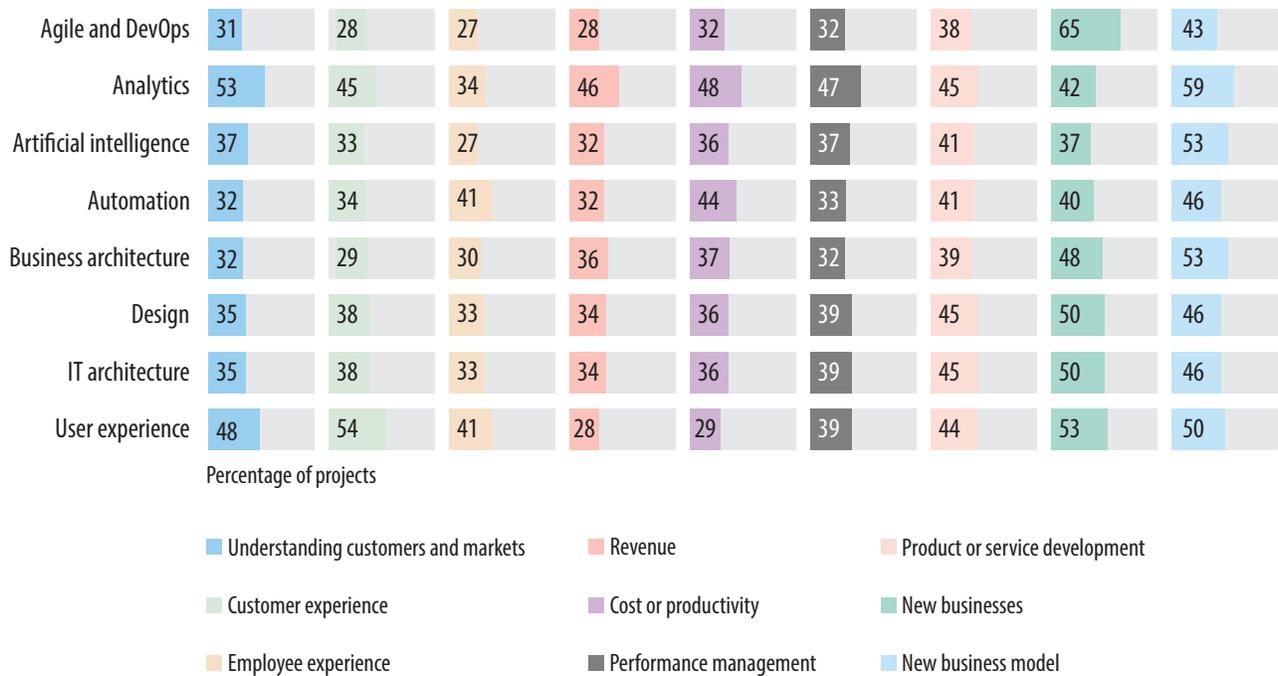
there’s a delay, it’s important that we inform them so we don’t cause a stoppage.”

For hard skills, our respondents ranked data analytics, agile and DevOps, and AI as the top requirements for initiatives involving the development of new business models. They rated user experience

skills the most critical for creating better customer and employee experiences. (See Figure 6.)

These findings demonstrate why companies must carefully examine the digital initiatives they want to pursue, and identify the skills most necessary to achieve the outcomes they seek when assessing their talent needs.

Figure 6. Hard skills in demand for digital initiatives



Source: Infosys Knowledge Institute analysis

## Which skills are most important? It depends on the industry

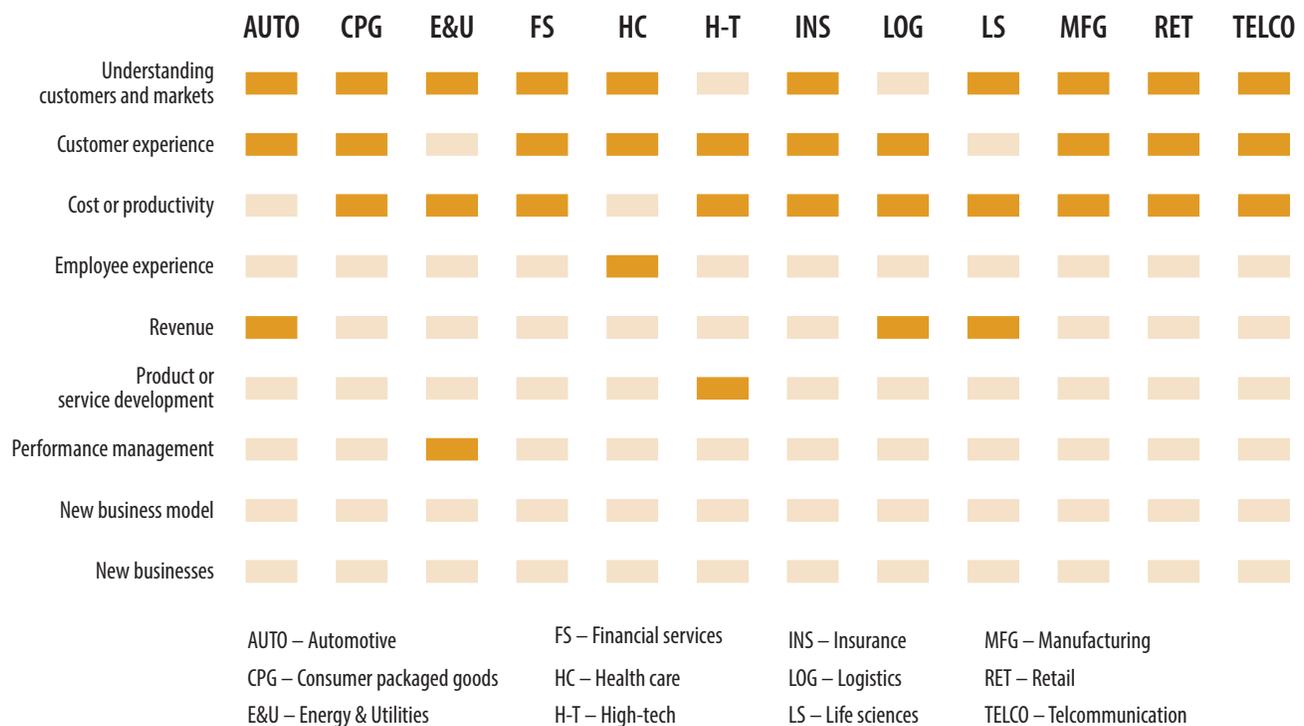
While all organizations must contend with a changing labor landscape, the demand for particular skills varies by industry. Health care companies, for example, are focused on digital initiatives that help them better understand customers and markets and deliver a higher level of customer and employee service. (See Figure 7.) Based on those initiatives, they will need skills such as empathy, communication and analytics most.

“We’re on the edge of personalized health care, which brings together a lot of different disciplines,” says Sivaramakrishnan of Apollo. “It’s going to be vital for individuals to learn new skills as we move from traditional methods of data collection to autonomous ways of collecting and analyzing it to augment core competencies.”

Manufacturing companies, on the other hand, tend to be focused

on initiatives aimed at lowering costs; energy and utilities, on achieving better performance management; financial services, on developing new operating models; insurance, on creating superior customer experiences; high-tech, on developing better products and services; and retail, on better understanding customers and markets.

Figure 7. Top 3 initiatives pursued in each sector



Source: Infosys Knowledge Institute analysis

## Skills gap severity depends on demand

Regardless of industry or initiative, the skills in greatest demand among our respondents, but hardest to find, are adaptability, communication and analytics. Those rated as less demanded but also in short supply include artificial intelligence, automation, agile and DevOps, and empathy. (See Figure 8.) Analytics was the scarcest, highest demanded skill. This is consistent with our research on an organization’s urgent need for data and analysis across all projects, while also a severe dearth of available talent in this area, especially for the specific expertise of data scientists. “The challenge is finding people with tech skills who have a deeper understanding of data and how to leverage data,” says Tony Zheng of Amer Sports, a company focused on excellence in consumer-centric product creation and developing new and better sporting goods that appeal to consumers through continuous research and development. Artificial intelligence skills are in shortest supply, but the relative demand is not as prolific (yet) due to its earlier stage of maturity and deployment among incumbent companies.

Given the scarcity of these skills in the market, it’s even harder to find a strong mix of these skills in one person. “That’s a very rare individual that I have yet to find,” says Debbie Taylor, chief information officer at NBN Co, a government-owned corporation responsible for building and operating Australia’s national high-speed internet. “What’s important is to get people who have the right technical ability but can also talk to the businesspeople, and businesspeople who are open to taking feedback from the technical

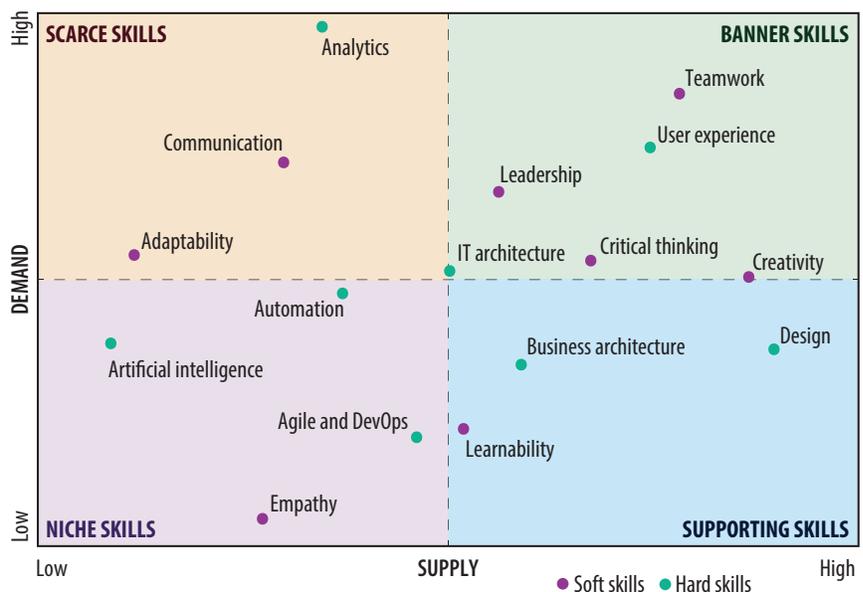
people, then creating a culture that enables both those types to thrive.”

As companies continue to look for candidates with the right mix of skills, they must also contend with the fact that even domain expertise is evolving. These days, organizations require greater agility to compete in a fast-paced marketplace. As a result, many are flattening their hierarchies and asking employees to embrace a wider range of responsibilities.

“In the past we had people who were deep domain experts and could make great contributions to our organization with that expertise,” says Venugopal of Mahindra & Mahindra, a global auto manufacturer based in India with businesses in aerospace, retail, electric vehicles and farm equipment. “Over the years we’ve started needing people with a sufficient breadth of knowledge to cut across multiple domains and come up with solutions.”

Because it’s so difficult to find people with this depth and breadth, one of the best strategies for companies to get all the skills they need is to build multifaceted teams that comprise them, from the scrum master with excellent planning and communication skills to the introverted programmer who is content with cranking out code 12 hours a day. “Finding those bookends is the first challenge, and then you want to blend the team with complementary folks in between,” says Cardwell. “More importantly, if you see it’s not working, you need to be able to quickly make changes and find the right chemistry.” But as Ian Fanton, Executive VP of Corporate Learning, Harvard Business Publishing in the U.S. notes, “It’s more effective to engage people who have a mix of skills, and the need for those people will only keep on going up.”

Figure 8. Demand-supply matrix highlights relative skills priority and scarcity



Source: Infosys Knowledge Institute analysis

## Barriers to talent transformation

Both hard and soft skills are increasingly demanded for projects and operations, yet HR organizations struggle to provide them with the timeliness, quality and scale needed. We looked at two perspectives on the barriers that prevent sufficient demand-supply match of talent.

### Tangible barriers: Organizational and management support rank high

There's no shortage of challenges when it comes to reskilling the workforce. Lack of budget is the biggest barrier to repurposing efforts, followed by organizational issues, lack of management awareness or support, inadequate talent management plans and insufficient tools. (See Figure 9.) These barriers are related,

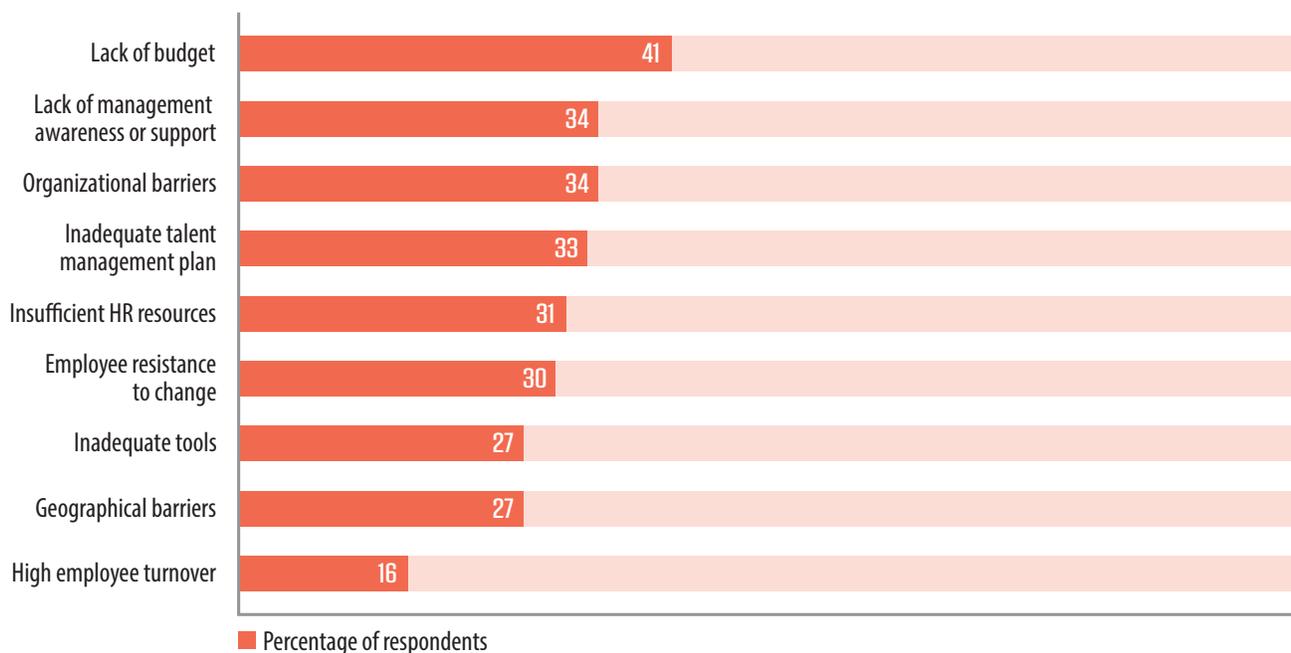
as companies consistently undervalue and underfund talent and employee initiatives, which ultimately undermine their future prospects. Companies must treat talent initiatives as investments, not expenses, for these have long-term implications every bit as much as a long-lived physical asset.

Another hurdle for staffing digital initiatives is an apparent disconnect between senior executives and lower levels of management. In our survey results, we found that C-level respondents are more optimistic about their company's competitive position in digitizing the business than are the layers of management beneath them. Senior leaders believe their organizations are better at creating collaborative workspaces and employee experiences than those in middle management.

This bias is more pronounced in hierarchical organizations than in flatter ones, providing yet another reason to reduce unessential layers of management to improve communication and alignment.

Although the corner office may not see eye to eye with the rest of the company on where things stand on digital talent, they do agree on what to do about it. C-level respondents are just as convinced as their staff of the importance of using multiple learning approaches, such as digital hubs, experiential learning and just-in-time training, to upskill the workforce. And they are even more convinced of the need to tap multiple sources for new hires. What's missing is a sense of urgency to act, which might mean it's time for them to listen more closely to their younger, more tech-savvy colleagues.

Figure 9. Tangible barriers to reskilling the workforce



Source: Infosys Knowledge Institute analysis

### Intangible barriers: Learnability undervalued

Learnability receives short shrift in our survey, which is surprising given the continuous personal and technical development the market now demands of digital talent. (See Figure 10.) It limits the tremendous potential of reskilling, and it can be a competitive advantage for companies that embrace learnability. Undervaluing learnability limits potential of other talent initiatives.

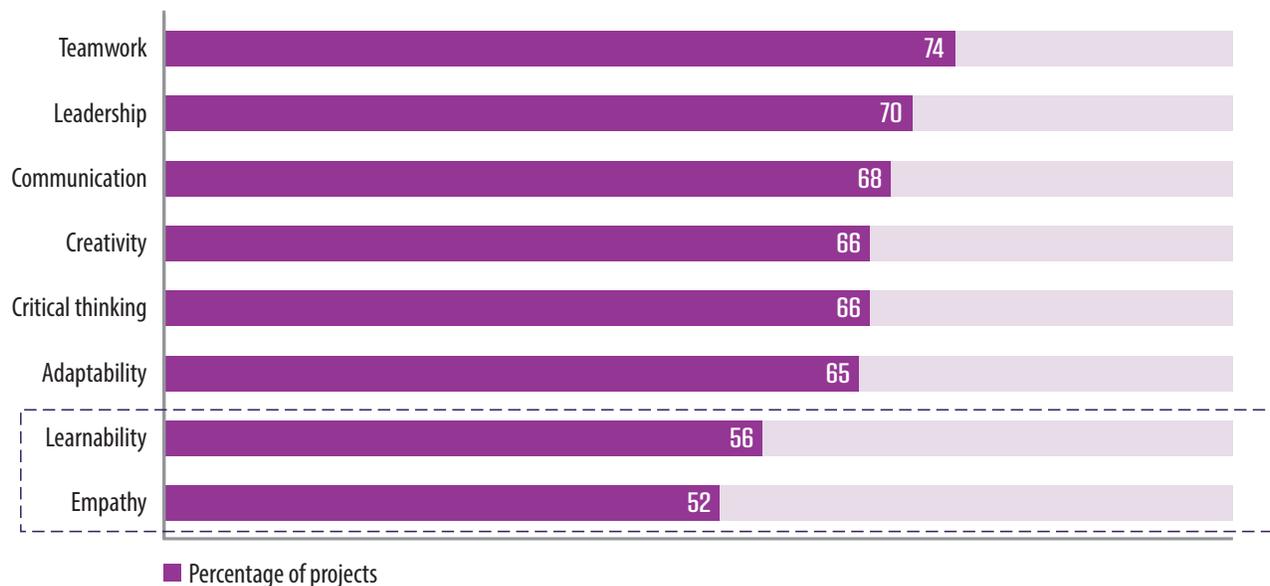
“The individuals who will flourish in the digital economy are the ones who can learn to learn, learn to unlearn, and learn to relearn,” says Ravi Kumar of Infosys.

The ability to learn is particularly critical in a talent market, where many companies are forced to hire people without the exact skills they need and then try to fill those gaps with formal and on-the-job training. And since no single employee embodies all the skills a company needs to carry out its

digital initiatives, “We need to learn to collaborate with experts whose work we may not even understand,” says Venkatanaryanan R.

This narrow mindset is a barrier and limits the tremendous potential of reskilling, yet can be a competitive advantage for companies that do embrace learnability and lifelong learning. Leaders understand that just teaching a skill is not a silver bullet; they must also develop the ability to rapidly update their employees’ talents in an era of shortening technology cycles.

Figure 10. Many companies do not appreciate the importance of learnability and empathy



Source: Infosys Knowledge Institute analysis



## Things look rosier in Asia

According to our survey, not all companies face the same workforce woes and digitization challenges. Respondents based in China and India were much more likely to rate more skills as critical to their digital initiatives and to say they

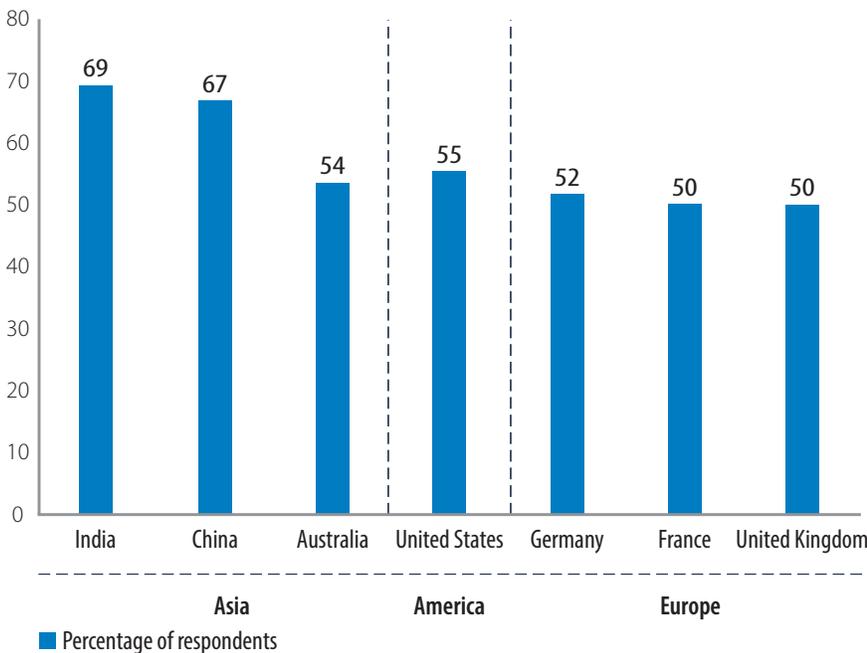
are ahead of competitors in staffing and completing their projects. They are three times as likely to be pursuing disruptive initiatives such as developing new business models.

Respondents in India and China scored higher on the Talent

Readiness Index than their counterparts elsewhere in the world, who were more or less consistent in their scores. (See Figure 11.) This may reflect optimism from the scores, yet the index takes into account ability to meet skill demand at scale — and in both countries the growth trend and their focus on skills development appear to be paying off. India and China executives say they are ahead of competitors in staffing and completing their projects. A possible explanation for this difference could be that companies in India and China are less likely to be bogged down by legacy systems. As a result, they are better equipped to leapfrog from one generation of technology to the next without significant change management and data migration issues.

Lacking the legacy systems that burden the Western world, they are three times as likely to pursue disruptive initiatives such as developing new business models.

**Figure 11. Readiness Index: India and China staff at scale, and lack legacy burden**



Source: Infosys Knowledge Institute analysis



## Elevate people and planet to the same level as profits

Talent is critical to convert environmental, social and governance factors from ancillary to core, and visionary companies prioritize equally the triple bottom line of people, planet and profits. People and planet aspects are becoming increasingly important buying criteria, as is the trend toward greater regulation that elevates these factors from desirable but optional to core and required.

Company leaders also need to commit to deeper training and development for sustainable talent and to create a safe work environment, and use it to prepare the organization and its people for a brighter future. Practices like creating sustainable, smart infrastructure and reducing energy consumption endorse a company's commitment to creating a healthier planet.

Developing better communication between the front line and the C-suite is important for much bigger reasons than simply getting staffing right for digital projects. Younger employees have their ears to the ground and can educate executives on emerging market trends and customer expectations. Profits may pay the electricity bill, but two other P's — people and the planet — are why companies keep the lights on in the first place.

“If they want to create relevant businesses, today's managers have to be willing to grow, to be humble and to listen to their people,” says Bozesan. “They should talk to teenagers and young people entering the workforce to see what they care about and try to unlearn what they know, because their knowledge is old and outdated.”

Company leaders also need to commit to deeper training and development, and use it to prepare the organization and its people for a brighter future and healthier planet rather than as a way to get more work out of employees to generate earnings for its own sake.

One such program is the Small World Initiative<sup>7</sup>, which recruits students from hundreds of U.S. high schools and colleges to study things like superbugs — infectious microorganisms that don't respond to current antibiotics and could kill more people by 2050 than cancer and diabetes combined if no cures are found. The goal of the youth-oriented crowdsourced research program is to encourage students to pursue careers in science, by conducting real-world lab and field research that could lead to discoveries with significant societal and environmental impact.

## Moving from talent famine to feast

We identified four approaches with best practices and actionable recommendations that can help companies prepare themselves to address the talent needs of today and prepare for those of the future.



- #1: Cast a wider net for new hires
- #2: Reskill and redeploy in-house talent
- #3: Engage temporary workers and gig economy strategically
- #4: Align organizational structure to evolving business needs



## #1: Cast a wider net for new hires

The battle for new hires continues. The well-manicured lawns and hallowed halls of Ivy League and other elite campuses are an obvious target for recruiters. In fact, Harvard University, Caltech and Stanford University produce the most employable graduates, according to the 2018 Global University Employability Ranking<sup>8</sup>. But like experienced hires, the fight for these graduates is brutal.

To contend with this intense competition, many leading companies are casting wider nets to recruit the talent they need. Unilever, for example, has digitized its recruitment process, using machine-learning algorithms to select its target number of 800 graduates from a pool of 2 million job applicants each year.<sup>9</sup>

As a result, the company has generated a huge amount of data on the types of people that make it through its rigorous recruitment process. By analyzing that data, Unilever has uncovered new insights

that debunk many myths about who and where they should be recruiting.

“There are some on my board who believe that the people who succeed are those who come from five schools in the whole world,” says the chief human resources officer of a leading consumer goods company. “But the data tells you it has nothing to do with the school you graduated from. What counts is your level of learning agility, resilience and personal mastery. Those things are more important.”

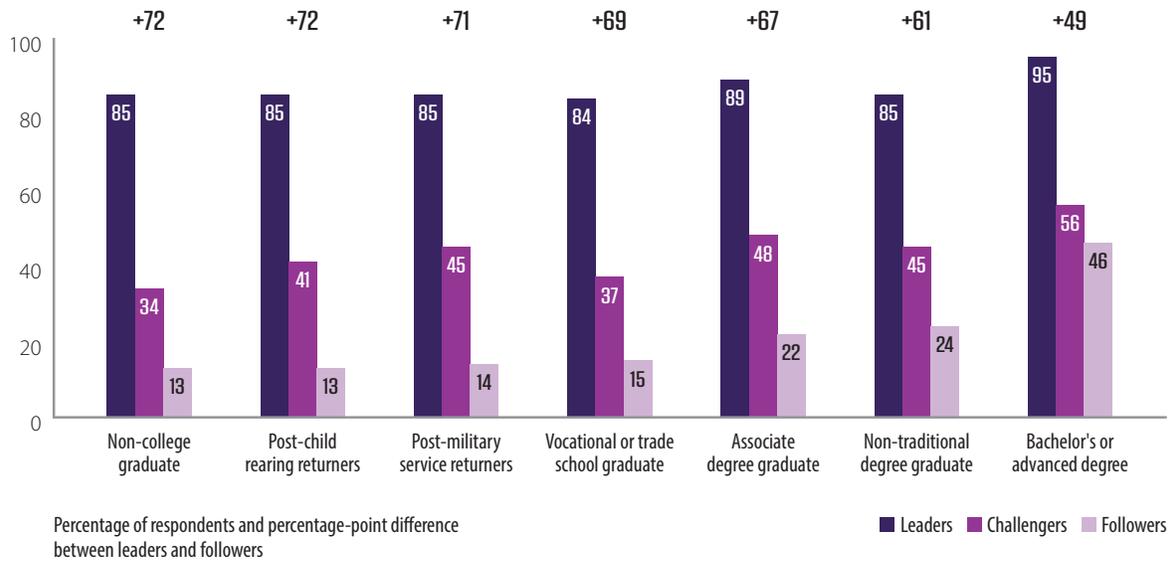
Of course, a newly minted Ph.D.-holder from Princeton University or Oxford can be an asset to any workforce, but companies don’t need — and can’t afford or find — entire teams made up of them. The leaders in our survey are much more likely to fill those gaps by hiring from a variety of sources, such as community colleges and trade schools as well as from those returning to the workforce after military service or taking time off for parenting. (See Figure 12.)

“One of the things we recommended in our workforce planning study was to be open about the way we source and not just rely on college recruiting, because you can only go so far with that,” says a strategic planning advisor of a large American oil and gas corporation. “We’re probably missing out on some talent that could add greater diversity to the way we work.”

### How companies can help colleges create the graduates they need

Leading companies also partner with academia in strategically and innovative ways, to jointly develop new talent. Education systems the world over aren’t keeping up with the needs of students or the companies that want to hire them. “Young kids arriving at school often know more about what’s going on with technology than their teachers do,” says Bozesan of AQAL Capital. “That’s no different

Figure 12. Leading organizations seek talent from all sources



Source: Infosys Knowledge Institute analysis

in higher education. Students lose respect when they see that their professors don't have the same amount of knowledge as they have acquired through the internet. Most professors have old-school mindsets of command and control, which no longer work. They cannot keep up with exponentially growing technologies because they don't use the internet, the platforms, and the tools as their students do. The result is more often than not, they don't have a clue about what's going on in their own domain of expertise."

To accelerate technical skills acquisition, as part of a three-year collaboration North Carolina State University expert faculty will provide training for newly hired Infosys employees in foundational data

science skills such as statistics, data visualization, machine learning and programming in Python. Over the next three years, at least 150 new Infosys hires are expected to participate in the joint program.

Infosys has also partnered with Trinity College, Hartford, one of the leading liberal arts schools in the U.S., to bring liberal arts majors into digital roles. Together, Infosys and Trinity are creating agile developers, or new-age business analysts. While other corporate-academic partnerships exist, the Infosys-Trinity partnership is considered exemplary because of its embrace of liberal arts and nontraditional sources of talent.

Meanwhile, Microsoft's Flagship School Program will work with 17 schools around the world, "... from

guiding the early design to helping educators use new technologies on day one of the first school year," says Anthony Salcito, Microsoft's vice president of education, in a release announcing the program. "As part of this journey, Microsoft is excited to go deeper, start early and put ourselves to work on the future of learning for students all around the world."<sup>10</sup> Through these types of initiatives, organizations can ensure students keep pace with a fast-changing labor landscape, even when teachers struggle to do their best with legacy systems and traditional approaches to classroom instruction.



## #2: Reskill and redeploy in-house talent

Nearly every company tries to develop the talent it already has. Long-proven approaches such as instructor-led classroom training, onboarding programs and coaching are widely used. Says Venugopal: “When we hire, they spend the first few months with me at the technical academy, where we bridge the gap between what they learn in the classroom and what they need in the industry for projects.”

But while traditional approaches to developing talent have not completely fallen by the wayside, learning is becoming more experiential. For example, self-guided online learning is just as common as in-class courses, and leading organizations are adding digital campuses, boot camps

and hackathons to their skills development offerings. Leading companies on average offer five different training options for their employees, and followers offer two options. Followers are still reluctant to formally invest in soft skills, as many of them tend to undervalue them. (See Figure 13.)

Companies are also changing the speed at which they deliver learning initiatives. Companies best at developing their people provide knowledge-sharing platforms, just-in-time online training and self-guided online learning modules for “the ability to learn anytime, anywhere, and from any device,” says Infosys’ Moorthy.

However, teaching developers the methods of DevOps differs greatly from helping them communicate more effectively. Some argue that soft skills are part of an employee’s DNA. Others, like Moorthy, believe most soft skills are teachable, as long as there is a mindset to learn. And the company needs to have a culture of learning to complement that.

At Brown University in the U.S., Patrick McHugh runs an executive MBA program that explicitly aims to develop people’s soft skills. “We want to help them develop those skills so that they can be more persuasive and have more impact. One thing we do is make sure our courses are a blend throughout of face-to-face and online. And another is to

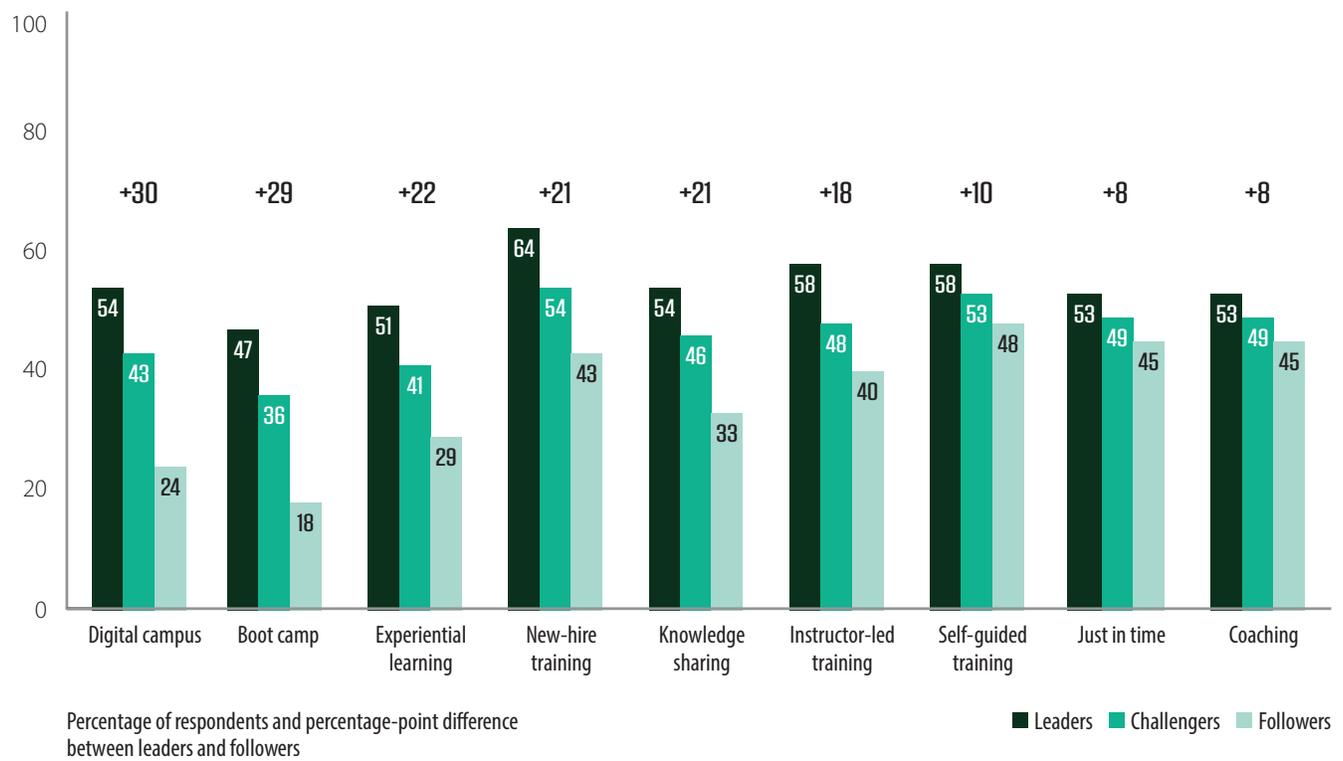
involve faculty from the liberal arts anthropology, sociology, political science and economics.”

That’s a big ask, though, for most corporate environments. For this reason, many organizations prefer to hire people with the necessary soft

skills from the outset. After all, there are limits to the changes one can make to a person’s intrinsic nature. Steve Jobs’ onstage charisma, Warren Buffett’s folksy Midwestern wisdom, Bill Gates’ geeky demeanor — these are all unteachable attributes.

Rather, Cardwell says the goal is to “understand the personality that’s coming to the table” and “hire people that have that natural skill set.”

Figure 13. Leading organizations offer greater variety of skills development



Source: Infosys Knowledge Institute analysis



### #3: Engage temporary workers and gig economy strategically

Besides partnering with academia to jointly develop new talent, leading companies are also more likely to leverage temporary workers to fill talent gaps. (See Figure 14.) Leading companies have better processes to engage temporary workers strategically and better manage them. Followers are more likely to turn to temporary or gig economy

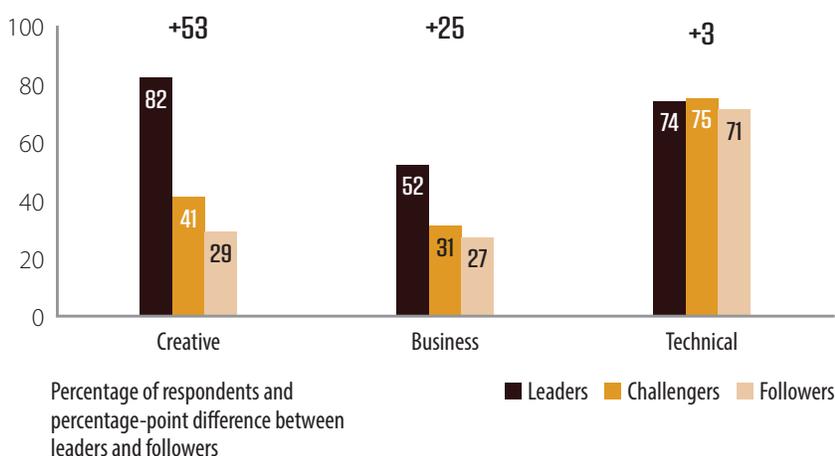
workers but only for technical work, while leaders go for the creative or design capabilities — which are in short supply — increasing the true value that the gig economy provides for those enterprises. However, this strategic approach requires strong internal processes to contract, integrate, manage and release these workers as projects spin

up and then wind down. Leaders have the operational discipline, followers don't.

The reasons companies turn to temporary staff vary by industry. For example, the high-tech companies in our survey use temporary staff for technical skills on 95% of their digital initiatives, versus an overall industry average of 74%. Manufacturers use temporary workers for design capabilities on 70% of these projects, versus an average of 52%. And life sciences companies contract externally for business or industry expertise in 48% of their digital transformations.

“It’s like balancing an investment portfolio,” says the strategic advisor of a large American oil and gas company. “What percentage do we want to recruit out of college? How many external hires do we want so we can make sure we’re getting that perspective? What percentage do we want to freelance?”

Figure 14. Leaders access temp and gig economy for creative capabilities



Source: Infosys Knowledge Institute analysis

## #4: Align organizational structure to evolving business needs

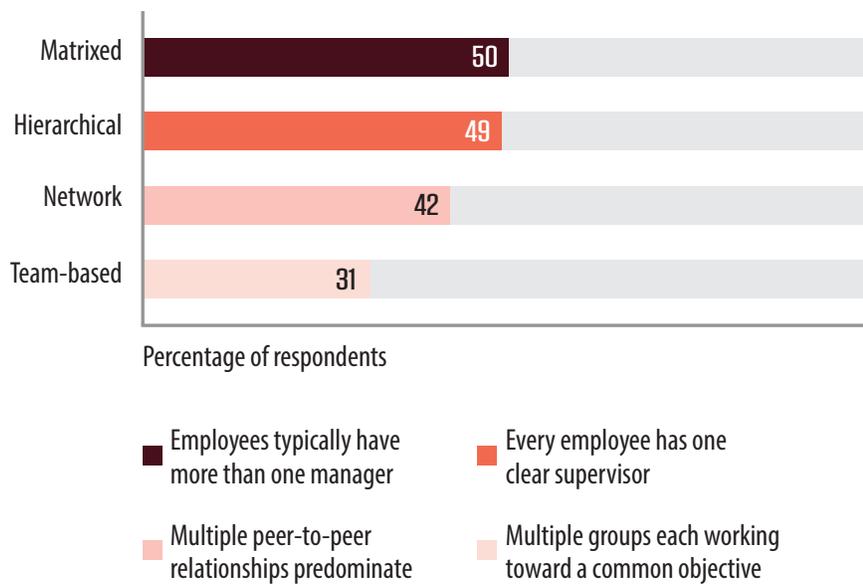
Organizations must move from hierarchical and matrixed organizational structures to team-based, self-managing ones for agile project needs. Digital initiatives require organizational structures that support collaboration and enable employees at all levels to make decisions. In our survey, hierarchical and matrixed structures are the most popular models for pursuing digital initiatives. (See Figure 15.) However, some models are more common than others for particular initiative types.

For example, hierarchical models, in which every employee has one clear supervisor, are most prevalent on digital projects aimed at better understanding customer and market needs. Team-based models, where multiple groups work toward a common objective, are more common on initiatives to improve customer experience and achieve new business-related objectives. While the survey data is not conclusive, through our other research it appears this also tracks where companies are in their digital journeys.

Digital initiatives require collaboration; to enable this, companies need to shift from organizational hierarchies to flatter leadership models comprising specialized networks for agility. There is progress in the evolution to team-based structures and firms are experimenting, yet few have mastered doing it at scale.

There is a culture change required in this process — leadership guidance, employee mindset, human resource transformation and work organization. Every company's culture is different. Companies need to pilot in small teams and implement the learnings as they look to do it at scale.

Figure 15. Organizational models for digital initiatives



Source: Infosys Knowledge Institute analysis

But there are also signs of change as companies shift from hierarchical organizations to flatter leadership models. "I have a mentor who plays jazz music and keeps telling me that the structures of the old-generation companies are like the traditional western orchestra, with a conductor who is the CEO of the company and players who have specific responsibilities for achieving standard outcomes," says Gopi K.K., senior vice president and head of European talent strategy at Infosys. "This musician mentor says the future of digital organizations cannot be a western-style orchestra, but must be more like a jazz band with a leader who only defines the mission, vision and direction, then sits down to play. The other players can improvise and adapt to changes as they go."



## Embrace duality

People are works in progress. The more company executives embrace this understanding, the more likely they are to commit to develop the talent they need to compete in the digital era.

“We’re not necessarily looking for the finished product, which is the strategy of a lot of other companies,” says Jeff Auker, head of innovation and delivery at Infosys’ Hartford Hub in Connecticut. “We’re looking for

people who have the base skill set, who have the ability to learn.”

Perhaps the most important characteristic of the companies that are most successful in getting the skills they need is that they embrace multiple approaches for developing and managing talent. Think of this as a duality — two non-similar perspectives that exist in harmony to achieve a common purpose. For instance, these companies both hire

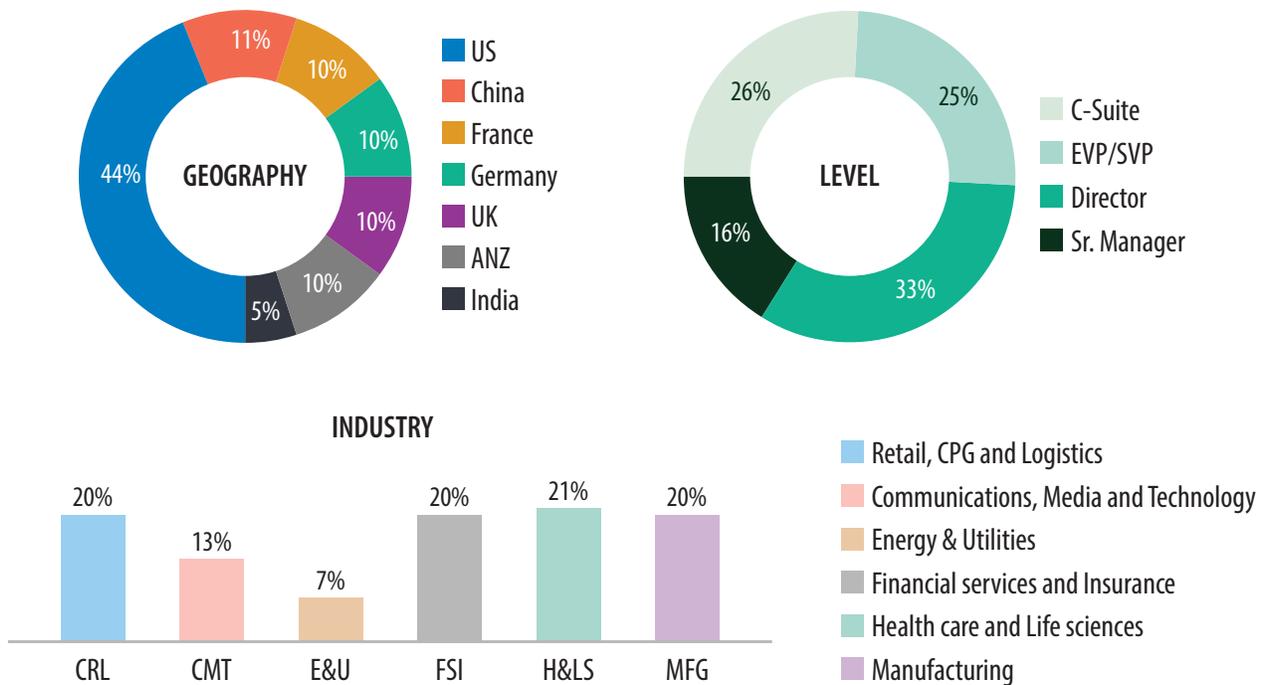
and develop talent, employ and contract workers, recruit bachelor’s and associate degree holders, look for hard and soft skills, and provide classroom and virtual training. At a time when talent is scarce and getting scarcer, being able to do multiple things simultaneously, many times over, might be the critical differentiator for companies to meet their talent demands.

# Research methodology

In July 2019, the Infosys Knowledge Institute conducted an online survey using a blind format, attracting responses from more than 1,000 CXOs and other senior-level respondents from companies with revenue greater than \$1 billion. Respondents represented multiple industries and were from Australia, China, France, Germany, India, the United Kingdom and the United States.

To gain additional qualitative insights, we also conducted primary interviews with 20 industry practitioners and subject matter experts.

## Survey coverage



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