



## People – Not Just Machines – Will Power Digital Innovation

Industry sectors are melting and reforming in startlingly creative ways, challenging companies to blend talents, disciplines and technologies in a supercharged wave of innovation. As new technologies cause value chains to rapidly evolve and organizational boundaries to blur, human roles and tasks are also digitizing, as machines alter how knowledge work is performed.







## Executive Summary

Everywhere you look, leaders in old and new companies are using technology in a wave of supercharged innovation that is creating incredible opportunities. And it's a business narrative that extends beyond the usual digital suspects (e.g., Google, Facebook, Twitter).

- By marshalling machine data around its products, processes and value chains, manufacturing titan GE now charts a dynamic future as a software powerhouse.
- Insurance start-up Oscar issues fitness bands to each customer and then uses the data to reduce costs for healthy behavior. It's no surprise that customers love the discount.
- Banking giant JPMorgan Chase is investing billions and partnering with Digital Asset Holdings, a tech start-up, to explore and ameliorate the havoc that blockchains could wreak on trading, loans, payments, investing and overall bank performance.<sup>1</sup>

Thriving in this digital era of promise and uncertainty means increasing the velocity of innovation, experimentation and collaboration. The main engine for this is not some magical technology – it's talented people.

Attracting and managing the talent needed to make this shift will be radically different from what worked in the past. But make no mistake, technology will matter – a lot – because new technologies will impact how knowledge work is organized, distributed and completed. Human talent must adapt to this new reality.

The workforce of the future, therefore, must evolve amid a digital revolution that will undoubtedly upend revenue flows, business models and cost structures. To help understand these changes, Cognizant's Center for the Future of Work, in partnership with the Economist Intelligence Unit, surveyed over 420 decision-makers in the U.S. and Europe (see [study methodology](#), page 18).



We found that the vast majority of executives who answered our survey cite a “moderate” or “severe” digital skills gap that prevents their organizations from reaching their digital future.

Key findings from our study include:

- **Digital investments are catalyzing innovation.** The results are in. There is now a clear imperative for companies to add the digital skills that will counter stodgy innovation cycles that can jeopardize their very survival. Sadly, we found that the vast majority of executives who answered our survey (94%) cite a “moderate” or “severe” digital skills gap that prevents their organizations from reaching their digital future. Many teams are under-resourced for key skills, and the situation is set to get worse.
- **Talent shortfalls will drive the digital gig economy.** This dearth of digital-literate talent will drive more distributed work over the next three years. This is no temporary fix. When done right, externalizing digital work creates a more flexible, distributed and transient workforce that can adapt to rapid cycles of business reinvention.
- **Linking platforms to “talent clusters” drives innovation.** Companies are starting to build proprietary platforms and driving third parties to engage in co-innovation initiatives around R&D or customer engagement. Our analysis charts the global explosion of talent clusters – collections of entrepreneurial activity coalescing in one location and another – that offer “hot” digital technologies and capabilities that can speed innovation or deliver game-changing impact.

- **Future performance requires a bold digital reorganization.**  
Rigid approaches to organizational management – remember the 1980s value chain mania – is giving way to more fluid, connected and nuanced organizations. Silos are being broken to improve knowledge flows and redraw organizational power structures. Many companies are starting to junk old and rigid organizational models and building smaller, nimbler clusters of talent that serve a particular market or niche.
- **The workforce of the future needs a new rules engine to work.**  
Analytics, algorithms, big data and automation dramatically enhance innovation, productivity and decision-making, but they will also automate and abolish rote tasks previously performed by humans. Our analysis indicates more back-office work will be handed over to software tools as new human-*plus*-machine workflows become the business norm.

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The digital era will rely on machines, but winning will require – perhaps more than ever – talent pools that can thrive in an increasingly digitized economy. Navigating this shift will be one of the defining success criteria for leaders.

Digital technologies and what they enable – new business models, new revenue flows and radical new cost structures – are redrawing industry structures and the talent companies need to thrive. It's time to get hyper-serious about how your organization's most important asset – its people – will work in this exciting digital age.

## Digital Is – Surprise! – More About Humans than Machines

Based on our new findings and work with many of the top brands in the world, we know a major shift is already under way. Virtually every business sector is being impacted by digital. Business processes and customer experiences are being reshaped by new technologies.

In response to this change, leaders are rethinking the organizational flexibility, agility and cultural constructs at nearly every company irrespective of industry. In fact, value chains are being reconstituted as organizations and industries blend and combine in an emerging digital context.

We still have much to learn, but it is clear that knowledge work will be organized, distributed and performed in entirely new ways. A fusion of algorithms, automation, machine learning and the rise of new digital platforms is upending business models and radically changing how we see talent and how work gets done.

### The Innovation Drum Beats Louder Every Day

Velocity is an asset. The speed of change in many industries is now measured in days or months rather than quarters or years. In these frenetic times, executives are scanning markets, monitoring competitors and listening to customers – all with the healthy paranoia that a new tech innovation or well-capitalized start-up will shred their business model nearly overnight.

Leveraging talent with digital capabilities is an antidote to slow innovation cycles and can help instill a culture of speed in today's dynamic and volatile business world. Companies that are unable to proactively absorb digital tools, technologies and

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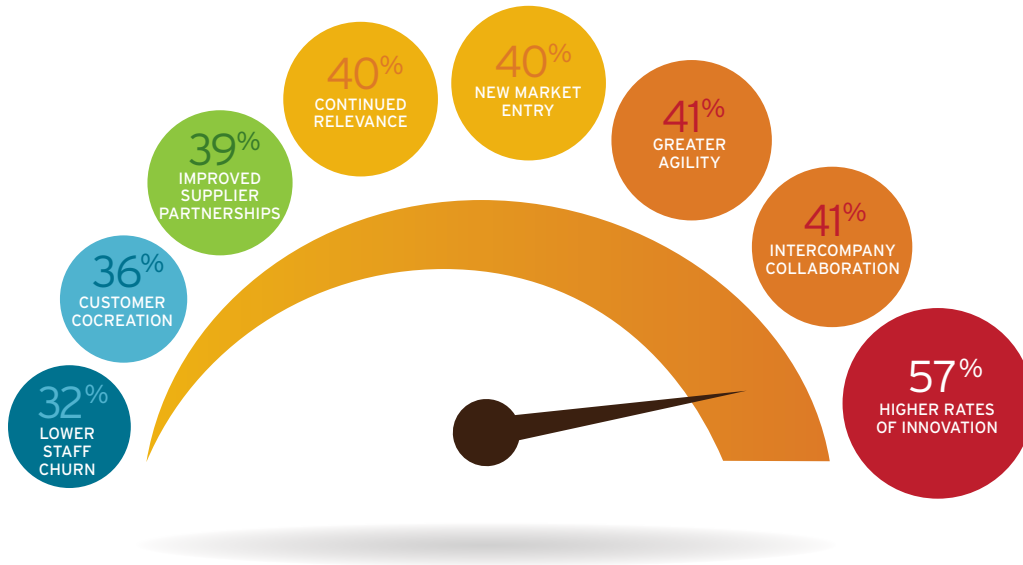
Our study reveals a clear imperative for leaders to build a roster of digital skill to accelerate innovation. These digital capabilities can help a company move from recognizing that “something needs to happen” to “making something happen.”

Compared with more nimble and collaboration-orientated competitors, the metabolism for cycling ideas and innovations must increase to survive – companies need to develop flatter corporate structures, smarter governance and rapid decision-making, freeing them up to cycle faster than they have before.

Respondents to our survey reveal that strengthening their digital capabilities is clearly intended to generate higher rates of innovation, agility and intercompany collaboration (see Figure 1, next page).

## Building Digital Capabilities Catalyzes Innovation

What are the benefits of enhanced digital capabilities for your company?



Response base: 422

Source: Cognizant Center for the Future of Work/EIU study

Figure 1

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### Can Investments Close a Widening Digital Talent Gap?

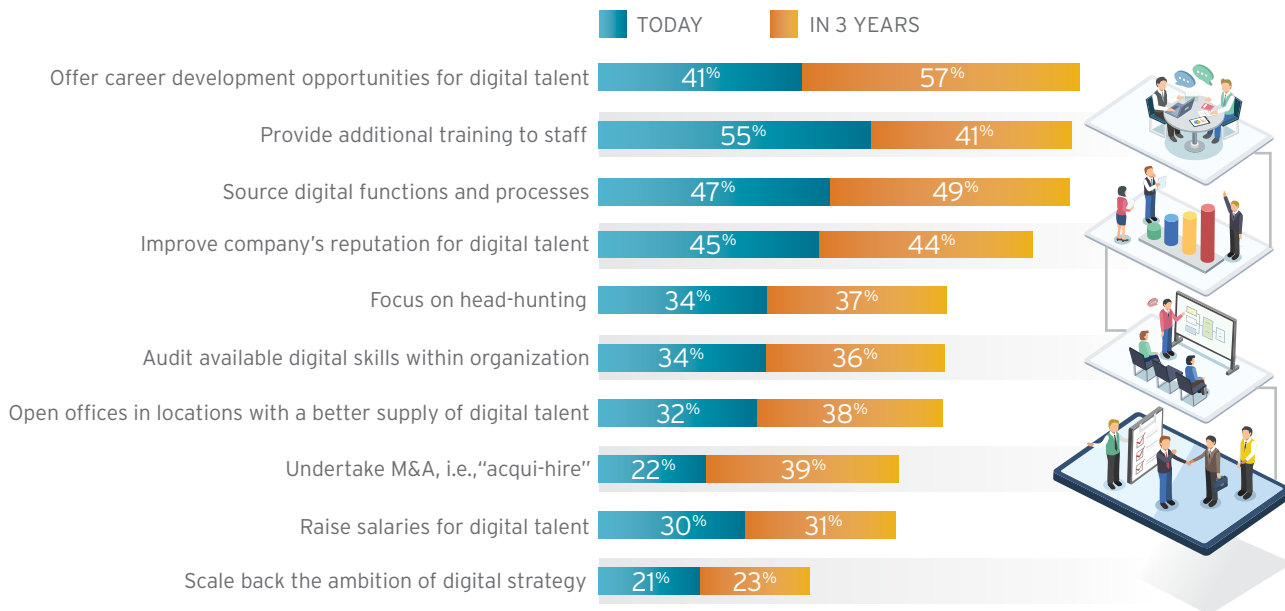
A rapid business and technology shift means that the skills and capabilities needed are a perpetual moving target. This is challenging organizations to build the competencies they need at breakneck speed to respond to competitive threats or ever-changing customer behaviors.

Revenue flows and cost structures are up for grabs as digital transformation accelerates. Leaders are already adopting different strategies and tactics for the digital era. In the real world, this means moving money around, and investments are clearly moving towards aligning around digital (see Figure 2, next page).

Right now, companies are focusing on upskilling the workforce with new skills and capabilities (55%), pushing more tasks and activities outside the company through subcontracting and outsourcing digital functions and processes (47%). Leaders are also trying to improve perceptions of their company as a “digital employer of choice” to attract new talent (45%).

Many teams are under-resourced and will subcontract where needed. Clearly, the time, effort and expense of retraining a workforce isn't worthwhile for specific skills that could be outdated in months. The remarkable growth of sourcing and subcontracting for digital functions and processes is striking and constant over the

## Companies Move Fast to Make the Digital Switch



Response base: 422

Source: Cognizant Center for the Future of Work/EIU study

Figure 2

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next three years, and creates a more flexible, distributed and transient workforce that can adapt to rapid cycles of business reinvention as and when needed. The upshot for leaders is to expect more subcontracting and orchestration of tasks and activities into the labor market and the labor market to expect more "gigs."<sup>2</sup>

In three years, emphasis will be placed on creating a clearer flight path for digital talent. Leaders will also increase the use of subcontracting and sourcing to close skills gaps. But these methods will likely fall short

as the demand for innovation continues to accelerate. Bold strategies feature a striking rise in mergers and acquisition activity, jumping from 22% to 39%. The inexhaustible demand for new technologies will stretch training initiatives, talent pipelines and the ability of work infrastructure to coordinate, orchestrate and splice digital tasks and activities together while adding an acquisition into the mix. Moreover, serious digital skills gaps are being revealed now, not tomorrow.

### A Stall Warning: The Talent Gap Reduces Digital Lift

Many teams still report being critically under-resourced when it comes to specific technical skills, and they are struggling to keep up with the pace of change (see Figure 3, next page).

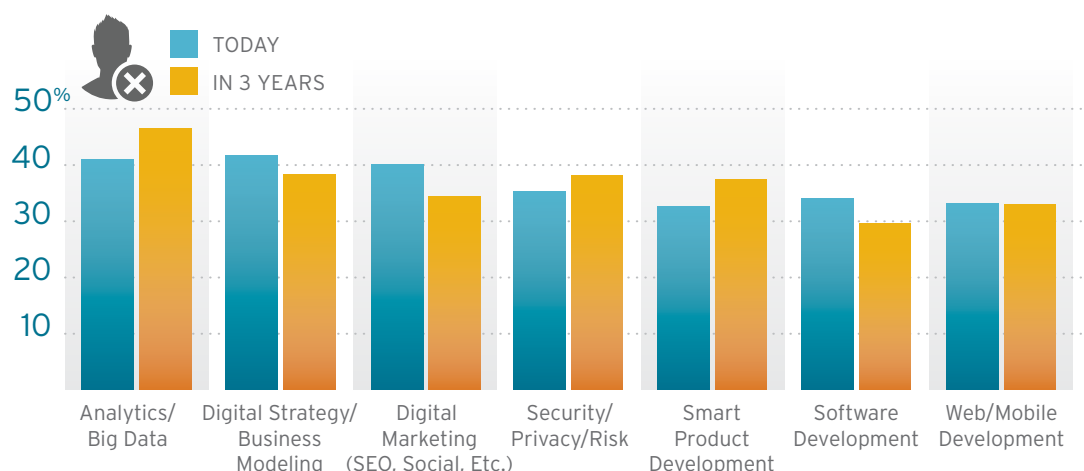


Digital strategy, big data and digital marketing capabilities are the most critical competency gaps organizations have today, but big data is clearly forecast to top the list in three years' time. Business strategy skills that can model digital transformations on a company's revenue flow or customer base command a premium right now (42%). Among executives, 46% believe big data will be the top competency in three years, with the shift especially marked among manufacturing leaders, tallying with our previous research presented in our white paper [“The Rise of the Smart Product Economy.”](#)

The obvious-by-now risk is that failure to access the right talent will mean paralysis. In a time of rapid change, the longer this lasts, the more the organization is at risk. The vast majority of executives that answered our survey (94%) cite a “moderate” or “severe” digital skills gap that prevents them from reaching their digital future (see Figure 4, next page).

## A Critical Skill Gap for Digital Capabilities

In which of the following skill areas does your organization have the greatest unmet demand?



Response base: 422

Source: Cognizant Center for the Future of Work/EIU Study

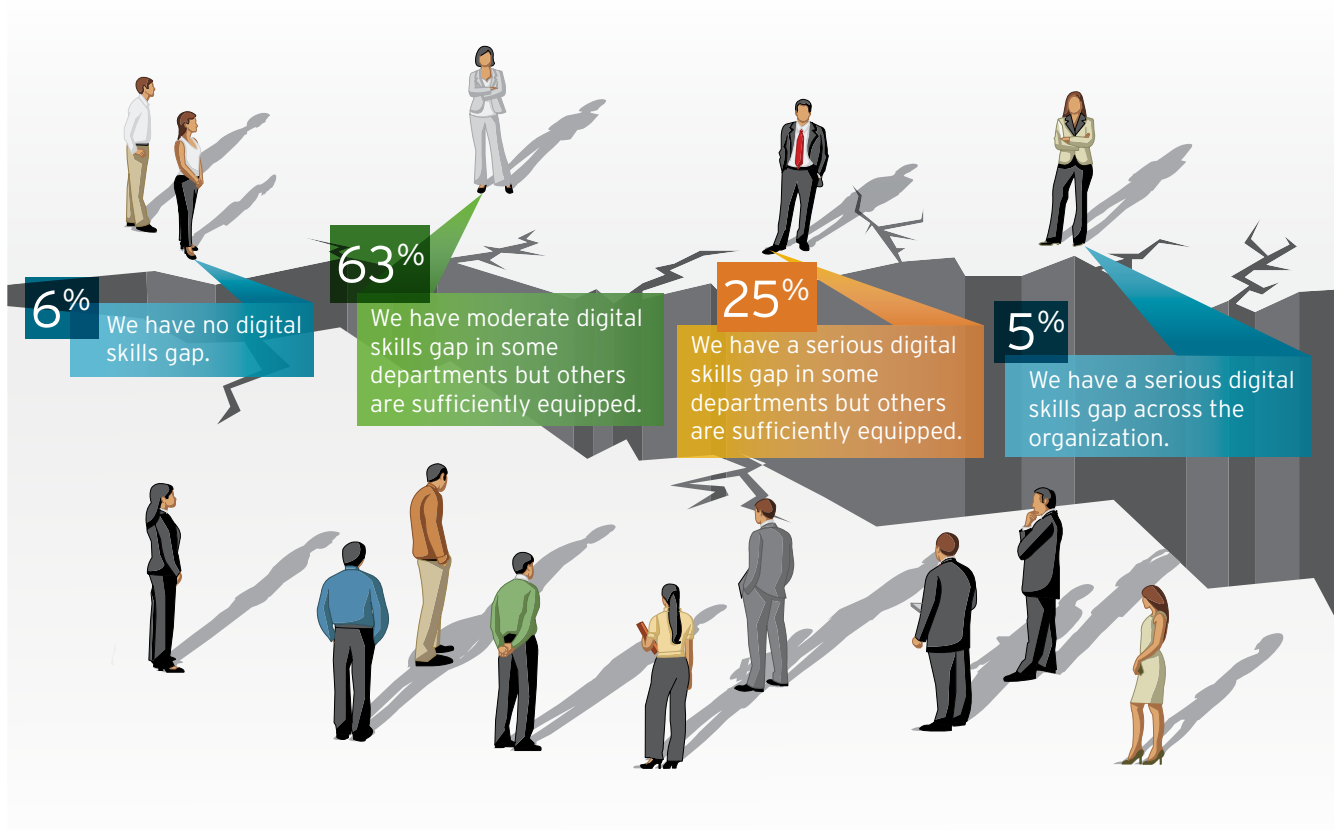
Figure 3

The vast majority of executives that answered our survey cite a “moderate” or “severe” digital skills gap that prevents them from reaching their digital future.

Top reasons for the skills gap, according to respondents, were: insufficient supply of appropriate talent (50%), internal opposition to creating new digital jobs (49%) and a perturbing lack of clarity at the top of the organization where responsibility actually lies for digital talent acquisition (45%).

Compounding these issues are doubts about the openness of digitally-savvy workers to working within industries like theirs as start-up cultures explode in areas near them (37%) (see Figure 5, page 11). No wonder legacy companies such as GE are busy rebranding the industrial Internet as a business for millennials to consider seriously.<sup>3</sup>

## The Dearth of Digital Skills Raises Concerns



Response base: 422

Source: Cognizant Center for the Future of Work/EIU study

Note: Percentages do not add to 100% due to rounding.

Figure 4

## Tectonic Forces Drive Innovation into Knowledge Work

Platforms, automation, the gig economy and the rise of new, digitally-savvy employees are radically shifting the world of work. Digital platforms – software layers that gather and synthesize data – are the building blocks of digital success, driving the next best action with data-based decision support. They're also profoundly changing what talent is and how it's put to work.

The best kind of platform (think Amazon Web Services, Netflix or GE) creates opportunities for an entrepreneurial ecosystem to grow around it. This network of interconnected start-ups and established companies exchanges, experiments and collaborates with platform data.<sup>4</sup> The platform can take many forms – for example, a car, a home or even a manufacturing process – and prescribes a much more fluid approach to innovation.

## Talent, Meet the Open Platform and Alloyed Economies

Think of the connected car that now sends driver data to an insurance broker to enable dynamically-priced car insurance.<sup>5</sup> This is a new tool set – the platform, the sensors, data and people – coupled with a new business model that connects real-time data to insurance pricing. This shows how a platform helps aggregate data, provides actionable insight, upgrades the consumer experience and – when properly conceived – generates a significant competitive advantage.

Leaders within digital businesses recognize that they need platforms and the entrepreneurial talent ecosystems around them as engines for continuous data exchange, insight generation and value creation.

This is simply not possible without platforms that link digital assets, products and customer demand to make new services available via multiple devices and channels. In addition to changing customer experiences, platforms also direct the way middle- and back-office work gets done, by coordinating tasks and activities across teams.

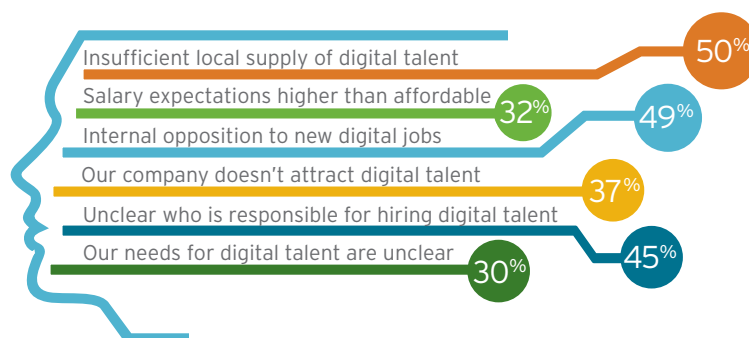
Leaders within digital businesses recognize that they need platforms and the entrepreneurial talent ecosystems around them as engines for continuous data exchange, insight generation and value creation.

The key to making this work is being open at the technology level. Google Play and the Apple App Store offer third parties a mechanism to plug their services (simple code to more complex apps) through an open application programming interface (API).<sup>6</sup> This kind of open model encourages platform adoption and adaptation because it powers faster iteration and experimentation.

The old world is catching on to the world of platforms. Industrial behemoth GE and digital banking outlier Spain's BBVA both use the power of the platform to capture insight, drive innovation and realign their resources and people. The open API instrumented platforms they've built for their products or services are a key part of their B2B and B2C experiences. The platform becomes an extension of the GE or BBVA brand, powered by an open API model that is also growing at a breakneck speed (see Figure 6).

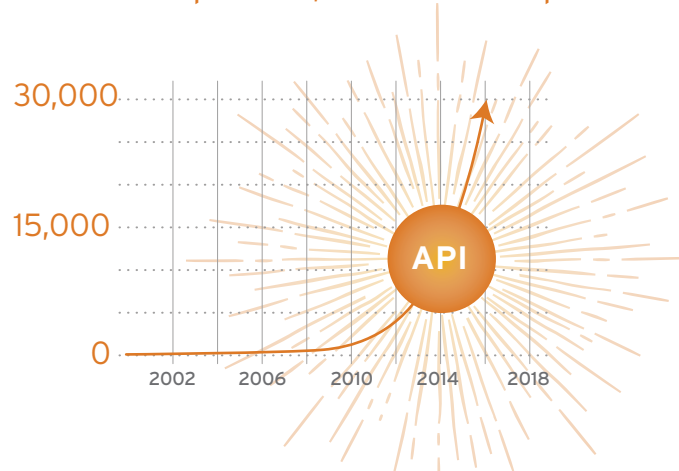
How well a company captures proprietary data, combines it with other third-party feeds and adds value to processes and experiences are the hallmarks of digital success. The integration of proprietary product and partner data to form novel, compelling user experiences is seen through the rise of new markets and opportunities such as the connected car or the connected home, and the explosion of APIs. It also spurs additional dynamics, such as the fight to control the in-car entertainment interface, which ignited recently with the launch of Apple's CarPlay and Google's Open Automotive Alliance in a battle for the platform.<sup>7</sup>

## Coming to Grips with the Talent Challenge



Response base: 422  
Source: Cognizant Center for the Future of Work/EIU study  
Figure 5

## The API Explosion; Platform Required



Source: Special report: Tech Start-ups, The Economist magazine<sup>8</sup>  
Figure 6

We predict new “alloyed economies” will emerge as industry sectors across the Western world reform in new and creative ways. These alloyed economies will blend talent, disciplines and technologies across industries to deliver compelling outcomes to customers.

We predict new “alloyed economies” will emerge as industry sectors across the Western world re-form in new and creative ways. These alloyed economies will blend talent, disciplines and technologies across industries to deliver compelling outcomes to customers. The rise of the connected car, for example, will trigger an industry mashup way beyond the in-car entertainment interface. Cars will start to collect road status, sharing with other road users via third-party platforms and sharing this real-time contextual travel data with local authorities, improving traffic flow and critical incident response times – in effect monetizing road-status data and monetizing the platform. These emerging opportunities will call on companies to assemble work-teams to blend

skills, capabilities and innovative thinking inside, outside and across traditional organizational structures. The challenge is to develop the mechanisms that enable companies to reach into these disparate sources of innovation and talent and orchestrate them.

### Talent Clusters with Talent (a Good Thing for Innovation)

Small is beautiful – our research reveals that companies are starting to reconfigure themselves into smaller spaces as market opportunities and emerging digital niches proliferate. In fact, smaller multidimensional teams are beginning to emerge with sales, marketing, service, product development, production and technology staff colocating and focusing on serving a single customer segment or functional need. Fascinatingly, these smaller, nimble clusters on the client side mirror what’s happening in many major cities around the world.<sup>9</sup>

We see the rise of talent clusters emerging in many cities around the world as a wave of entrepreneurial digital talent bubbles to the surface. Everyone appreciates that the spiritual home of the start-up scene is San Francisco, but the start-up movement is rapidly accelerating globally into Berlin’s Silicon Allee, London’s Silicon Roundabout, Dundee’s Silicon Glen. Austin TX, New York, Singapore and Beijing each have a sizable start-up scene – a talent ecosystem – that can be leveraged. These and other cities are home to hundreds of accelerators (start-up schools) and thousands of coworking spaces. This trend is quickly accelerating, as the startling growth of WeWork demonstrates. The company has 6,000 shared office locations dotted around the globe compared with just 300 five years ago.<sup>10</sup>

The rise of these clusters of entrepreneurial activity, spearheaded by the start-up movement, isn’t like the bubble that emerged with the rise of the dot-com era. Some companies may flame out, but ubiquitous connectivity and cheap data storage and computing processing power are now driving a sustainable wave of entrepreneurialism.

The building blocks of digital innovation are becoming more accessible to nearly every person, nearly everywhere. Talent with digital-age skills (self-directed, flexible and agile) increasingly wants a front row seat at the revolution. Global standards are emerging around programming tools, back-office platforms and even a hipster



dress code. It's no surprise that more established companies – sometimes located in less enticing locations – may struggle to attract talent needed to succeed in the digital age.

## Link Talent and Machines to Master Digital Performance

“Robots will take all our jobs!” We hear this nearly every day now, but despite the doom and gloom, we remain optimistic about machines and the talent needed to engage with new AI platforms.

Knowledge work is undergoing profound change as analytics, algorithms, big data and automation dramatically enhance innovation, productivity and decision-making and also abolish mind-numbing rote tasks previously performed by humans. Process automation technology ensures insurance customer payments get to the right place, faster and with more accuracy; retailers automate to extract, authenticate and verify supplier invoices in minutes not days.<sup>11</sup>

Our previous research report [“The Robot and I: How New Digital Technologies Are Making Smart People and Businesses Smarter by Automating Rote Work”](#) unequivocally shows that “smart robots” automate processes to save money but that they also improve accuracy and reliability. These software tools still need oversight to monitor, orchestrate, coordinate and remediate problems if something goes wrong.

As a result, people need to stay ahead of the curve, not by being “faster or cheaper” but by developing, honing and capitalizing on the capabilities that are uniquely human and cannot be replicated today by automated software. Such activities include collaboration and teamwork with a highly diverse workforce, creativity, curiosity, constructive problem-solving, inventiveness, empathy and physical touch (say, in healthcare). And of course, humans must focus on jobs that require a high degree of intelligence – at least more than what can be applied today by any robot.

People will need to adapt to a new business and technology context as new requirements for knowledge work will emerge. Insurance companies will need to employ augmented reality designers as drone technologies force a redesign of the claims management process (and retrain staff to make sense of the results). Retailers will seek out avatar programmers or “fusionists” who combine art, engineering, research and science to map out and personalize our path to purchase depending on current and historical requirements.

In order to capitalize on the interplay between humans and machines, organizations must connect data with meaning and action, and that often requires a spark of human creativity. A powerful example can be found in healthcare where hospitals are beginning to redefine workflow between people and machines. Medical staff at Scripps Clinic in San Diego now know when a patient's heart is racing or their blood pressure is on the rise, even if the patient is sitting at home. High-risk patients are hooked up to “personal data trackers” – meaning a team can now track the ups and downs of patients' conditions as they go about their lives.<sup>12</sup> The upside for health outcomes and the downward pressure on costs are massive, but the interplay between people and machines is only now starting to be defined. Alongside this,

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there is the technical work needed to bring together the core systems and data-centric processes that sift, sort and prioritize patient data.

If you're reading this, there's a good chance you are a knowledge worker, and by now it's clear that knowledge work is being changed as drastically as when the steam drill overtook what John Henry could do by hand. Leaders will need to reconfigure their work platforms as the workforce becomes increasingly enhanced with technology. Expect more back-office work to be automated and parsed out to software tools and a more flexible, distributed and transient workforce that can adapt to rapid cycles of business reinvention as and when they happen.

## Become a Talent Magnet for the Digital Age

Business and technology leaders need to press the reset button on certain elements of work as digital technologies bleed into job processes and customer experiences. "Being digital" will ultimately upend business models, revenue flows and cost structures. A new digital business architecture is emerging that runs on data mastery, talent fit-for-purpose in the digital age, flatter and more flexible organizational structures and new ways of working with software tools and robots that enhance knowledge work.

## Build a New Master Platform for Work

Forging a talent model for the digital age means building a master platform for work that will:

- **Augment talent with data from, well, everywhere.** The reinvention of the work platform will be critical to source technical skills at scale, but more importantly, it will augment knowledge work. The rise of open APIs, for example, provides a great opportunity for augmenting talent with data-driven insight. Recent research shows that few companies use API traffic analysis to understand customers' online and offline purchase journeys despite the fact that this technique is an essential part of understanding digital profiles and a core element of the personalization algorithms driving the digital economy. (See "[Putting the Experience in Digital Customer Experience](#)."<sup>13</sup>) Reimagine the value of an R&D or marketing team with access to this sort of information as they set strategy and devise tasks and activities for work.
- **Orchestrate human-to-machine workflows.** The new master work platform allows people to focus on the tasks that drive the most human value. When this is done effectively, work tasks get chopped up into "work packets" that are

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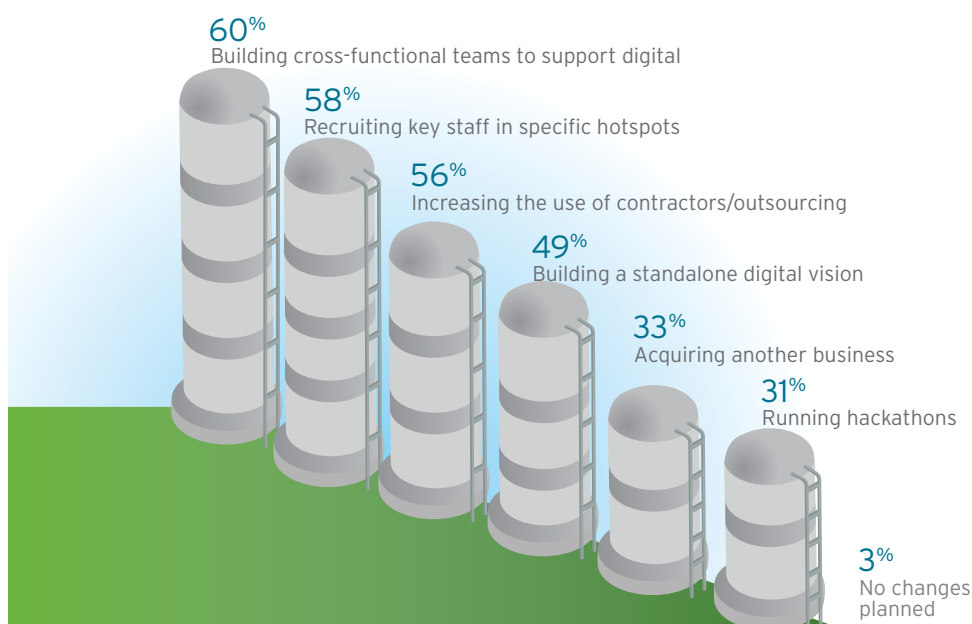
processed, orchestrated and reassembled into a business outcome. The master work platform should augment older sourcing models with new-breed options, such as business process as a service (BPaaS), mobile or cybersecurity services. Moreover, adding software "robots" will allow talent to work smarter as software begins to automate rote process tasks and enable new human-to-machine

workflows. Process handoffs and connection points will emerge between people and machines with greater accuracy in decision-making as automation pumps process data rich with meaning around the business.<sup>14</sup>

- **Synthesize what talent likes (and doesn't like).** The true detail of what employees jointly dislike about the job is mostly hidden and unanalyzed. For example, what does LinkedIn really say about where people work if you were prepared to pay for it?<sup>15</sup> Employees will increasingly use their mobile devices or wearables to monitor the applets in the workplace in order for employers to better understand their productive behavioral patterns. For example, Bank of America uses sensory data to better understand employee performance dynamics and learned that call-center performance increased when staff had “hang time” with others in their social circle during lunch breaks. It then deliberately overlapped these lunch breaks, leading to a 23% increase in performance.<sup>16</sup>
- **Use data on talent to build better talent.** Leading companies are increasingly adopting sophisticated methods of analyzing employee data to enhance their productivity and well-being. Google and Best Buy are starting to map out how to ensure the highest productivity, engagement and retention of their top talent through analytics.<sup>17</sup> Using metrics to evaluate the effects of a health and wellness program on employee engagement, for example, has allowed a U.S. company to measure ROI; preventative care visits to its on-site clinics have increased, reducing urgent care costs by millions of dollars in one year alone. By understanding the relationship between employee engagement and online revenue, it can now evaluate the program in terms of revenue contribution.
- **Build a Code Halo™ workplace.** Look to see the rise of the intelligent workplace that monitors its workers' environment, moods, wants and needs, to create an all-encompassing, intelligent and unobtrusive working environment. Expect to see workplaces increasingly adopting Internet of Things (IoT) technologies where sensors and data start to anticipate the everyday lives of people, informing, guiding and enhancing professional work relationships. Office environments will become increasingly reactive to the people that sit in them as (spookily) desks and seating “randomly” move around to encourage collaboration, lighting adjusts or even how a (not so) “random meeting” appears in a schedule.<sup>18</sup>

## The Digital Imperative Laid Bare: Farewell to Silos

How does your company intend to strengthen digital assets in the next three years?



Response base: 422  
Source: Cognizant Center for the Future of Work/EIU study  
Figure 7

## Squeeze Power Out from the Center

Traditional rigid approaches  
to organizational  
management are giving way  
to something much more  
fluid and connected.

Are leaders prepared to radically redraw the power lines of organizations and where decision-making and accountability resides? Executives increasingly need to reset the dynamics of power and decision-making in their organizations to uncork experimental business processes and harness the innovative thinking from people that the digital age demands. The big question for a leader to ask is this: Is their organizational model really fit for purpose?

Traditional rigid approaches to organizational management are giving way to something much more fluid and connected. Leaders are building flatter, streamlined approaches to organizational design and improving information flow with an emphasis on cross-functional teams that focus on a specific customer segment or desire (see Figure 7, previous page).

Command and control structures, long decision cycles and silo-based mentalities simply won't work in the digital age typified by the explosion of start-ups and a network of talent clusters emerging around the globe. These talent hubs offer "hot" digital technologies and capabilities that can speed innovation or deliver game-changing impact to a business. Accessing, teaming and cocreating with a global talent pool at the edge of an organization will not work in complex, command-and-control organizations.

Digital native companies such as Google or Spotify, or digitally transformed companies like GE or BBVA, all use more dynamic structures and collaborative approaches to access talent and get work done. Smaller functional teams increasingly cut across business lines and market segments. A growing amount of evidence shows that command-and-control models, with their attendant elongated decision cycles, simply won't work in a world moving at the speed of digital, and leaders in many organizations are beginning to make tough – but necessary – choices about reworking organizational structures.

## People Power Pivots Around an Industry Reformation

Our work with clients and our latest study findings confirm that many industries are undergoing a reformation around how work is – and will be – conducted in the digital era. Value chains are evolving; organizational boundaries are blurring; our jobs are increasingly digitizing as new machines integrate into our knowledge work.

Digital-first companies are emerging that blend talent, disciplines and technologies while they break down cross-industry barriers to capture compelling outcomes for all. This is no longer theory; it's happening today.

Essential to this reformation are openness, collaboration and the cross-pollination of ideas. Large incumbents must look to incubate people, attract new talent and make the most of their big company advantages while simultaneously keeping pace with quick-moving disruptors hell-bent on a "disrupt or be disrupted" competitive mindset.

We still have much to learn, but it is clear that knowledge work will be organized, distributed and performed in entirely new ways. A fusion of algorithms, automation, machine learning and the rise of new digital platforms is upending business models and radically changing how people innovate and how they work together. Organizations will need the right people in place and the tools to help them.



We recommend executives consider the following steps to prime their organizations and their people for the digital age:

- **View talent in the context of your company's digital platform.** Channel the drive for talent on one part of the business where process digitization has taken hold and where building a digital platform to marshal data will generate competitive advantage. Digital businesses need a platform to support the continuous exchange of data and information to create value. The best platforms will attract third parties to engage with them by offering mechanisms to plug in their services (simple code to more complex apps) through open APIs. This will empower executives to iterate and experiment with a customer experience or a product innovation much quicker and faster. This new tool set – the platform – will trigger a new business model. Realign your people around it.
- **Invest and develop the organizational firepower for innovation.** The digital age is all about speed, collaboration and experimentation. Your existing workforce has a large role to play. Simple methods can champion model behavior from your existing people, but bolder new approaches that drive digital innovation at scale are called for. Consider building an internal catapult initiative to help internal stakeholders and their teams develop innovative ideas and concepts. Build it as a center of excellence to promote collaboration and knowledge exchange across the organization and beyond, and use it to break down the silo mentalities.
- **Reset the dynamics of power and decision-making.** Locate the cluster away from the mother ship – in a city where the start-up scene is on fire. Find a talent cluster and be there. Command and control structures, elongated decision cycles and silo-based mentalities will kill digital. Accessing, teaming and cocreating with disparate talents across a value chain or industry will not work in complex, command-and-control environments. Start resetting the dynamics of power and decision-making to uncork experimental business processes and harness the wave of entrepreneurial activity now emerging. Replicate your own “clustered” models in parts of the organization where they make sense, where cross-functional teams working together can focus on a specific customer segment.
- **Develop a new master architecture to support “work.”** The striking growth of subcontracting for digital functions and processes demands a flexible, distributed workforce and a work platform that can issue digital “gigs” into the labor market as demand dictates. The work platform will need to start orchestrating human and machine tasks together, particularly as automation technologies and analytic processes dramatically enhance productivity and innovation through knowledge work. More complex work platforms will start to parse, virtualize and distribute gigs to a blend of people and machines that correspond with the growing demands of the business.
- **Bet big or go home – leadership demands it.** Be prepared to make the big calls. We are moving through an economic reformation that demands continuous iteration and constant experimentation. Organizations need to develop scenario-based tools to support fewer, bigger and bolder strategic bets. Acquiring the digital workforce of the future and the talents enterprises need means hedging and calculating where the strategic direction of the company lies. Talent will engage where necessary and need to adapt quickly to midcourse corrections amid rapid skills obsolescence. The ability to be open, connected and have the courage to bet the company when it matters are leadership essentials in this new age.

## Final Thought: Bold Talent Leadership Is No Longer Merely an Option

The upshot for leaders is to carefully calibrate the speed of change as digital transformations accelerate. Tackle the transition too fast and leaders risk breaking the company and its culture; taking the shift too slow and the organization risks being left behind as customer expectations shift or a competitive threat blindsides. Digital technologies and what they enable – new business models, new revenue flows and radical new cost structures – are redrawing industry structures and the talents firms need to thrive.

Tackle the transition too fast and leaders risk breaking the company and its culture; taking the shift too slow and the organization risks being left behind as customer expectations shift or a competitive threat blindsides.

In an age of opportunity, fortune favors the brave. It's time to get serious about your organization's most important asset – its people – and about giving them the power they need to succeed in this exciting digital age.

## Appendix: Study Methodology

This report is based on an Economist Intelligence Unit survey sponsored by Cognizant on the future of talent and digital skills across four industries: Banking and financial services; healthcare; retail; and manufacturing. An online survey was carried out in Q4/2015 of 422 European and U.S. executives from functions including strategy and business development, marketing, sales and human resources. Survey data was reinforced by in-depth interviews with senior commentators and experts.

## About the Author



*Euan Davis leads Cognizant's Center for the Future of Work in EMEA. A respected speaker and thinker, Euan has guided many Fortune 500 companies into the future of work with his thought-provoking research and advisory skills. Within Cognizant's Center for the Future of Work, he helps ensure that the unit's original research and analysis jibes with emerging business-technology trends and dynamics in Europe, and collaborates with a wide range of leading thinkers to understand how the future of work will look. Previously, Euan held senior analyst, advisory and leadership positions at Forrester Research, IDC and the Corporate Executive Board. He lives in Cambridge, UK, and can be reached at [Euan.Davis@cognizant.com](mailto:Euan.Davis@cognizant.com) | LinkedIn: [uk.linkedin.com/in/euandavis](https://uk.linkedin.com/in/euandavis).*

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*Note: Code Halo™ is a registered trademark of Cognizant Technology Solutions.*

## Footnotes

<sup>1</sup> <https://www.cryptocoinsnews.com/jpmorgan-memo-9-billion-slanted-studying-blockchain-robotics/>

- <sup>2</sup> A gig economy is an environment in which temporary positions are common and organizations contract with independent workers for short-term engagements. The trend towards a gig economy has begun. A 2015 study by Intuit predicted that by 2020, 40% of American workers would be independent contractors.
- <sup>3</sup> Watch GE's ad campaign of how and why millennials should consider a career in the industrial Internet. Part of the campaign is to brand GE's business for millennials. Andy Goldberg, global creative director at GE, told *Ad Age*, "The goal is to set up the promise of GE being a digital industrial company. It brings this idea of big iron and big data together under one roof. From recruitment to branding..." See [GE turns to the Late Show to reach Millennials](#).
- <sup>4</sup> This ever-growing, never-ending avalanche of data creates business value by building a richer understanding of customers, products, employees and business partners. This is what Cognizant calls Code Halo thinking: Every digital click, swipe, "like," buy, comment and search produces a unique virtual identity – something we call a Code Halo. See [Code Halos: How the Digital Lives of People, Things and Organizations Are Changing the Rules of Business](#) by Malcolm Frank, Paul Roehrig and Ben Pring.
- <sup>5</sup> See: "[The New Auto Insurance Ecosystem: Telematics, Mobility and the Connected Car](#)."
- <sup>6</sup> Application programming interfaces (APIs) have the power to unlock new revenue streams via dynamic ecosystems of value. APIs range from snippets of code to more substantial apps. They are the cheap and ubiquitous building blocks of digital products and services.
- <sup>7</sup> Expect to see competitive dynamics emerge around owning the platform and a raft of "platform wars" erupt between competitors across different industries. Clarity around the digital business model, the platform that underpins it and a fluid software-driven interface means the battle between Google and Apple for the in-car interface – the platform – is a harbinger for what is to come.
- <sup>8</sup> See "[A Cambrian Moment](#)," *The Economist*.
- <sup>9</sup> Cognizant has been tracking the growth of creative economies and new hot destinations for talent from Copenhagen to Tokyo to Berlin. See the author's post at <http://www.futureofwork.com/author/details/euan-davis>.
- <sup>10</sup> WeWork's first location six years ago was just 3,000 square feet in SoHo, New York City, with creaky floorboards, power-washed walls and packed to the rafters with hipsters. As of publication, it's just raised over \$400 million in a new round of financing led by Chinese investors, clearing the way for a push into Asia. The company has a valuation of about \$16 billion, up from \$10 billion last summer. See [The Wall Street Journal](#).
- <sup>11</sup> See "[The Robot and I: How New Digital Technologies Are Making Smart People and Businesses Smarter by Automating Rote Work](#)."
- <sup>12</sup> Efforts are under way as physicians and other providers seek to monitor patients remotely through new technologies, aiming to identify problems early and cut costs and inefficiencies in the healthcare system. See [Wired.co.uk](#).
- <sup>13</sup> "Putting the Experience in Digital Customer Experience," Cognizant Technology Solutions, November 2014, <http://www.cognizant.com/InsightsWhitepapers/putting-the-experience-in-digitalcustomer-experience-codex1180.pdf>.
- <sup>14</sup> Ray Kurzweil is famous for predicting "technological singularity." Whatever happens with machine intelligence and the interplay of computer systems with human nervous systems, one thing is certain: technology is going to change human life in enormously important ways. See <http://bigthink.com/100-biggest-ideas/the-singularity-of-ray-kurzweil>.
- <sup>15</sup> LinkedIn is beginning to sell ads across the Internet, becoming the latest social company to layer its data on top of the Web's ad inventory. See [AdAge.com](#).
- <sup>16</sup> For a long time, Bank of America call centers had a tough time retaining employees – at times, turnover rates in its U.S. call centers were as high as 40% a year. Bank of America knew something had to change, so it turned to analytics to figure out just what was causing employees to flee their posts. Read "[This One Simple Management Change Saved Bank Of America \\$15 Million](#)," *Business Insider*.
- <sup>17</sup> Google, Best Buy and others are beginning to understand exactly how to ensure the highest productivity, engagement and retention of their top talent and then replicating their successes across the company. If you want better performance from top employees then (according to the article) favor analytics over gut instincts. It's probably more nuanced than that. See "[Competing on Talent, Analytics](#)," *Harvard Business Review*.
- <sup>18</sup> See [Code Halos: How the Digital Lives of People, Things and Organizations Are Changing the Rules of Business](#), by Malcolm Frank, Paul Roehrig and Ben Pring.

# COGNIZANT

## Cognizant's Center for the Future of Work

Cognizant's Center for the Future of Work provides original research and analysis of work trends and dynamics, and collaborates with a wide range of business and technology thinkers and academics about what the future of work will look like as technology changes so many aspects of our working lives. Learn more by visiting [www.futureofwork.com](http://www.futureofwork.com).

## About Cognizant

Cognizant (NASDAQ: CTSH) is a leading provider of information technology, consulting, and business process outsourcing services, dedicated to helping the world's leading companies build stronger businesses. Headquartered in Teaneck, New Jersey (U.S.), Cognizant combines a passion for client satisfaction, technology innovation, deep industry and business process expertise, and a global, collaborative workforce that embodies the future of work. With over 100 development and delivery centers worldwide and approximately 221,700 employees as of December 31, 2015, Cognizant is a member of the NASDAQ-100, the S&P 500, the Forbes Global 2000, and the Fortune 500 and is ranked among the top performing and fastest growing companies in the world. Visit us online at [www.cognizant.com](http://www.cognizant.com) or follow us on [Twitter: Cognizant](#).

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