

The Digital Talent Gap

Are Companies Doing Enough?





The Digital Talent Gap— Are Companies Doing Enough?

Nearly all organizations would agree that digital talent is important and that they are aware of the digital talent gap. Our pioneering research in collaboration with LinkedIn however, suggests that although the majority of companies frequently discuss this gap, concrete action to bridge it is rarely taken. Close to 50% of the organizations we studied conceded they have not taken digital talent seriously.

To probe this issue, we undertook a worldwide, cross-sector research program in collaboration with LinkedIn. We surveyed over 1,250 people to gain the perspectives of both employees and leadership teams and we interviewed human resource and talent executives within organizations as well as digital and technology recruiters. In parallel, we worked with LinkedIn to understand demand and supply for specific digital skills and digital roles. The research methodology at the end of the report provides more detail on our approach.

With ever-increasing demand for skills, the talent gap has widened. The challenge of the digital talent gap is no longer just an HR issue; it is an organization-wide phenomenon that affects all areas of the business. The objective of this report is to guide Chief HR officers, other CXOs, and the Learning and Development (L&D) teams in addressing this challenge.

In this paper we:

1. Identify key trends and changes in the digital talent gap arena and pinpoint the digital skills and digital roles in greatest demand in ***“The digital talent gap is widening”***
2. Assess the key challenges that are preventing organizations from bridging the talent gap by exploring employees' views in ***“Key talent roadblocks: the employees' perspective”***
3. Outline the best practices we can learn from leaders in the digital talent arena in ***“Proactive digital talent leaders have valuable lessons to offer”***
4. Recommend strategies to more effectively recruit, develop, and retain digital talent in ***“What can organizations do to narrow the digital talent gap?”***

Executive Summary—Key Takeaways

The digital talent gap is widening. Every second organization we surveyed acknowledged that the digital gap is widening. Moreover, over half (54%) of the organizations agreed that the digital talent gap is hampering their digital transformation programs and that their organization has lost competitive advantage because of a shortage of digital talent.

The talent gap in soft digital skills is more pronounced than in hard digital skills. More employers (59%) say that their organization lacks employees who possess soft digital skills than hard digital skills (51%). The two soft digital skills in most demand are *customer-centricity* and *passion for learning* and the two hard digital skills in most demand are *cybersecurity* and *cloud computing*.

Many of today's employees are anxious. Employees are worried that their skills are either already redundant or soon to become so. Overall, 29% of employees believe their skill set is redundant now or will be in the next 1–2 years.

Employees feel organizations' training programs are not hugely effective and those who want to excel are looking beyond their organizations' learning and development (L&D). More than half of today's digital talent say that training programs are not helpful or that they are not given time to attend. Close to half actually describe the training as "useless and boring." Nearly 60% of digital talent are even investing their own time and money, most commonly to be on a par with their colleagues on the required digital skills.

Skill redundancy fears and lack of faith in their organization's upskilling efforts could trigger attrition. Over half of digital talent (55%) say they are willing to move to another organization if they feel their digital skills are

stagnating at their current employer. And over half of digital talent (58%) are likely to gravitate towards organizations that offer better digital skill development. Furthermore, digital talent have an easy exit option as they are faced with an abundance of job opportunities.

What can organizations do to narrow the digital talent gap?

In an increasingly digital economy, those organizations that bridge the talent gap will enjoy a competitive edge over those who don't. A defined digital talent strategy that meets both business objectives and the needs and preferences of digital talent is critical for a sustainable and successful digital transformation. Based on what we have learned from our research—as well as our experience in the field with our clients—we believe there are six areas organizations should focus on to solve their digital talent challenges:

Attracting Digital Talent

- Align leadership on a talent strategy and the unique needs of digital talent
- Diversify recruiting approach

Developing Digital Talent

- Create an environment that prioritizes and rewards learning
- Chart a clear career development path

Retaining Digital Talent

- Give digital talent the power to implement change
- Provide flexible and collaborative ways of working.

What is digital talent?

In our survey, we analyzed digital talent in three ways:

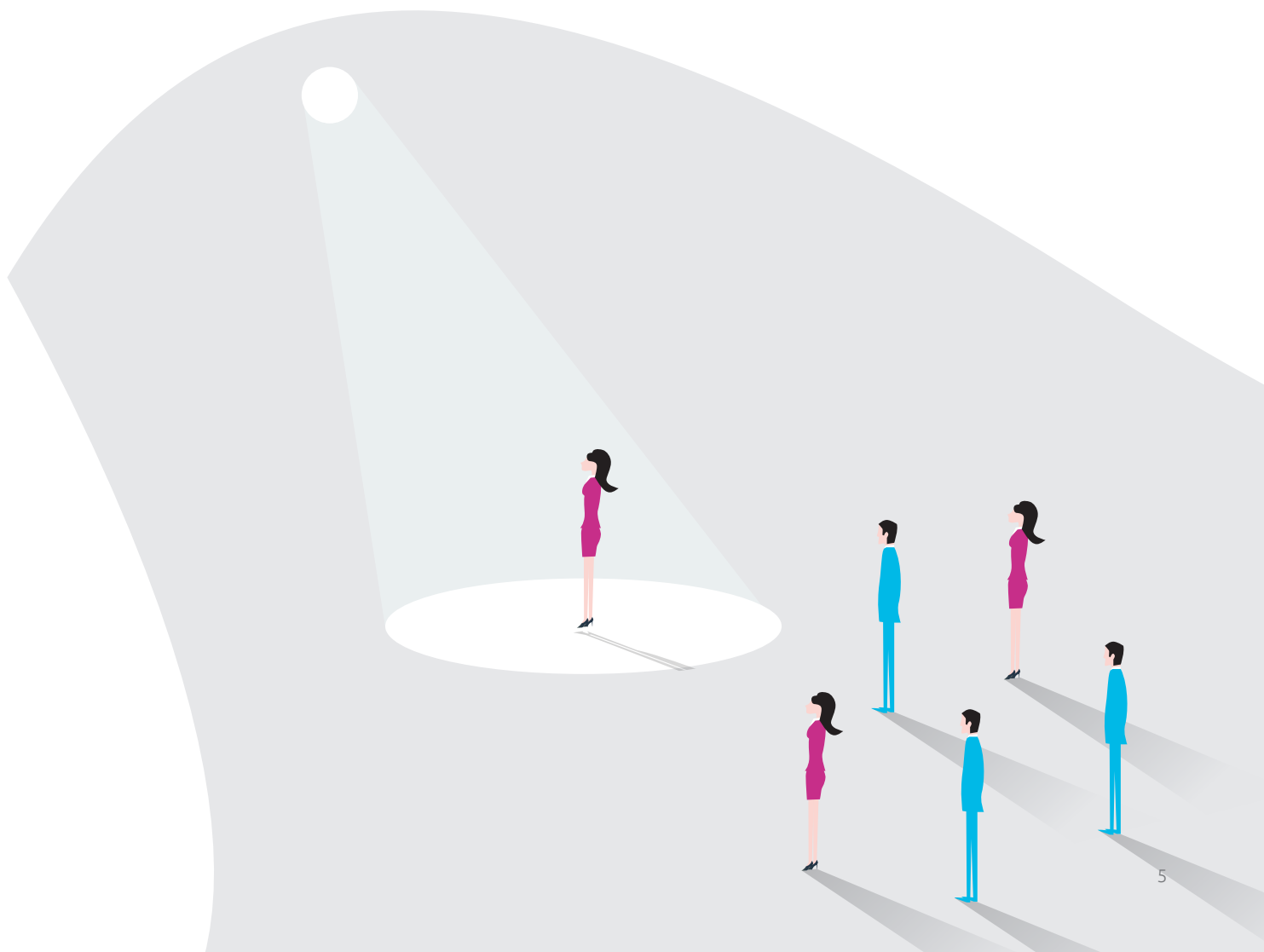
- Hard digital skills (such as data analytics)
- Soft digital skills (such as comfort with ambiguity) that constitute a “digital-first mindset” and are necessary for a successful digital transformation
- Digital roles that have been created as a result of digital transformation activities within an organization or the emergence of disruptive technologies.

Twenty-four hard digital skills, eight soft digital skills, and twenty-three digital roles were included in our survey and were identified based on both long-standing and emerging technologies and on our extensive experience in

the digital transformation space. Please refer to the Appendix for a full listing.

We created the profile of a Digital Talent employee who is proficient in at least one of the 24 hard digital skills and in at least four of the eight soft digital skills included in our survey. Such employees constitute over half (56%) of those surveyed. “Footprint of Digital Talent” on page 10 outlines their defining characteristics.

We also identified together with LinkedIn a further long list of hard digital skills and digital roles based on a mutually agreed definition for “digital.” Please refer to the Research Methodology for further details.



The digital talent gap is widening

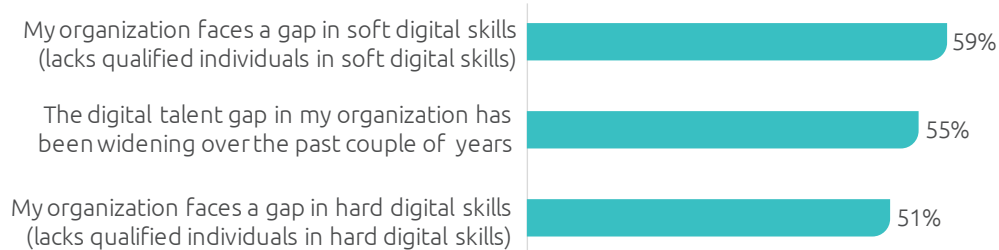
55% Percentage of organizations who acknowledge that the digital talent gap is widening

Every second organization we surveyed acknowledged that the digital gap is widening. Moreover, over half (54%) of the organizations agreed that the digital talent gap is

hampering their digital transformation programs and that their organization has lost competitive advantage because of a shortage of digital talent (see Figure 1).

Figure 1. More than half of organizations still face a shortage of digital talent and say it affects their competitiveness

Percentage of organizations that acknowledge the shortage of digital talent



Percentage of organizations that acknowledge the impact of the digital talent gap



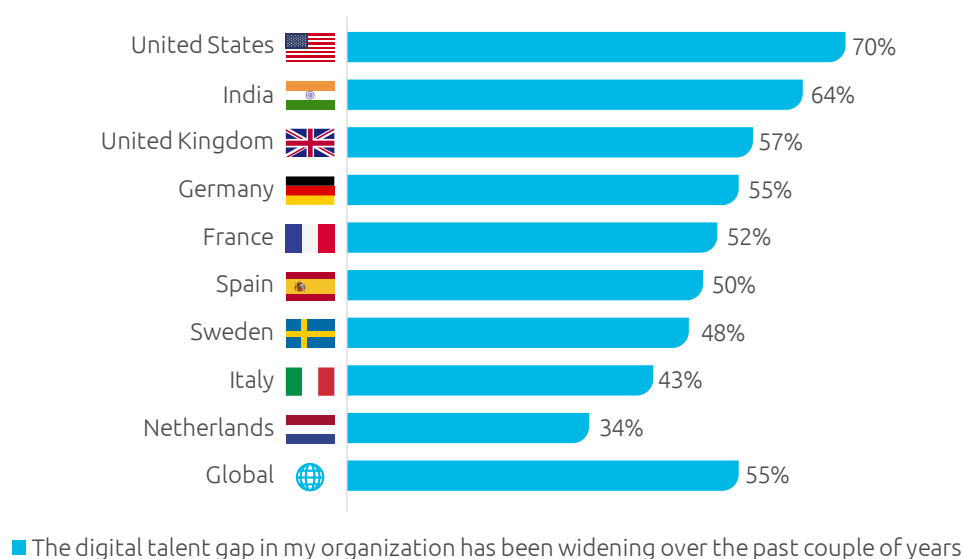
Source: Capgemini Research Institute survey, *Digital Talent Gap*; June–July 2017, N=501 employers.

The percent of organizations that say the digital talent gap has widened is above the global average in the United States, India, and the United Kingdom. By industry sector, the

widening gap is more pronounced in the banking, consumer products, retail, and insurance industries (see Figure 2).

Figure 2. Seven in ten organizations in the US cite a widening talent gap while six in ten banking organizations also acknowledge it

Percentage of organizations responding to widening of digital talent gap, by geography



Percentage of organizations responding to widening of digital talent gap, by industry



Source: Capgemini Research Institute survey, *Digital Talent Gap*; June–July 2017, N=501 employers.

The talent gap in soft digital skills is more pronounced than in hard digital skills

Soft digital skills are an increasingly important characteristic of a well-rounded digital professional (see “What is digital talent?”). As Figure 1 shows, more employers (59%) say that their organization lacks employees who possess soft digital skills than hard digital skills (51%). As Wendy Murphy, Senior Director, Human Resources, Europe, Middle East and Africa at LinkedIn puts it, *“Soft digital skills are required across all levels, especially the ability to learn and to be agile. Both attributes*

combined are hugely important in terms of making strides forward in the digital world. We do not know what the future looks like, therefore, having people who have the resilience and ability to shift from one thing to another with ease and learn constantly to help the business progress, is immensely important.”

Figure 3 shows the talent gap in soft skills, representing the difference between employer demand for the skill and employee proficiency. The two skills in most demand are customer-centricity and passion for learning, while the greatest gap exists for comfort with ambiguity and collaboration.

Figure 3. There is a gap between what organizations need and the proficiency of their employees in almost all soft digital skills¹

Percentage of organizations that acknowledge that demand for a soft digital skill is high in their organization today and percentage of employees who are proficient in that soft digital skill



Source: Capgemini Research Institute survey, June–July 2017, N=501 employers; N=753 employees; ranked by employer demand.

“ *I think that the world is focused very heavily on hard skills like computer science, data science, and artificial intelligence. Let us be clear those skills are very important. However, the combination of hard skills and power skills, like communications, critical thinking, and teamwork, is most vital. These skills are required in every job and are critical for professional success across all industries.”*

Anant Agarwal, Founder and CEO of eDX, a massive open online course (MOOC) provider

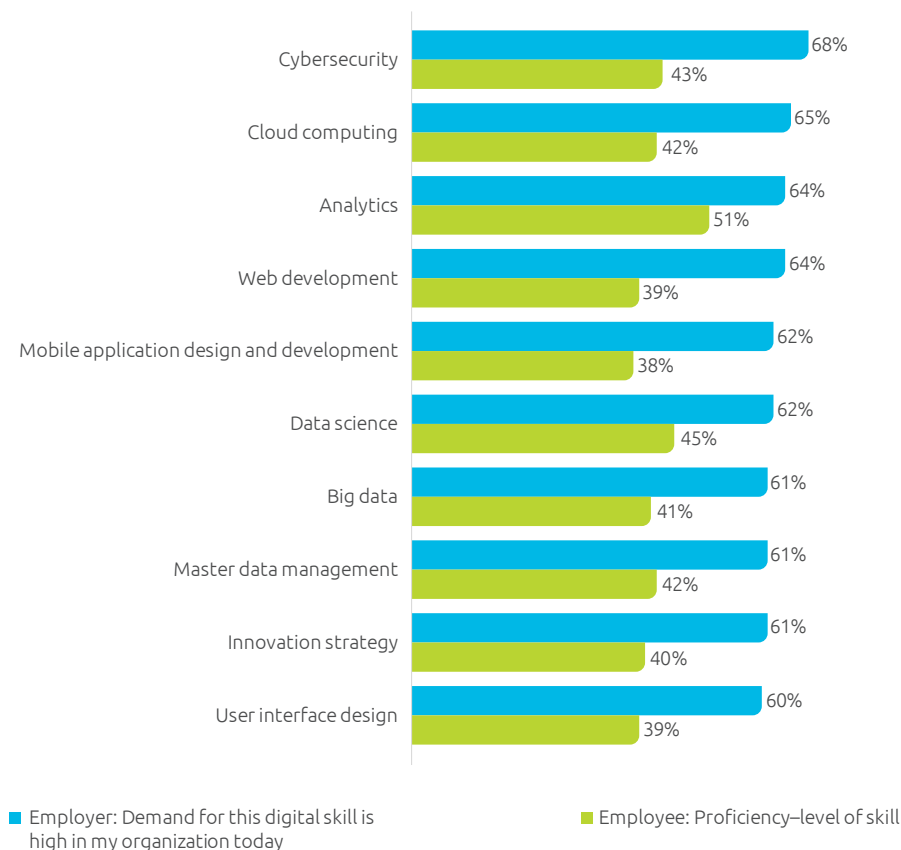
Demand for hard digital skills still outpaces supply

As Figure 1 shows, more than half of organizations face a talent gap in hard digital skills. The two skills in most demand,

cybersecurity and cloud computing, are also those with the greatest talent gap (see Figure 4).

Figure 4. A stark gap exists between organizations' requirements and employee proficiency for hard digital skills

Percentage of organizations that acknowledge that demand for a hard digital skill is high in their organization today and percentage of employees who are proficient in that hard digital skill



Source: Capgemini Research Institute survey, June–July 2017, N=501 employers; N=753 employees; ranked by employer demand.

Top digital roles in the next 2–3 years

We asked employers which digital roles will be more prominent in the near future. As highlighted in Figure 5, security and data roles top the list.

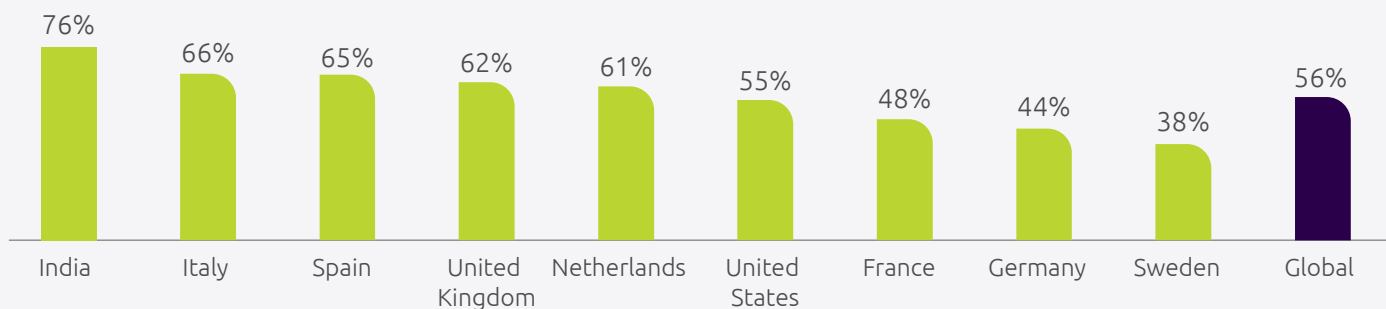
Figure 5. Top 10 digital roles of the next 2–3 years

1. Information security/Privacy consultant
2. Chief digital officer/Chief digital information officer
3. Data architect
4. Digital project manager
5. Data engineer
6. Chief customer officer
7. Personal web manager
8. Chief internet of things officer
9. Data scientist
10. Chief analytics officer/Chief data officer

Source: Capgemini Research Institute survey, June–July 2017, N=501 employers.

Footprint of digital talent

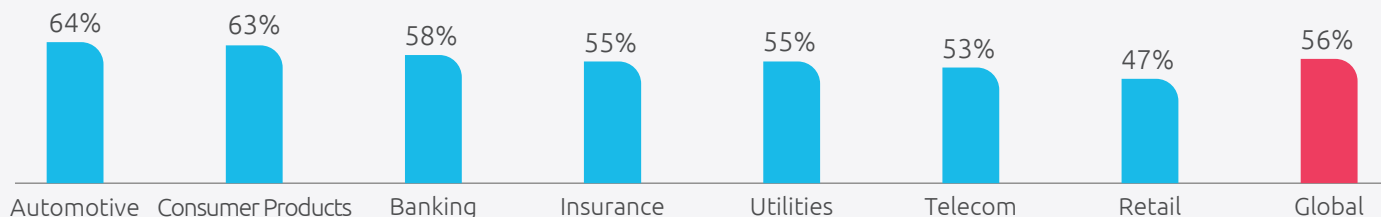
India has the highest proportion* of digital talent



Source: Capgemini Research Institute Survey, Digital Talent Gap; June–July 2017, N=425 digital talent employees.

*Proportion represents the percentage of digital talent out of 100 in that particular country or industry

Automotive and Consumer Products have the highest proportion* of digital talent



Source: Capgemini Research Institute Survey, Digital Talent Gap; June–July 2017, N=425 digital talent employees.

*Proportion represents the percentage of digital talent out of 100 in that particular country or industry

Agile, Web, and Cloud are the most common hard digital skills



Top 5 hard digital skills digital talent list on their LinkedIn profile**

Source: Aggregated LinkedIn member profile data, Digital Talent Gap; June–July 2017; **Top 5 skills from LinkedIn profile data for members with the 24 hard digital skills included in the survey

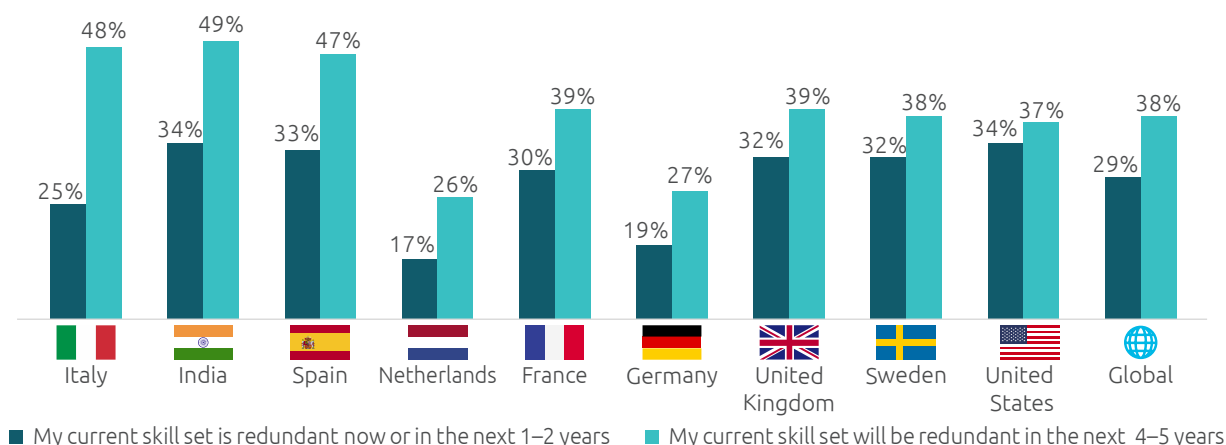
Key talent gap roadblocks: The employees' perspective

Many of today's employees are anxious. They are worried that their skills are either already redundant or soon to become so. Overall, 29% of employees believe their skill set is redundant now or will be in the next one to two years and over a third (38%) believe their skill set will be redundant in the next four to five years (and 47% of Gen Y and Gen Z employees)² (see Figure 6). Digital talent are even more anxious about their skills—33% of them believe their skill set is redundant now or will be in the next one to two years and 44% believe their skill set will be redundant in the next four to five years.

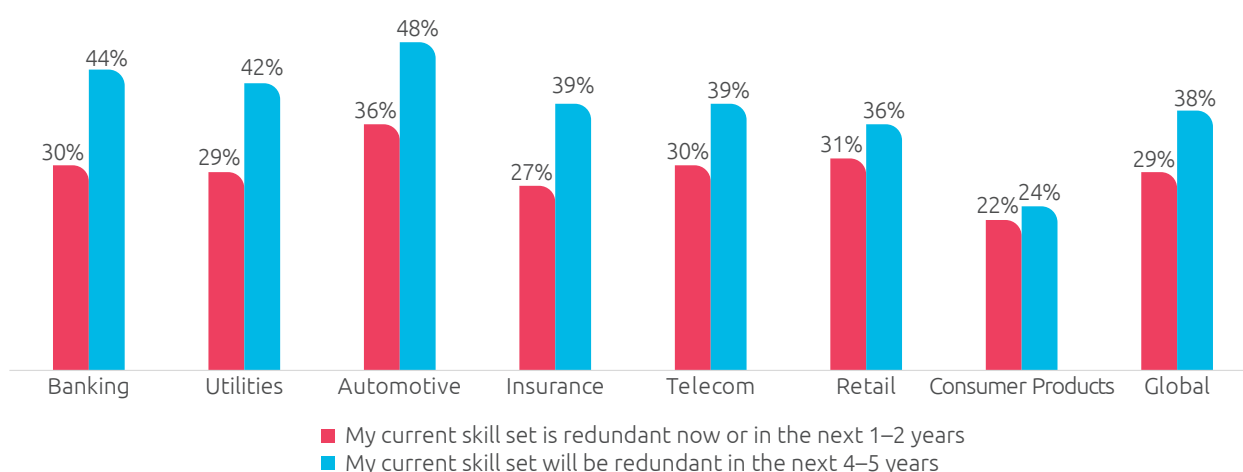
47% Percentage of Gen Y and Gen Z employees who consider their skill set is redundant or will be redundant in the next four to five years

Figure 6. Employees across countries and industries believe their skill set is or will be redundant

Percentage of employees believing their skill set is redundant now or will be redundant, by geography



Percentage of employees believing their skill set is redundant now or will be redundant, by industry



Source: Capgemini Research Institute survey, *Digital Talent Gap*; June–July 2017, N=753 employees; ranked by gap.

42% Percentage of employees who describe their organization's training programs as "useless and boring"

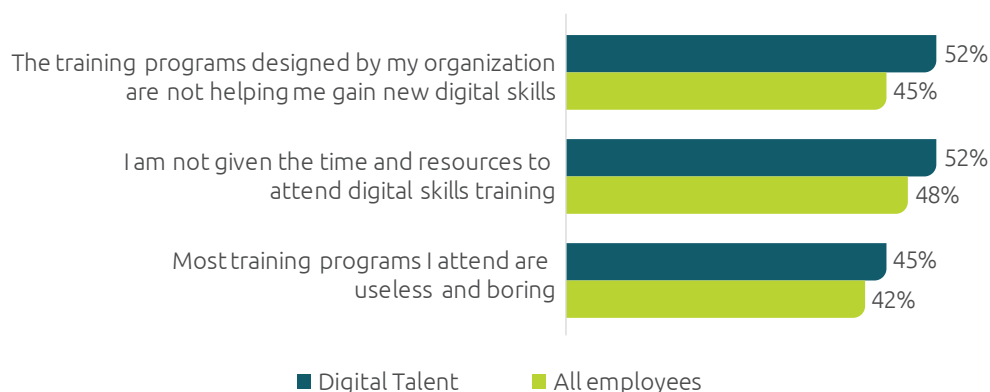
However, while employees worry about the future and clearly feel the need to keep their skills current, many do not look to their employers' learning and development for answers:

- **Employees feel organizations' training programs are not hugely effective.** More than half of today's digital talent say that training programs are not helpful or that

they are not given time to attend. Close to half actually describe the training as "useless and boring" (see Figure 7). Instead, employees are looking outside the organization. In fact, 52% of all the employees prefer learning through a massive open online course (MOOC) than their organization's training program.

Figure 7. Around half of the employees are not satisfied with their organizations' trainings

Percentage of employees responding to "I do not show interest in my organization's training programs because..."



Source: Capgemini Research Institute survey, Digital Talent Gap; June–July 2017, N=425 digital talent employees; N=753 employees; ranked by gap.

- Employees who want to excel are looking beyond the organizations' L&D programs. Digitally talented employees are even investing their own time and money (see Figure 8). Speaking about the benefits of a MOOC provider, one employee said, *"I needed a stepping stone to enter into a new field and wanted to accomplish this without having to scale back my responsibilities at work or take a prolonged break from my career. Hence, I opted for online learning. With online programs one has the ability to be one's own boss by setting your own schedule and going at your own pace."*

Darren Shimkus, General Manager, Udemy, a learning platform, believes this is part of a shift to employee-driven learning. *"Corporate learning programs were all based on what the company thought an employee should know,"* he says. *"Now we are seeing much more employee-driven learning. Employees can decide. 'Do I need to learn the principles of data science to do my job? Do I need to learn digital marketing campaigns to do my job?' Employees are the ones who really understand what skills they need in order to accomplish their goal or to get to the next level in their career."*

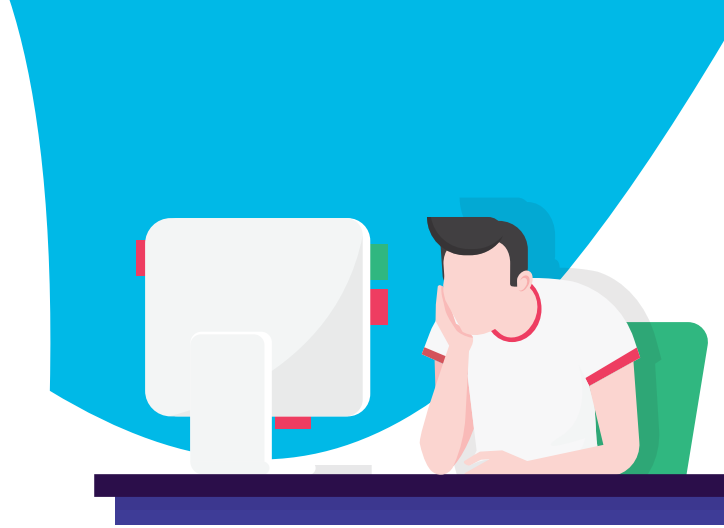
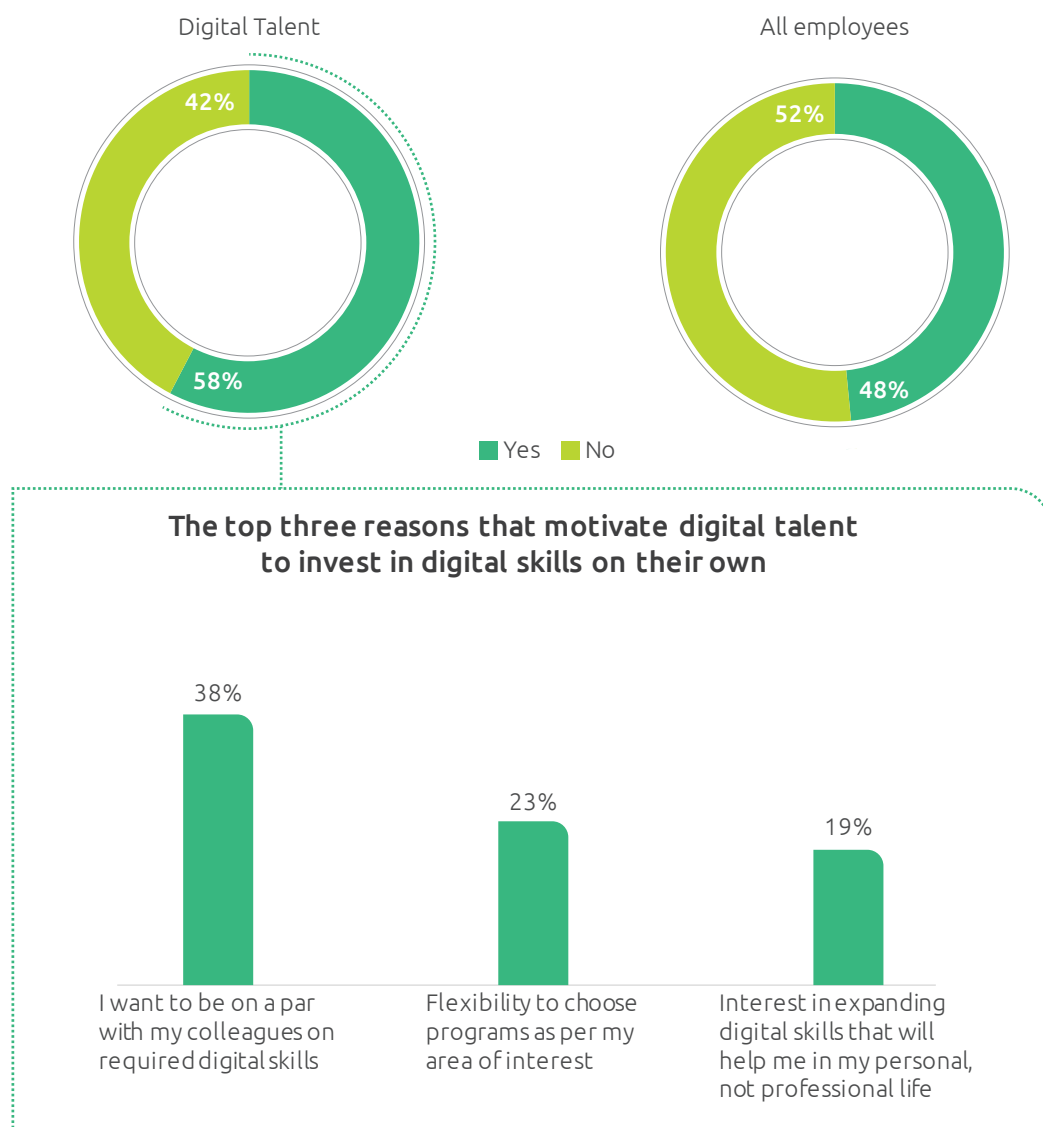


Figure 8. Employees invest their own resources to develop digital skills

Employees responding to "Have you invested in developing digital skills on your own (i.e. with your own money or on your own time)?"



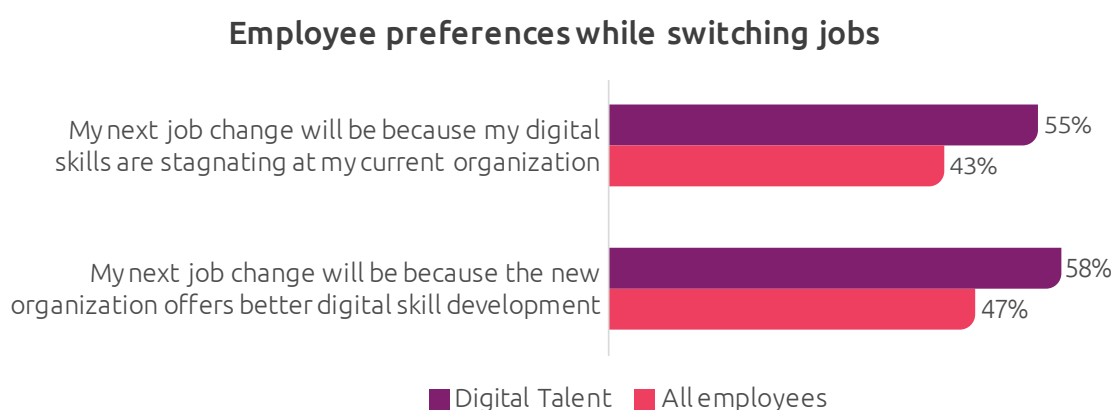
Source: Capgemini Research Institute survey, Digital Talent Gap; June–July 2017, N=425 digital talent employees; N=753 employees; Percentages for the lower chart do not sum to 100 as only the top three reasons are listed.

Organizations need to pay attention to the widening gap or risk losing existing talent

- **Skill redundancy fears and lack of faith in their organization's upskilling efforts could trigger attrition.** Over half of digitally talented employees (55%) (and 53% of Gen Y and Gen Z employees) say they are

willing to move to another organization if they feel their digital skills are stagnating at their current employer. And over half of digital talent (58%) are likely to gravitate towards organizations that offer better digital skill development (see Figure 9).

Figure 9. Digital skills and learning environment could cause six out of ten employees to switch jobs



Source: Capgemini Research Institute survey, *Digital Talent Gap*; June–July 2017, N=425 digital talent employees; N=753 employees; ranked by gap.

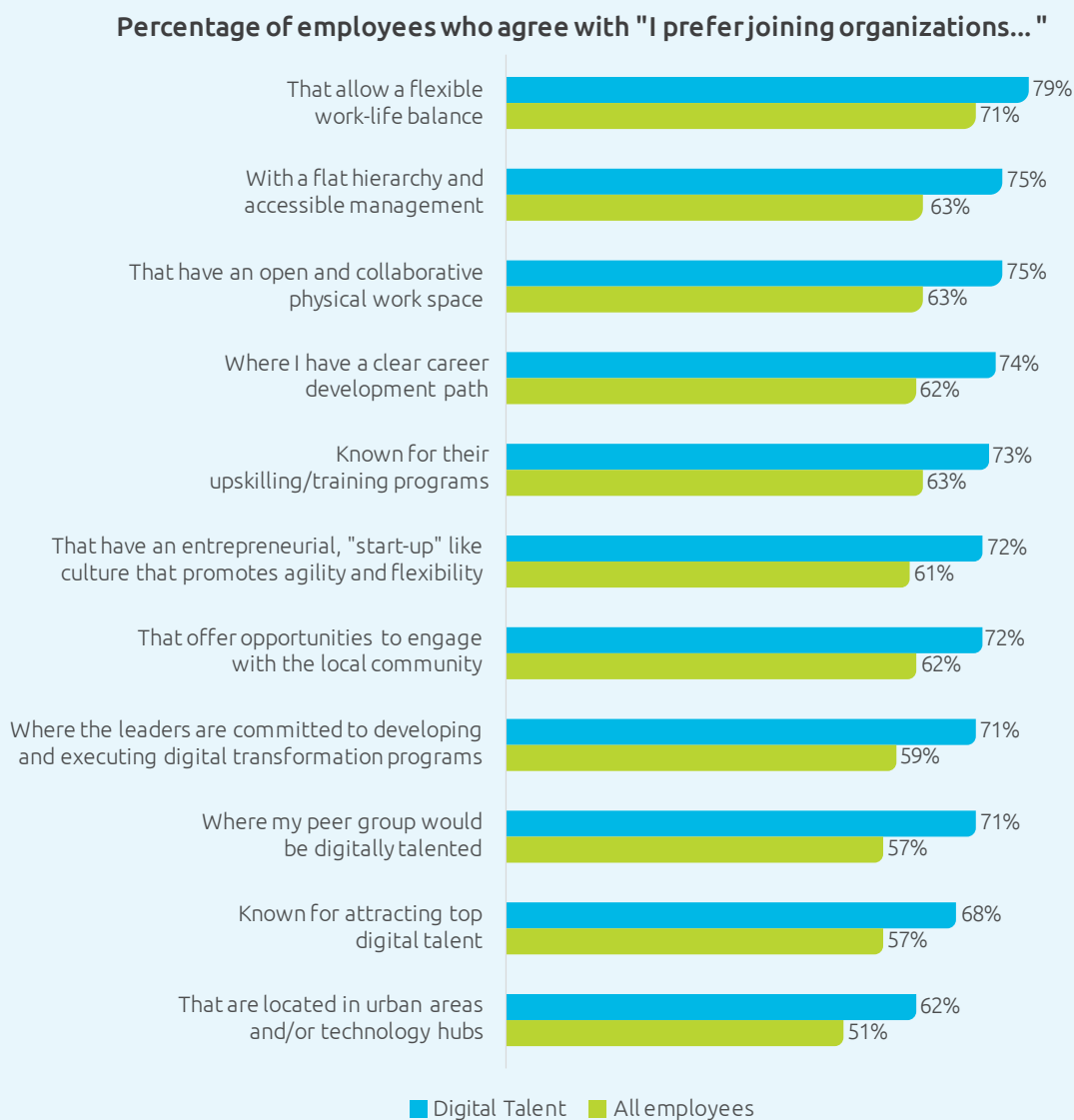
55% Percentage of digitally talented employees who say they are willing to switch jobs if they feel their digital skills are stagnating

What attributes do digital talent value?

Eight out of ten digital talent employees prefer joining organizations that allow a flexible work-life balance. Seventy-five percent of digital talent prefer joining

organizations with a flat hierarchy and accessible management as well as an open and collaborative physical workspace (see Figure 10).

Figure 10. A flexible work-life balance and a flat hierarchy rank high on digital talent's preferences when switching organizations



Source: Capgemini Research Institute survey, *Digital Talent Gap*; June–July 2017, N=425 digital talent employees; N=753 employees; ranked by digital talent preferences.

- **Digitally talented employees have an easy exit option as they can count on an abundance of job opportunities.** Based on aggregated member profile data from LinkedIn, on average, Data Scientists and Full Stack Developers have the highest demand index over the past year³. Each Data Scientist on average received 13.2 InMails over the past year and each Full Stack Developer on average received 11.2 InMails over the past year (see Figure 11).

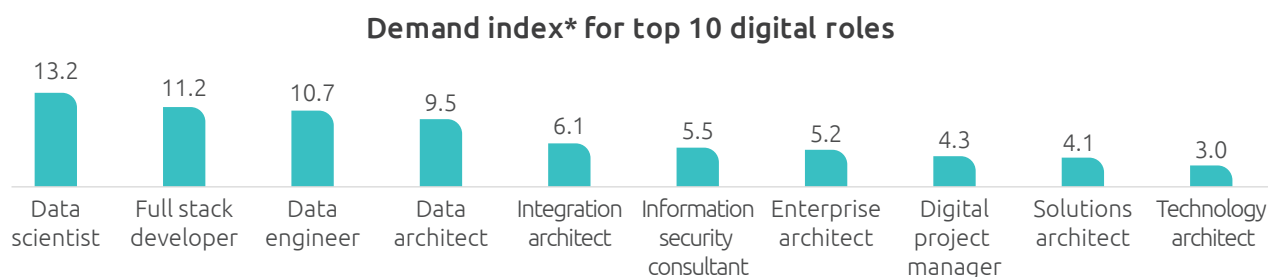


Businesses need to recognize that digital talent is a small pool of people who have a lot of good offers competing for their attention. Companies may not be able to engage these people in the same manner as a typical employee base; they need to be clever in their approach."

Tuck Rickards,

Managing Director at Russell Reynolds

Figure 11. Data Scientist and Full Stack Developer rank high on demand index on a global level*



Source: Aggregated LinkedIn member profile data, *Digital Talent Gap*; June–July 2017. *Top 10 roles based on aggregated LinkedIn data for members with the 23 digital roles included in the survey.

13.2 Number of InMails each Data Scientist received over the past year on average



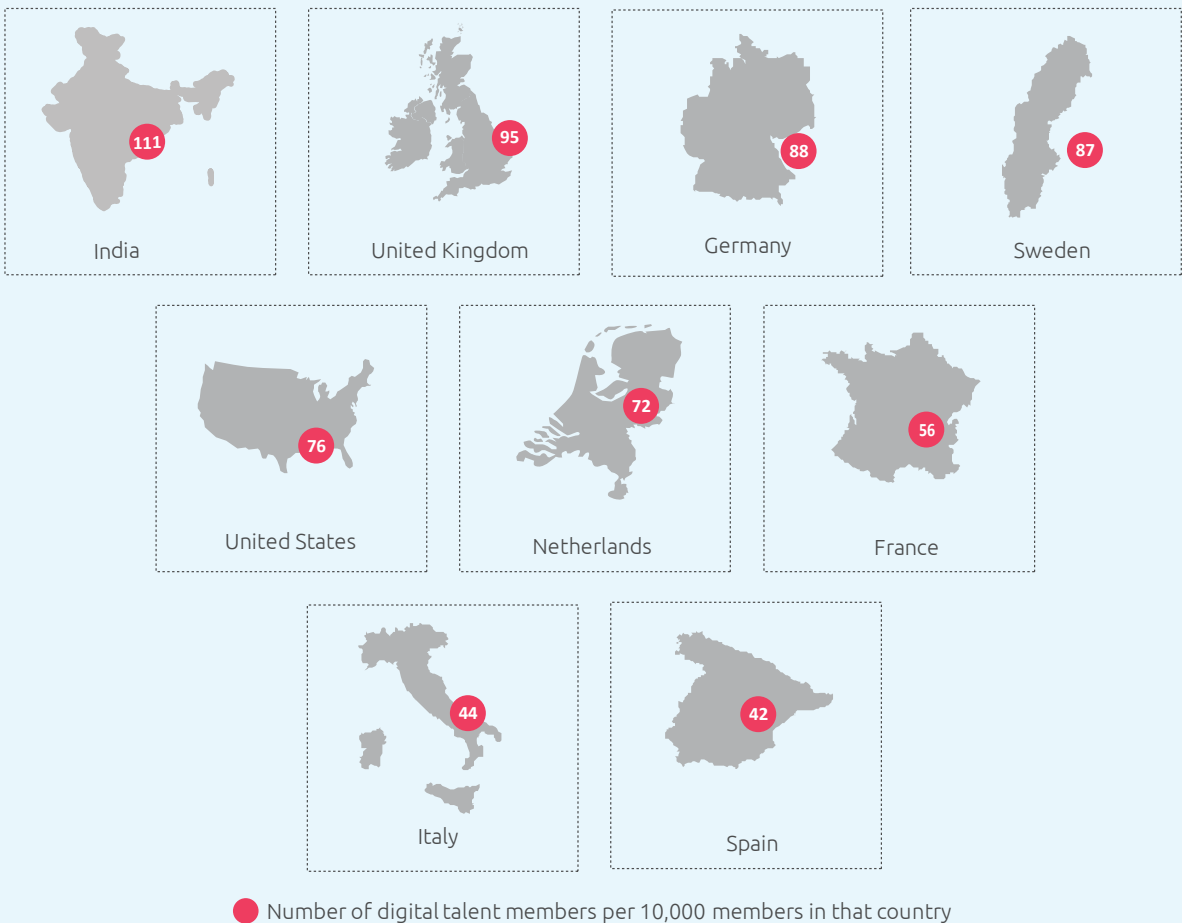


Geographic Supply and Mobility Trends of Digital Talent

In our partnership with LinkedIn, we looked at supply and mobility trends for digital talent across selected countries based on a longer list of mutually agreed digital titles. India,

the United Kingdom, and Germany have the largest supply of digital talent per 10,000 total members in the country. Spain has the lowest supply among the countries in our survey.

Figure 12. India ranks the highest in digital talent



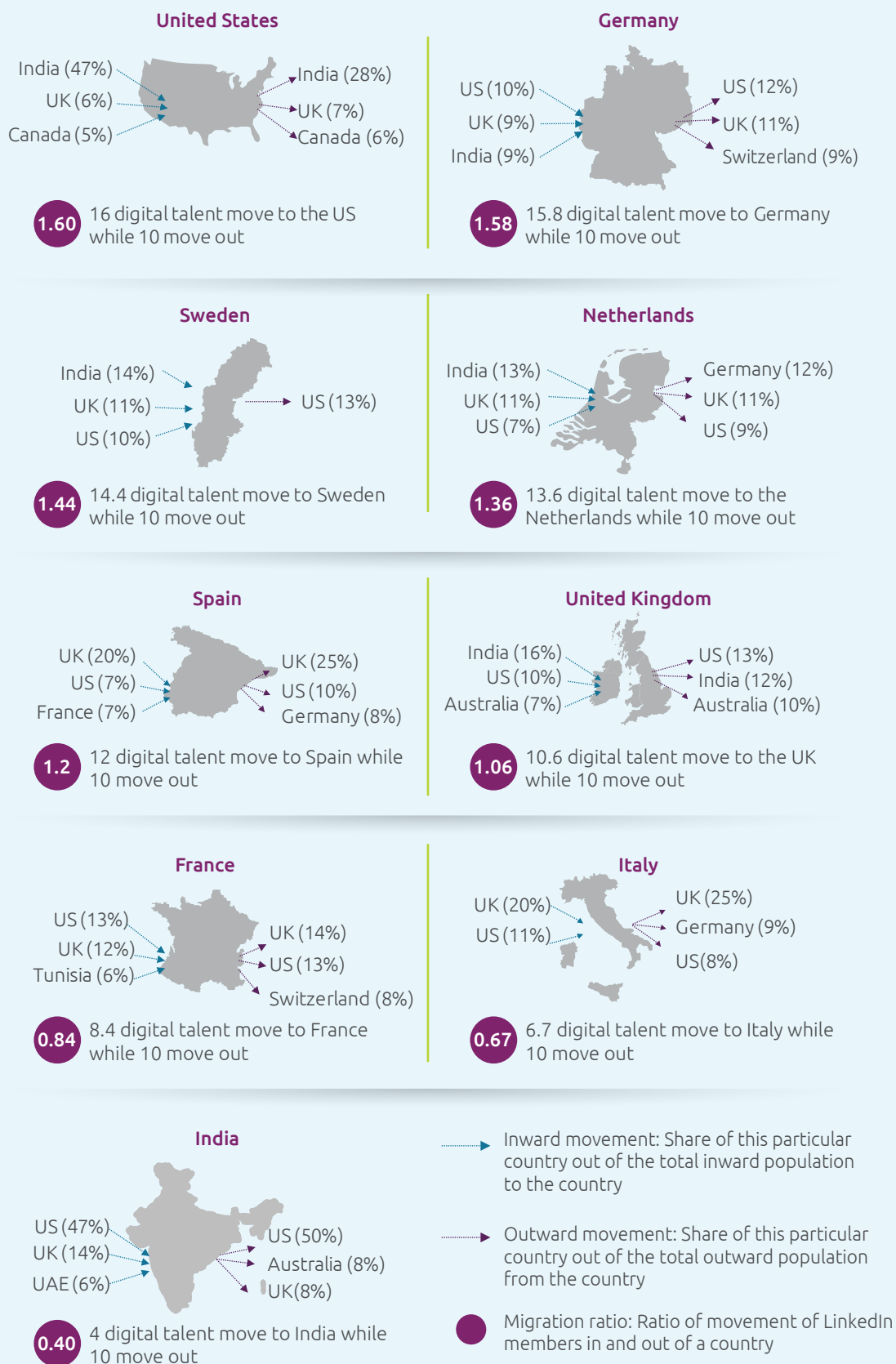
Source: Aggregated LinkedIn member profile data, Digital Talent Gap; June–July 2017; data based on the long list of digital titles mutually agreed upon.

We defined a migration ratio that gives the movement in and out of a country, i.e., the number of members moving into this particular country for every one person who moves out. A migration ratio of 1.5X means 15 members are moving into that country while 10 move out.

As Figure 13 shows, the United States, Germany, and Sweden are the top three countries with a migration ratio of more than one. This indicates that these countries are the top preferred destinations for digital talent. On the other extreme, India has one of the lowest migration ratios of 0.4. In other words, for every ten digital talent moving from India to other locations, only four are moving to India.

Figure 13 also shows the inward and outward movement of digital talent for each of the countries. India is part of the inflow for all the top three preferred nations (US, Germany, and Sweden). An Assistant Vice President of an insurance firm outlines how India has become a major source of talent. *“India is our biggest source of digital talent,”* he says. *“While most of our business comes from Europe, we are facing a dearth of digital talent there. Asia—and India in particular—is the place where we will get this talent. It might be because of the boom in e-commerce and technology in Indiayounger talent has started showing an active interest which is fueling the digital journey even further.”*

Figure 13. The United States followed by Germany have the most digital talent moving into the country than those moving out



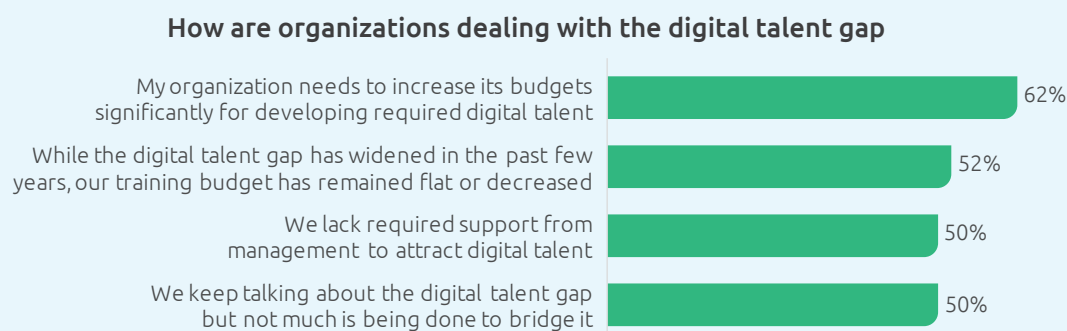
Source: Aggregated LinkedIn member profile data, Digital Talent Gap; June–July 2017; data based on the long list of digital titles mutually agreed upon.

Additional challenges that prevent organizations from bridging the digital talent gap

In addition to employees' views on why organizations fail to tackle the digital talent gap, we have identified a number of reasons from employers themselves as to why they are struggling:

- **They are not making sufficient investments.** Even though the talent gap has widened, budgets for training digital talent have remained flat or decreased in more than half of the organizations (see Figure 14).

Figure 14. Organizations' efforts in mitigating the digital talent gap are inadequate

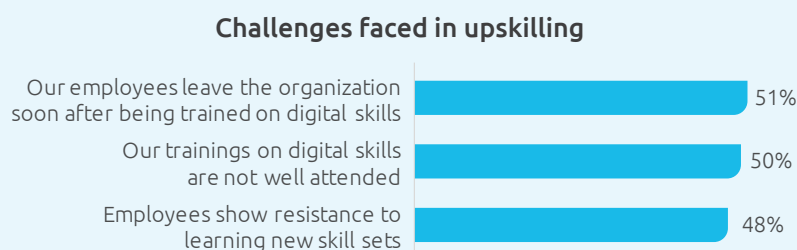


Source: Capgemini Research Institute survey, *Digital Talent Gap*; June–July 2017, N=501 employers.

- **They are worried about attrition for upskilled staff and there is employee resistance.** Organizations face a mammoth task in terms of digital upskilling.

Half of employers fear their employees will leave their organization after they receive training and half say their digital skills trainings are not well attended (see Figure 15).

Figure 15. Organizations cite possible attrition and lack of attendance as challenges for upskilling

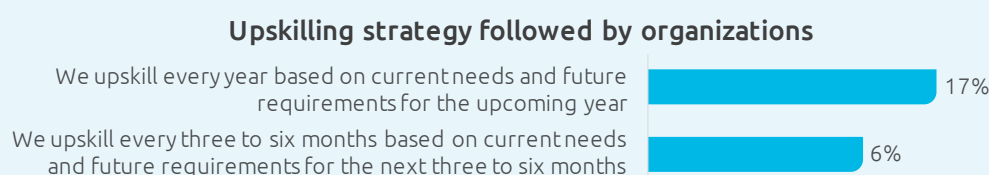


Source: Capgemini Research Institute survey, *Digital Talent Gap*; June–July 2017, N=501 employers.

- **They take a reactive approach.** As Figure 16 shows, most organizations continue to take a reactive approach to upskilling digital talent. Less than one-fifth of organizations upskill their employees by both filling current needs and strategically planning for future requirements. For the organizations that are proactive, consistency is key. Wendy Murphy of LinkedIn says, "*LinkedIn does*

not have a massive digital talent gap right now because we have been very forward-thinking. We have built talent from within as well as externally with data-driven decisions leveraging our own platform which may have placed us ahead of the game versus other traditional organizations. However, no company can sit on their laurels. Organizations need to be consistently innovating and planning."

Figure 16. Very few organizations take a proactive approach to upskilling talent



Source: Capgemini Research Institute survey, *Digital Talent Gap*; June–July 2017, N=501 employers.

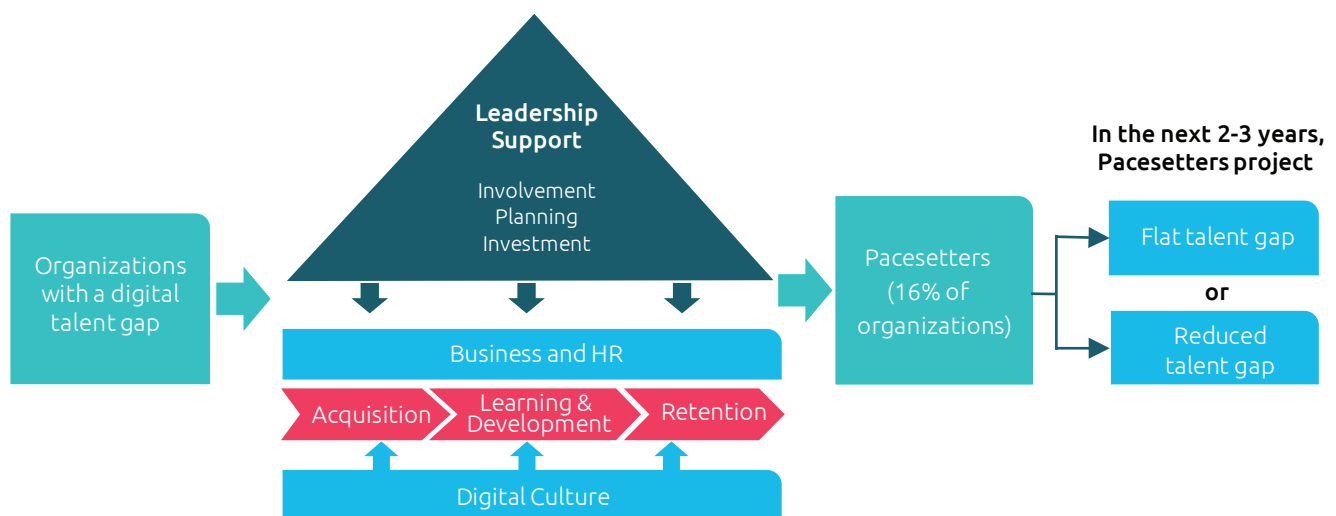
Proactive digital talent leaders have valuable lessons to offer

Today, most organizations have digital jobs they struggle to fill. So digital talent leaders are not necessarily the organizations that have no talent shortages. Instead, they are the companies that acknowledge the problem and take steps to resolve it.

We identified a group of digital talent leaders we call the “Pacesetters” who represent 16% of the employer

organizations we surveyed. These organizations have a degree of talent gap, be it hard skills, soft skills, or a widening gap. However, these organizations are taking strategic and tactical actions to address the problem and are confident that the gap will remain flat or decrease within the next three years.

Figure 17. One-sixth of organizations are confident in bridging the digital talent gap in the near future

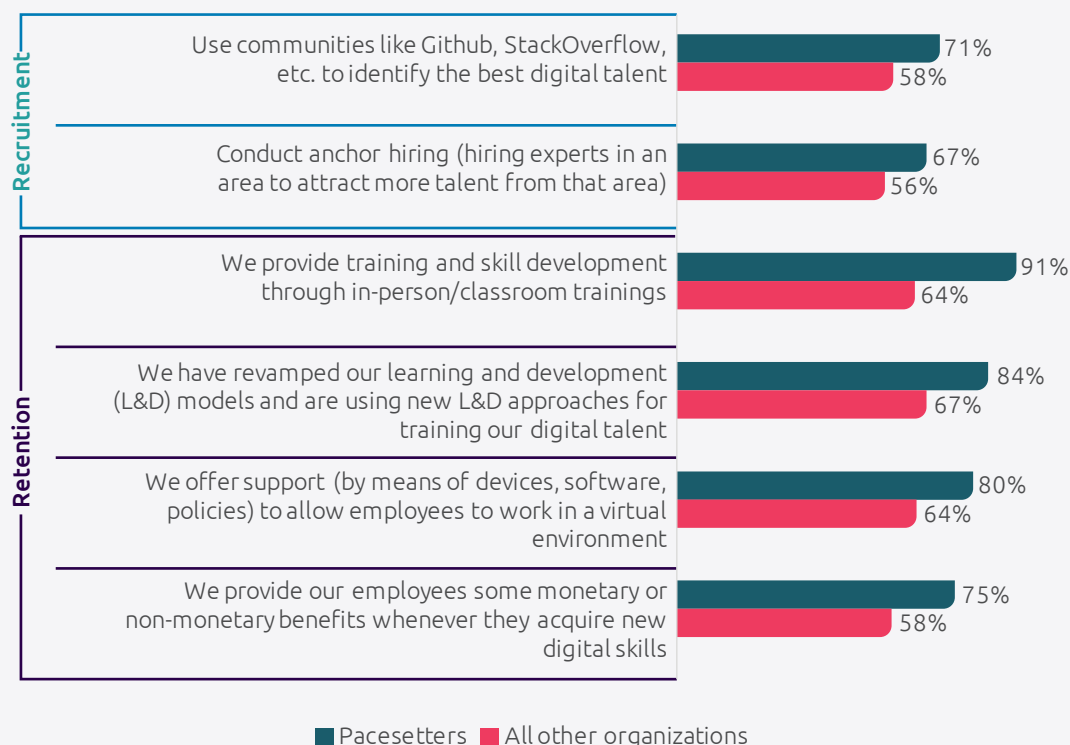


Pacesetters differ greatly in their practices when it comes to attracting, recruiting, and retaining digital talent. Some of

these differences are highlighted in the infographic on the next page, and in the final recommendations section.

16% Percentage of organizations who are confident in bridging the digital talent gap

Pacesetters focus on different recruitment models and active retention



Source: Capgemini Research Institute Survey, Digital Talent Gap; June–July 2017, N=79 Pacesetters; N= 422 All other organizations, ranked by importance of rating for Pacesetters.

Pacesetters are already reaping benefits from their efforts

Upskilling has enabled the digital workforce to be more nimble and move to new roles



Pacesetters



All other organizations

By using new L&D approaches, we have seen an improvement in our productivity



Pacesetters



All other organizations

Source: Capgemini Research Institute Survey, Digital Talent Gap; June–July 2017, N=79 Pacesetters; N= 422 All other organizations.

What can organizations do to narrow the digital talent gap?

Organizations need to ensure they define a digital talent strategy that meets both their business objectives and the needs and preferences of digital talent. Based on what we have learned from our research—as well as our experience

in the field with our clients—we believe there are six areas organizations should focus on to solve their digital talent challenges (see Figure 18).

Figure 18. Formulating a digital talent strategy to narrow the talent gap



Stakeholder RACI

R – Business leaders
A – HR executives
C – L&D team
C – Digital talent

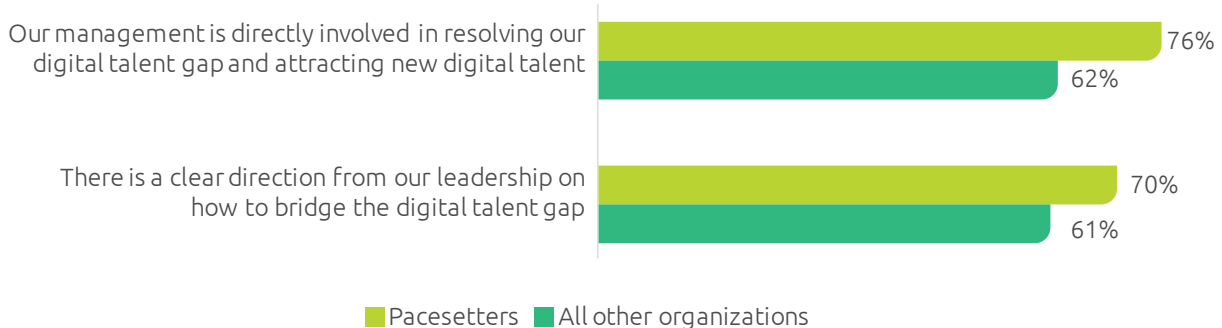
Align leadership on a talent strategy and the unique needs of digital talent

Talent and human resources executives—as well as business leaders—need to acknowledge the digital

talent gap and play their part in narrowing it. The majority of Pacesetters say that clear direction is provided by their leadership. They also say that their management is directly involved in resolving their digital talent gap and attracting new digital talent (see Figure 19).

Figure 19. Leadership at Pacesetters is aligned to mitigating the talent gap

Pacesetters who agree with the involvement of their management



Source: Capgemini Research Institute survey, *Digital Talent Gap*; June–July 2017, N=79 Pacesetters; N= 422 All other organizations.

Leadership will also have to play a greater role in seamlessly integrating new digital talent into the workforce. Dealing with a multi-generational workforce requires greater awareness of employee strengths, their working styles, and their aspirations. Wendy Murphy of LinkedIn says,

“Learning agility and entrepreneurial thirst are very important in the digital world. There are often generational differences that we need to be mindful of; Millennials have a huge appetite for learning but resiliency and working in ambiguity are often challenges for them whereas Baby Boomers may be more resistant to change and better handle ambiguity. Knowing your workforce and empowering them to learn by bringing the learning to where they are at will be critical for future success.”

Stakeholder RACI

C – Business leaders
R/A – HR executives
C – L&D team
C – Digital talent

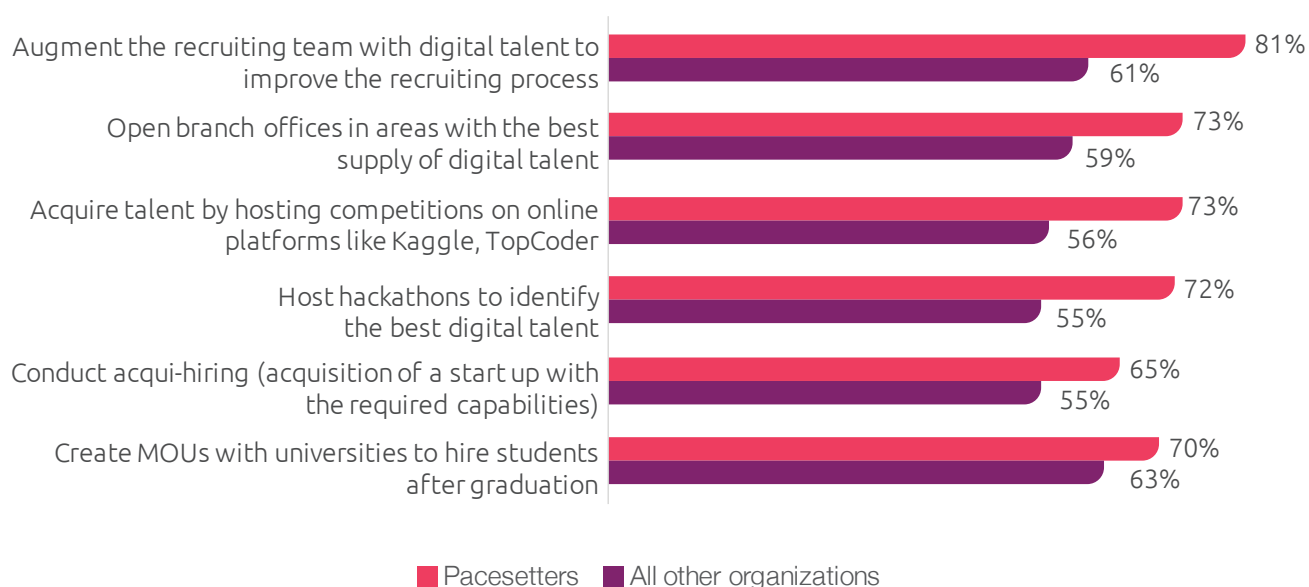
Diversify recruiting approach

Organizations should think creatively about “where to look for talent” as opposed to just focusing on “which talent to look for.”

Organizations should focus on recruiting channels where digital talent is likely to be found. Eight out of ten Pacesetters attempt to attract the right digital talent by establishing offices in technology hubs that are more accessible to digital talent. Of course, not all organizations have the capital to expand their geographic footprint, but there are less expensive alternatives, as highlighted in Figure 20.

Figure 20. Pacesetters recruit and hire digital talent differently

Pacesetters who agree with the following recruitment approaches



Source: Capgemini Capgemini Research Institute survey, *Digital Talent Gap*; June–July 2017, N=79 Pacesetters; N= 422 All other organizations, ranked by gap.

Organizations can collaborate with educational institutions to develop the talent pipeline and recruit new digital talent. Such collaborations help companies gain early access to talent and shape curricula for the skills they really need. For example, the University of Maryland’s Advanced Cybersecurity Experience for Students (ACES) program is the United States’ first undergraduate honors program in cybersecurity and is supported by companies such as Northrup Grumman, Amazon Web Services, and the National Security Agency.⁴ ACES focuses on skills valued by industry and supporting companies even co-develop new courses to ensure competencies needed in industry are addressed.⁵

Organizations can also leverage social media and other digital channels to identify and engage with digital talent. Unilever, as part of an effort to transform its recruitment,

uses gaming techniques⁶ (see “Unilever—Overhauling hiring through gaming and artificial intelligence”). Seven out of ten Pacesetters host competitions on online platforms like Kaggle or TopCoder or hackathons to identify digital talent (see Figure 20).

Looking internally is certainly an option as well. British Airways, for example, was struggling to find digital talent externally. It conducted a study to understand the digital interests and capabilities of its existing workforce.⁷ This study revealed that some employees were running websites in their spare time and were keen to do the same at work. This knowledge helped British Airways develop homegrown talent and create a “talent scout” recommendation program that leverages their employees’ digital expertise and sources new digital talent.

Unilever—Overhauling hiring through gaming and artificial intelligence

Unilever has successfully digitized the initial rounds of its screening process. Instead of the traditional route of sending its recruitment team to campuses, Unilever invites candidates to play 12 neuroscience-based games on their partner platform. The selected students then record their responses to a set of predefined questions on another platform that evaluates the candidates for key words, intonation, and body language and provides inputs to the

hiring manager. Unilever invites candidates passing the two selection rounds to its offices. An estimated 250,000 candidates went through this process in 68 countries from July 2016 to June 2017 and Unilever had seen significant benefits as a result of the program. For example, in North America:

- The application to job ratio doubled
- The candidate pool hired was the most diverse to date
- The time spent on applications decreased by 75%
- The offer acceptance rate increased by 16 percentage points.⁸

Stakeholder RACI

R – Business leaders
A – HR executives
R – L&D team
C – Digital talent

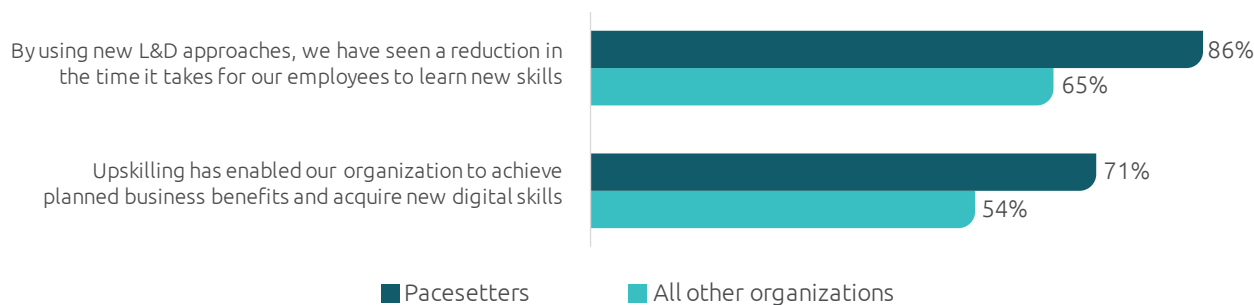
Create an environment that prioritizes and rewards learning

Given that upskilling is a priority for digital talent, organizations should ensure that they feel supported in their decision to participate in learning and development. Our survey found that 73% of digitally talented employees prefer to join organizations known for their

upskilling/training programs (see Figure 10). Organizations can also consider ways to incentivize learning. Seventy-five percent of Pacesetters provide employees with some form of monetary or non-monetary benefit whenever they acquire new digital skills. Not only will digital talent be happier in this type of environment, but the business is likely to gain as well. As Figure 21 shows, reduction in the time it takes employees to learn new skills is one L&D outcome reported by the majority of Pacesetters.

Figure 21. Pacesetters are reaping benefits from their L&D efforts⁹

Pacesetters who agree with the benefits from their L&D efforts



Source: Capgemini Research Institute survey, *Digital Talent Gap*; June–July 2017, N=79 Pacesetters; N= 422 All other organizations.

Vodafone, for example, conducted a study to understand gaps in their employee's digital skillset.¹⁰ Based on the assessment, Vodafone invested in "customized, in-depth digital marketing programs that were integrated into their

existing e-learning system." This strategy not only helped improve employee morale and productivity, it also created a base to add value to their existing as well as future workforce.

Stakeholder RACI

C – Business leaders
A – HR executives
R – L&D team
C – Digital talent

Chart a clear career development path

Digital talent want to both find meaning in their work and be an integral contributor to driving value for their organization

and themselves. Given that skill redundancy is a key worry among our employee respondents, ensuring a clear career development path is essential to quell concerns. The majority of Pacesetters map the digital skills needed for each job level and ensure digital talent have a clear career development path (see Figure 22).

Figure 22. Pacesetters ensure a clear development path for digital talent

Pacesetters who agree with the following statements on career paths and job roles



Source: Capgemini Research Institute survey, Digital Talent Gap; June–July 2017, N=79 Pacesetters; N= 422 All other organizations.

David Toettrup, Human Resources Director at the Lego Group says about their hiring strategy: *“Five years ago we made a deliberate choice in Corporate IT to change the hiring strategy to develop a more adaptable workforce. We fundamentally changed the way we build the organization with an ambition of ‘hiring for a career and not just for a job’. As part of this, we started a dedicated effort to attract and hire talented graduates and then developed them within the organization by exposing them to different assignments in different part of the business. Thereby we have been able to build new critical capabilities on the foundation of deep business understanding.”*



The middle management level is the most likely to leave if they do not have good digital opportunities.”

Professor Gerald Kane,
Carroll School of Management at
Boston College

Stakeholder RACI

R/A – Business leaders
C – HR executives
C – L&D team
C – Digital talent

Give digital talent the power to implement change

Organizations need to build an acceptance for failure. Digital talent are unlikely to thrive in an environment that lacks freedom to experiment and fail. Innovation will also suffer if a culture of experimentation does not exist. Seven out of ten digitally talented employees, or 72%, prefer to join organizations that have an entrepreneurial “start-up” culture that promotes agility and flexibility (see Figure 10).

Leadership must be sensitive to this culture, especially for middle managers. Professor Gerald Kane, Carroll School of Management at Boston College says, *“The middle management level is the most likely to leave if they do not have good digital opportunities. Managers are the next generation of leadership so it is very important to retain them.”* Digital talent strive to make an impact and drive innovation and thus, lack of leadership support could be a key challenge for them. As Gert Stuerzebecher, Partner, DHR International Neumann says: *“Some companies do not give their digital experts the power to revolutionize. Therefore, resistance is built up against these people, which limits their success. Young digital talent are ambitious and want to work in a certain atmosphere. If organizations are too old fashioned, digital talent will not succeed.”*

Stakeholder RACI

R – Business leaders
A – HR executives
C – L&D team
C – Digital talent

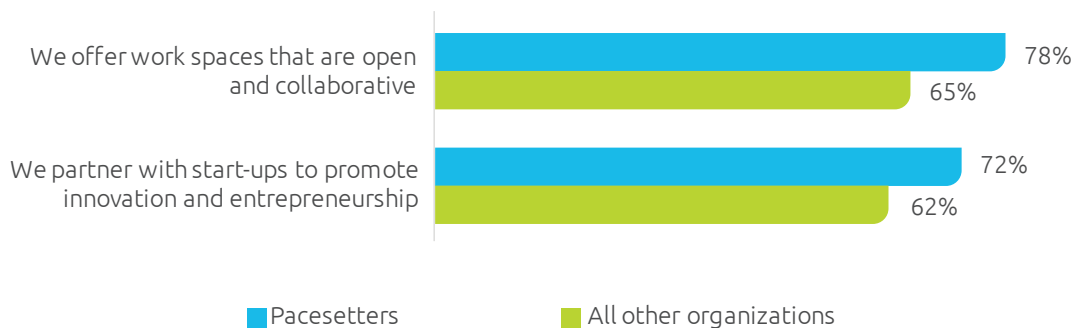
Provide flexible and collaborative ways of working

Pacesetters offer workspaces that are

open and collaborative and partner with start-ups to promote innovation (see Figure 23). As digital talent consider job opportunities, these attributes are important to them. The majority (75%) of digitally talented employees prefer to join organizations that have an open and collaborative physical workspace (see Figure 10).

Figure 23. Pacesetters offer ways of working that are attractive to digital talent

Pacesetters who agree with the following statements on their work culture



Source: Capgemini Research Institute survey, *Digital Talent Gap*; June–July 2017, N=79 Pacesetters; N= 422 All other organizations.

A Vice President of Talent and Culture at a Fortune 500 energy company, says, “Flexibility is key. A lot of people are retiring and the biggest challenges for us are the Millennials and Gen Z who expect support for student loans, pet insurance, more vacation, ability to work anywhere in the world. Once recruited, it is about negotiating how we retain them and what is important to them.” In line with this expectation, Baidu, a Chinese web services company, allows their key personnel to choose their favorite projects and select their manager, as they believe providing them with choices makes them feel valued.¹¹

Conclusion: inspiring talent through digital vision and delivery

In an increasingly digital economy, those organizations that bridge the talent gap will enjoy a competitive edge over those who don’t. This will partly be the result of boldness of vision. Talented people want to join ambitious organizations and digital talent often gravitate toward those organizations that have ambitious plans for a digital future. While many traditional organizations cannot try to replicate the appeal of joining a digital pioneer like a Google or Amazon, they can take steps to tell a compelling story about their digital ambitions and deliver the learning and development that shows talented people that they are a serious and credible player.

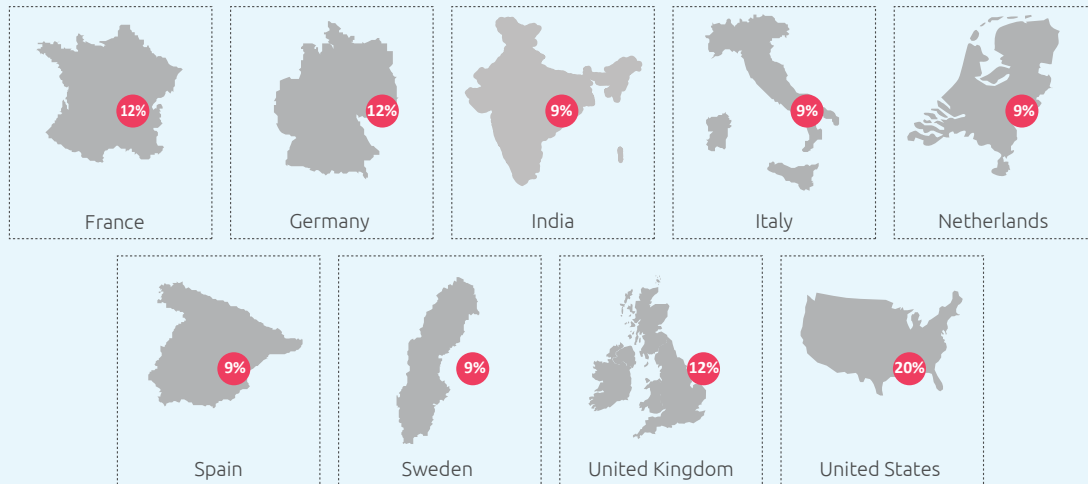
Research Methodology

We surveyed 753 employees and 501 executives at the director-level or above at large companies with reported revenue of more than \$500 million for FY 2016 and more than 1,000 employees. The survey took place from June to

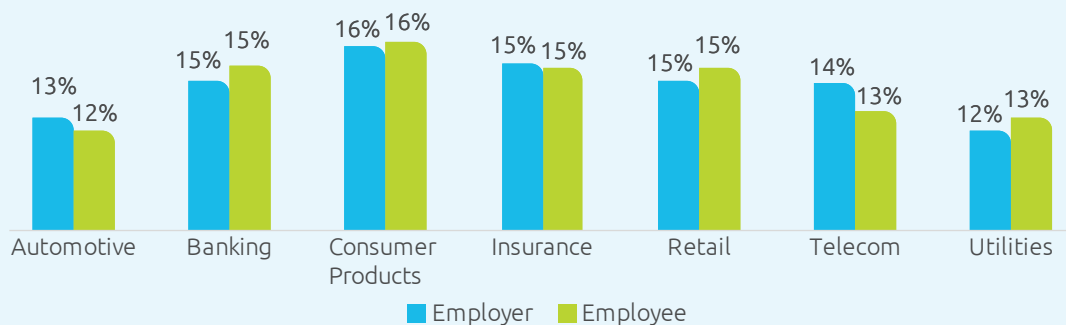
July 2017, and covered nine countries—France, Germany, India, Italy, the Netherlands, Spain, Sweden, the United Kingdom, and the United States and seven industries—Automotive, Banking, Consumer Products, Insurance, Retail, Telecom, and Utilities. More detail is below.

Geography distribution—Employers and Employees

Research methodology



Industry distribution



Focus interviews:

We conducted a wide variety of interviews with senior human resources executives from large organizations, recruiters from global firms, academics, massive open online course (MOOC) providers, startups in the recruiting space, and employees. This helped us to understand and to identify best practices to mitigate the digital talent gap.

Analyzing data from LinkedIn:

Based on data from LinkedIn, the world's largest professional network, we analyzed the demand and supply of specific digital skills and digital roles globally and within our nine priority countries and seven sectors. For purposes of this research, LinkedIn defined "digital" broadly to include a long list of hard and soft digital skills and digital job titles that LinkedIn and Capgemini believe represent [nearly] all technology innovation-related activities. For the data from LinkedIn in this report, digital talent is defined

as those LinkedIn members having any of the digital titles, any of the hard digital skills, or any of the soft digital skills in the aforementioned list. LinkedIn has provided aggregate data to Capgemini only for the purposes of this research.

LinkedIn measures demand as the number of times a member with a particular digital skill set or title is sought after by recruiters. LinkedIn developed a "demand index" to identify the most in-demand digital talent. This index represents the ratio of the number of InMails (i.e. recruiter outreach via LinkedIn's network) sent on average over the last 12 months (demand) to unique members with the specific digital title or digital skill (supply). Please note that the term "digital talent gap" is a definition used by Capgemini, and LinkedIn refers only to "demand index." Capgemini defines "digital talent gap" as the difference between demand for digital talent and supply of digital talent.

Accelerate closing the digital talent gap by partnering with Capgemini

Our value proposition: We guide organizations through digital transformation by creating a concrete structure for designing and delivering digital talent solutions. We believe having the right digital talent to support business objectives is a necessary prerequisite for a successful digital transformation.

Our approach: A digital talent strategy assesses the current state of talent within a client's organization to determine the strategy and plan necessary to achieve its vision.

- Current state assessment to evaluate the organization's current digital talent and skills
- Gap analysis to identify the key skills and capabilities needed for the desired future state
- Digital talent vision to set the strategic direction and a talent strategy to develop and enhance the organization's digital skills and capabilities.

Why us?

Our proven and innovative methods help organizations across industries execute digital talent strategies within broader digital transformation programs. For example, we partnered with a leading global financial services company and developed a strategy to cultivate the digital talent required to support its digital transformation. Key outcomes of the partnership included:

- Measurement of employee proficiency levels within key digital skill areas
- Aligned executives and organization around the current state of digital talent and a digital talent vision and strategy for the future
- Identification of opportunities to develop and enhance digital skills, culture, behavior, and tools to progress the organization's digital transformation.

LinkedIn Talent Solutions

LinkedIn Talent Solutions unlocks insights from the world's largest community of open professionals to empower businesses to efficiently target, attract and convert the right talent. Our products and tools help talent professionals source and find quality talent, expand the reach of jobs and build an impactful employer brand.

Learn more about LinkedIn Talent Solutions at
<https://business.linkedin.com/talent-solutions>

LinkedIn Learning Solutions

LinkedIn Learning Solutions leverages [Lynda.com's](https://www.lynda.com) high-quality content to help people identify and learn the skills they need to succeed. Through individual, corporate, academic and government solutions, members have access to our digital library of over 11,000 expert-led courses in five languages.

Learn more about LinkedIn Learning Solutions at
<https://learning.linkedin.com/>

Appendix

1. We included 24 hard digital skills, eight soft digital skills, and 23 digital roles in our research as shown below.

Hard Digital Skills	Definition
Agile	A time-boxed, iterative approach to development that divides a product or program into short phases of work, which is then tested early and often throughout the development lifecycle
Analytics	The systematic approach to transforming data into actionable insights to make data-driven decisions
Artificial intelligence	Software that enables computers to reproduce or surpass tasks that would require intelligence if human workers were performing them
Augmented reality	A live view of a physical, real-world environment whose elements are augmented (or supplemented) by computer-generated sensory inputs
Automation	Application of machines/computers to tasks in order to increase efficiency and reliability
Behavioral sciences	Combines knowledge of sociology, psychology, and anthropology with strong observation, research, and communication skills to examine human behavior and decision-making
Big data	Technology that enables the handling of massive amounts of structured and unstructured data (that cannot be handled by traditional database technologies) as well as their storage and analysis for better insights and decision-making
Cloud computing	The practice of using a network of remote servers hosted on the internet to store, manage, and process data rather than a local server or a personal computer
Community management	The process of creating or altering an existing social media community through content, messaging, interaction, moderating, etc. in an effort to make the community stronger
Cybersecurity	The protection of information systems from theft of/damage to the hardware, the software, or the information they contain
Data science	Field which employs statistics and computation to derive meaningful algorithms and business insights from data
Digital manufacturing	The use of an integrated, computer-based system comprised of simulation, three-dimensional (3D) visualization, analytics, and various collaboration tools to create product and manufacturing processes simultaneously
Search engine optimization (SEO)	The process of maximizing the number of visitors to a website by ensuring that the site figures high on the list of results returned by a search engine
Innovation strategy	Creating new products, services, and customer experiences in an effort to drive sustainable growth
Master data management	Ensuring the uniformity, accuracy, stewardship, consistency, and accountability of the enterprise's official shared master data assets
Mobile application design and development	The ability to create experiences end-to-end (conceptualize, design, build, test, run) for any device
Robotics	Technology dealing with the design and development of robots and the computer systems for their processing

Hard Digital Skills	Definition
Robotic process automation	Automation in which a software robot is configured to manipulate existing application software in the same way a person works with those systems and the presentation layer to perform a specific task
Internet of things (IoT)	A network of physical objects (e.g., devices, vehicles, buildings) embedded with electronics, software, sensors, and network connectivity that enables these objects to collect and exchange data
User experience design	The process of development and improvement of quality interaction between a user and all facets of a company across research, testing, development, content, and prototyping
User interface design	The practice of transferring a brand's strengths and visual assets to a product's interface to enhance the user's experience and visually guide the user through an interface via interactive elements across platforms
Virtual reality	A computer technology that replicates an environment, real or imagined, and simulates a user's physical presence and environment in a way that allows the user to interact with it, artificially creating a sensory experience
Video content marketing	The marketing technique of creating and distributing valuable, relevant, and consistent video content to attract and acquire a clearly defined audience
Web development	Coding or programming that enables website functionality as per the owner's requirements and mainly deals with the non-design aspect of building websites

Soft Digital Skills	Definition
Change management	Helping an organization transform itself by focusing on organizational effectiveness, improvement, and development
Collaboration	Processes that help multiple people or groups interact and share information to achieve common goals
Comfort with ambiguity	Feeling comfortable and confident in acting within an environment of uncertainty or constant change and having higher risk tolerance
Customer-centricity	Committing to a top tier level of service to the customer and considering the customer experience above all
Entrepreneurial mindset	State of mind which orientates human conduct towards entrepreneurial activities and outcomes; drawn to opportunities, innovation, and new value creation and able to take calculated risks and accept the realities of change and uncertainty
Data-driven decision making	Using data and insights to develop a theory, testing the theory in practice to determine its validity, and making business decisions
Organizational dexterity	Flexibility to perform varied roles, actions, or activities with skill and grace and the ability to transition between roles, actions, and activities quickly and effectively
Passion for learning	A deeply ingrained enthusiasm for seeking out and acquiring new information and knowledge, often across a variety of fields and topics

Digital Role	Definition
Automation/Robotics engineer	Researches, designs, develops, or tests robotic applications
Behavioral scientist	Studies how the actions of people affect their development, their relationship with others, and their future behaviors (also known as social scientists or sociologists)
Chief analytics officer/ Chief data officer	Executive overseeing the data function/capability
Chief customer officer	Executive responsible for the customer relationship to provide a single vision across all customer interaction points
Chief digital officer/Chief digital information officer	Executive charged with helping a business transform its traditional information technology policies and practices
Chief internet of things officer	Executive overseeing the IoT function/capability
Crowd funding specialist	Designs, launches, runs, and promotes campaigns for gathering small amounts of capital from a large number of individuals to finance a business venture
Data architect	Designs, creates, deploys, and manages an organization's data architecture (e.g., defines how the data will be stored, consumed, integrated, and managed by different data entities and IT systems)
Data engineer	Gathers and collects data, stores and processes it, and provides it in a ready-to-use format to data scientists and analysts
Data scientist	Performs statistical analysis, data mining, and retrieval processes on a large amount of data to identify trends, figures, and other relevant information
Digital project manager	Responsible for managing online/digital projects from concept to completion within budget; involves, planning, delegating, tracking, reviewing, and measuring results using online project management, collaboration, and cloud storage software
Digital solution architect	Develops solutions based on predefined processes, guidelines, and best practices with the objective that the developed solution fit within the enterprise architecture in terms of information architecture, system portfolios, and integration requirements
Drone designers	Uses engineering and technical skills to design and build unmanned aerial systems (UAS)
Drone operators	Uses engineering and technical skills to operate unmanned aerial systems (UAS)
Enterprise architect	Works closely with stakeholders, including management and subject matter experts (SME), to develop a view of an organization's strategy, information, processes, and IT assets and is responsible for using this knowledge to ensure IT and business alignment
Full stack developer	Leverages IoT and hardware-engineering skills to work on front-end and back-end software and hardware technologies
Growth hacker	Merges the principles of marketing and engineering to create more accurate marketing strategies; Note, the term hacking indicates a use of logic processes and technology toward a specific goal (e.g. customer retention and sales) rather than illegal or aggressive behavior toward networks and IT systems
Head of automation	Leadership position overseeing the automation function
Head of robotics	Leadership position overseeing the robotics function
Information security/Privacy consultant	Understands key security and privacy issues, risks, exposures, and vulnerabilities to manage and safeguard digital information
Integration architect	Responsible for “breaking down silos” and helping different software programs communicate and for using application programming interfaces (APIs), middleware, and cloud to cobble together workable architectures that successfully integrate their many parts
Personal web manager	Creates and manages online personas and protects client's privacy and reputation
Technology architect	Plans and designs information technology solutions and services (e.g. architect software, hardware, network) that give the best results to the business

2. We interviewed 25 experts from various organizations. Interviewees included senior human resources executives from large organizations, digital talent recruiters from global firms, academics, massive open online course (MOOC) providers, startups in the recruiting space, and employees. Below is the list of experts quoted in the report.

Name	Title	Organization	Category
Anant Agarwal	Founder and CEO	edX	MOOC
Darren Shimkus	General Manager, Udemy for Business	Udemy	Learning platform
David Toettrup	Human Resources Director and Head of People Operations and Development (PO&D) Digital	Lego Group	HR Executive
Gert Stuerzebecher	Partner	DHR International Neumann	Recruiter
Wendy Murphy	Senior Director, Human Resources, Europe, Middle East, and Africa	LinkedIn	HR Executive
Gerald Kane	Professor	Carroll School of Management at Boston College	Academic
Tuck Rickards	Managing Director	Russell Reynolds	Recruiter

References

1. Demand defined as a rating of at least 5 for the statement “Demand for this digital skill is high in my organization today” on a scale of 1 to 7, where 1 = strongly disagree and 7 = strongly agree; Proficiency defined as level of skill of at least 5 on a scale of 1 to 7, where 1 = least skilled and 7 = highly skilled.
 2. Generation Y and Z refer to those between the ages of 18 – 36
 3. LinkedIn’s “demand index” identifies the most in-demand digital talent. This index represents the ratio of the number of InMails (i.e., recruiter outreach via LinkedIn’s network) sent on average over the last 12 months (demand) to unique members with the specific digital title or digital skill (supply).
 4. Bloomberg Education, “How Companies and Colleges Can Get the U.S. Back to Work,” February 2017
 5. University of Maryland, Advanced Cybersecurity Experience for Students (ACES)
 6. Business Insider, “Consumer goods giant Unilever has been hiring employees using brain games and artificial intelligence—and it’s a huge success.” June 2017
 7. Digital Marketing Institute, “How to Narrow the Digital Skills Gap in Your Organization.”
 8. Business Insider, “Consumer goods giant Unilever has been hiring employees using brain games and artificial intelligence—and it’s a huge success,” June 2017
 9. New L&D approaches included in our survey defined as: partnership with massive open online courses (MOOCs), micro-learning, gaming based L&D, social learning platforms, instructor-led trainings, internal rotational programs, placements with a startup, mentorship programs, tuition reimbursement or sponsorship for degree/certificate programs, and employees co-designing L&D programs.
 10. Digital Marketing Institute, “How to Narrow the Digital Skills Gap in Your Organization”
 11. Gartner (on Forbes website), “The New CIO Thinking For The Digital Era,” September 2016
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The Capgemini Research Institute is Capgemini's in-house think-tank on all things digital. The Institute publishes research on the impact of digital technologies on large traditional businesses. The team draws on the worldwide network of Capgemini experts and works closely with academic and technology partners. The Institute has dedicated research centers in the United Kingdom and India.

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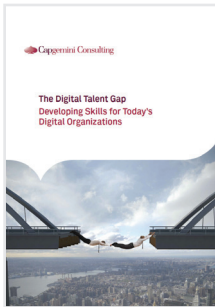
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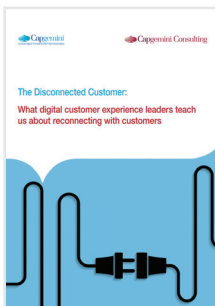
[The Digital Culture Challenge: Closing the Employee-Leadership Gap](#)



[Digital Transformation Review 10: The Digital Culture Journey: All on Board!](#)



[Digital Transformation Review 9: The Digital Strategy Imperative: Steady Long Term Vision, Nimble Execution](#)



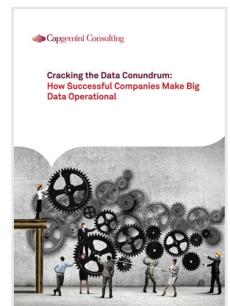
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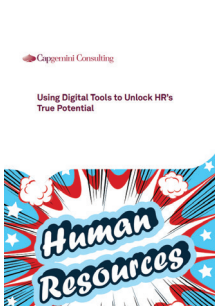
[Smart Factories: How can manufacturers realize the potential of digital industrial revolution](#)



[Organising for Digital: Why Digital Dexterity Matters](#)



[Cracking the Data Conundrum: How Successful Companies Make Big Data Operational](#)



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[Being Digital: Engaging the Organisation to Accelerate Digital Transformation](#)

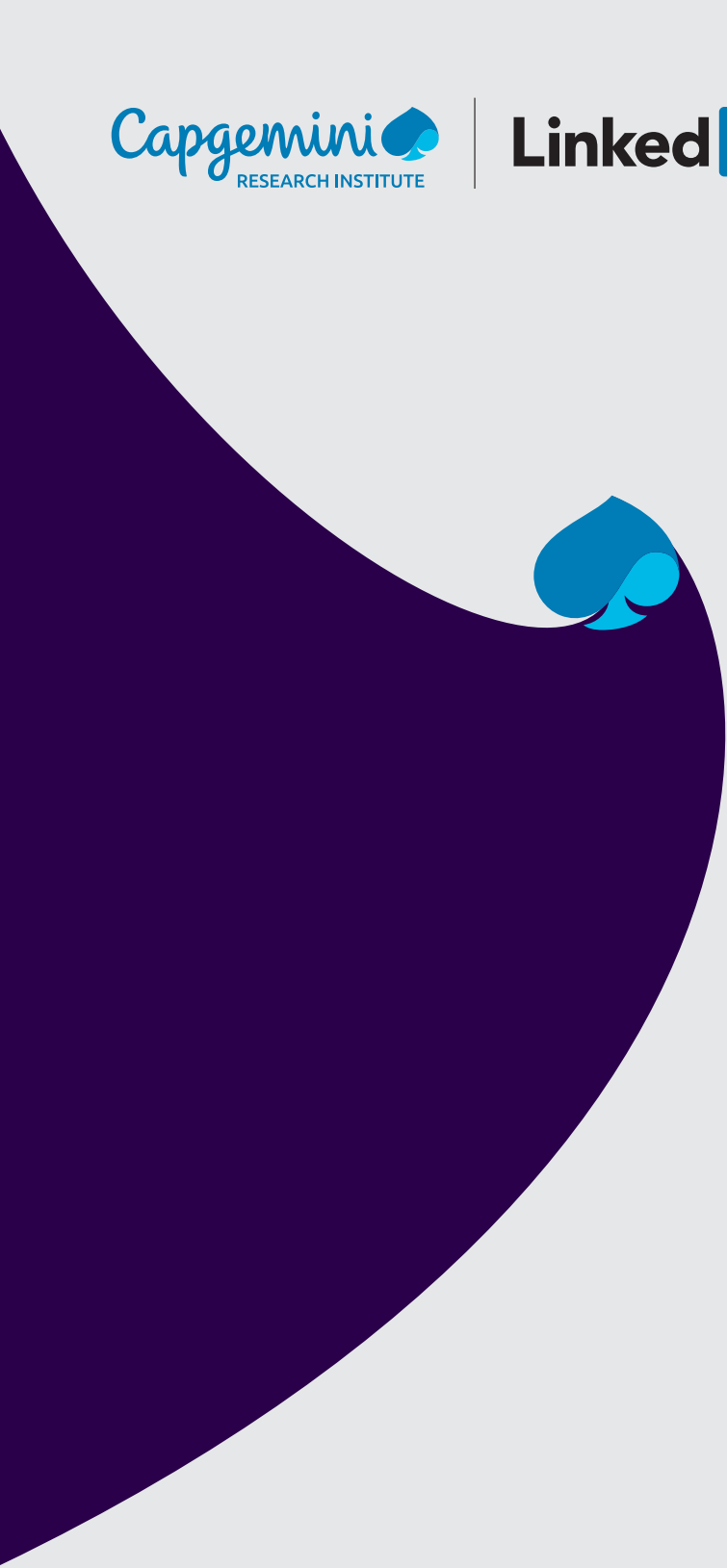


["The Vision Thing": Developing a Transformative Digital Vision](#)



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