

THE WORK AHEAD

Seven Key Trends Shaping the Future of Work in the Insurance Industry

By Ben Pring and Michael Clifton

The Work Ahead is a research series providing insight and guidance on how businesses - and jobs - will evolve in an economy of algorithms, automation and AI.

In this installment, we look at the insurance industry. Our research shows that insurers are highly aware of the need to rethink their processes, technology foundations and business models to succeed in the digital future. Indeed, the industry itself will be nearly unrecognizable in the next decade due to digital change. Insurers that choose to move past their inherently risk-averse and change-resistant natures will reap rewards that will measure in the trillions for the entire industry, according to our research.

THE WORK AHEAD IN INSURANCE

Long regarded as something of a sleepy backwater in the business world, the \$5 trillion global insurance market is in the early stages of fundamental change that will upend business as usual. Over \$1.6 trillion of new value is set to be created through the application of a digital mindset and a new generation of digital technologies in the next three years alone, according to our research.

Insurance providers, traditionally averse to rocking the boat (and focused mainly on collecting insurance premiums), must rethink what they do - and how they do it - in the face of change driven by data, automation, arbitrage and artificial intelligence (AI).

In a world of abundant data, in which wearable devices can generate individual health profiles and customized premium quotes, and auto policies can be based on actual driving performance, historical norms increasingly seem exactly that: remnants of a bygone era.

Insurance companies - and the executives that lead them - face unprecedented challenges and opportunities as the work ahead generates a scenario in which "digital" is no longer simply a new channel to sell old stuff but is the very business itself.

To understand this "digital-first" environment and the changing shape and nature of work in the insurance industry, Cognizant's Center for the Future of Work surveyed 168 insurance executives across the major geographies of the world in the first quarter of 2016. We asked a range of questions covering respondents' views on skills and technology priorities, the benefits and costs of digital transformation, digitization's significance to the organizations they represent, and the personal importance of digital technologies. (For more on the study methodology, see page 24.)

This report is part of [The Work Ahead](#) series, which covers key topics on our digital future, including [new technologies](#), [changing business process models](#), and the state of digital transformation in [Europe](#), [Asia Pacific](#) and industries such as [healthcare](#), [financial services](#) and manufacturing.

Insurance industry respondents, whose views and opinions are presented in this report, convey a strong awareness of the need to think and act differently - that the norms and standard operating procedures of the past are increasingly unfit for purpose in a future of ever higher expectations for speed, transparency and ease of use. In a time when instant gratification literally cannot come fast enough, many insurance companies are teetering on technological, business process and skill set foundations that are being stressed beyond their ability to cope, let alone offer a competitive advantage.

Inherently risk averse and resistant to change, insurers now find themselves facing unprecedented levels of change - in their customer base, their employee ranks, the competition and the available technological tools. Insurance has been a "steady as she goes" environment for as long as anyone of working age can remember. The work ahead sees this set to change.

Key Findings

Our top research findings can be categorized in the following seven themes, which are explored in detail in this report:

01

The impact of digitization on the work of insurance will be profound.

The insurance industry of 2025 will be quite unlike the insurance industry of 2017.

02

The economic benefits of digitization will be extremely positive.

In a three-year time span, the projected impact of digital transformation on insurers will be \$1.63 trillion.

03

Your job will change significantly by 2018.

Working with AI and automation-based technology will change what humans do in the insurance workforce.

04

The skills you need to succeed in your job will change materially as well.

What got you “here” won’t get you “there.”

05

At the heart of all this change will be a new generation of technologies that you and your company need to master.

The insurance industry is increasingly a technology mediated one, and the technologies driving this are changing faster than ever.

06

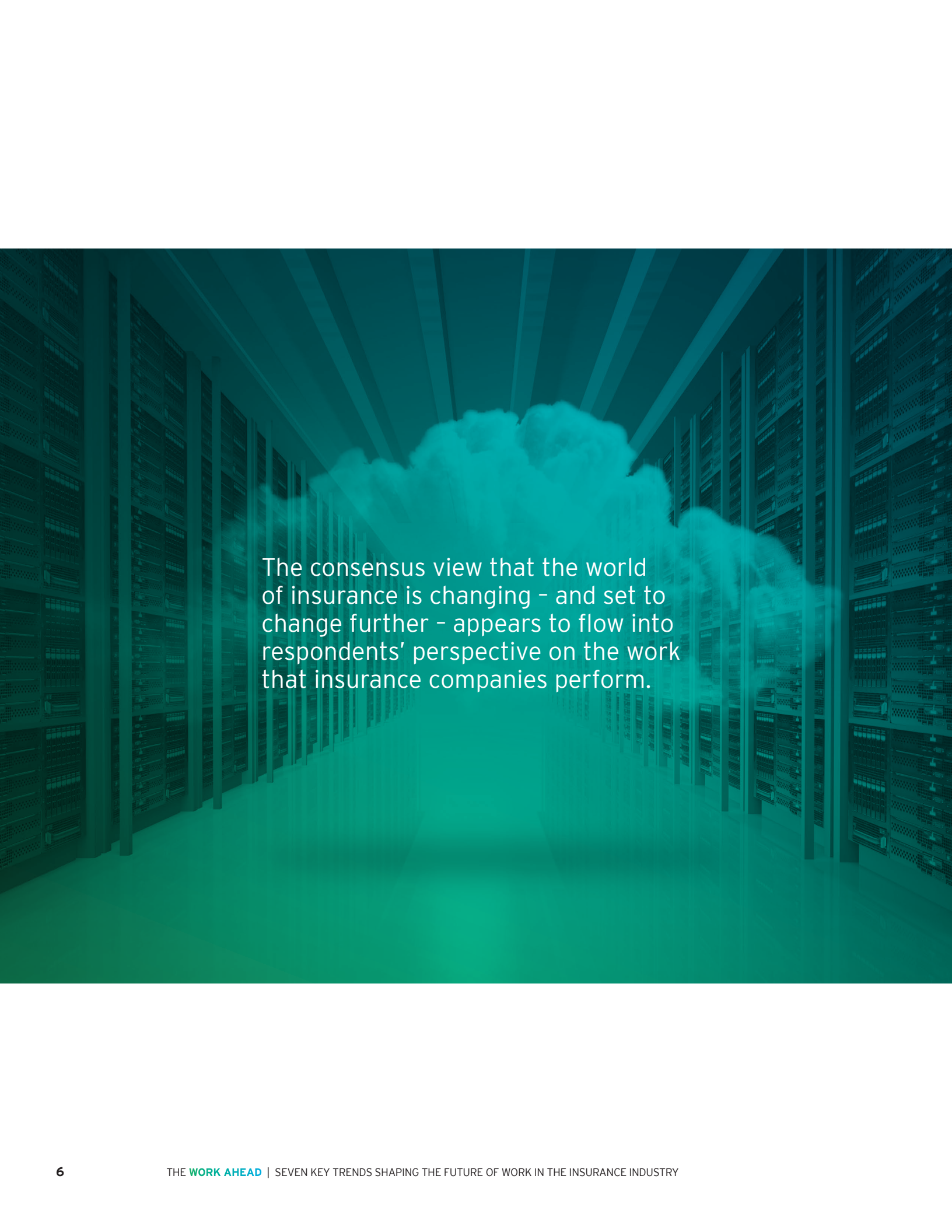
There are many obstacles on the path to digital transformation, but they are surmountable.

Despite the many challenges ahead in leveraging the upside of new technology, there is no going back to a pre-technology-based industry.

07

The “dark side” of digital is real, but the genie is not going back into the bottle.

The digital world is our new reality and, though not perfect, can’t be wished away. Trying to reverse time or course is not a winning business model.



The consensus view that the world of insurance is changing - and set to change further - appears to flow into respondents' perspective on the work that insurance companies perform.

DIGITAL DISRUPTION AND THE WORK OF INSURANCE

Although the insurance industry is perceived as conservative and cautious - immune to the fads and fashions of management gurus, academics and consultants - senior leaders surveyed for this study present a compelling case that they are fully aware of living in a time of tumultuous technological-driven change.

Beyond awareness, their responses also suggest they are working hard to leverage the incredible opportunities introduced by a new generation of pervasive technologies and to mitigate the very real challenges presented by "software eating the world"¹ - and the world insuring itself.

Two-thirds of insurers (61%) believe that digitally-driven transformation is *the* key to their organization's commercial future. Given the raft of socio-economic-political-environmental issues that insurers face, this consensus view reveals senior industry leaders' belief that the future of

insurance work will look quite different from the present as a direct result of digital technologies and behaviors.

Relative to responses from executives in other industries we surveyed, these findings place the insurance industry in the middle of the pack, further confounding the widely held view that the industry is "asleep at the digital wheel." Healthcare payers, under enormous pressure from customers and investors to modernize creaky business practices and supporting technology (or lack thereof), ranked the highest - at 74% - of all the industries under investigation; surprisingly, retailers, already well down the path to an omnichannel, digital-first future, ranked the lowest, at 57%. (Of course, because healthcare payers operate within the insurance industry, their high ranking further reinforces the notion that insurance, overall, is primed to change significantly going forward.²)

¹ Marc Andreessen, "Why Software Is Eating the World," *The Wall Street Journal*, Aug. 20, 2011, <http://www.wsj.com/articles/SB1001424053111903480904576512250915629460>.

² See the Research Methodology section of this report for further details on industry definitions and demographics.

The consensus view that the world of insurance is changing appears to flow into respondents' perspective on the work that insurance companies perform. Approximately 97% of respondents - i.e., almost everyone we surveyed, without exception - agreed with the statement that "the required skills to succeed in my industry are going to change significantly in the next three years." Figure 1 further details respondents' views on the top five changes that will materially impact the future of work in insurance over this period.

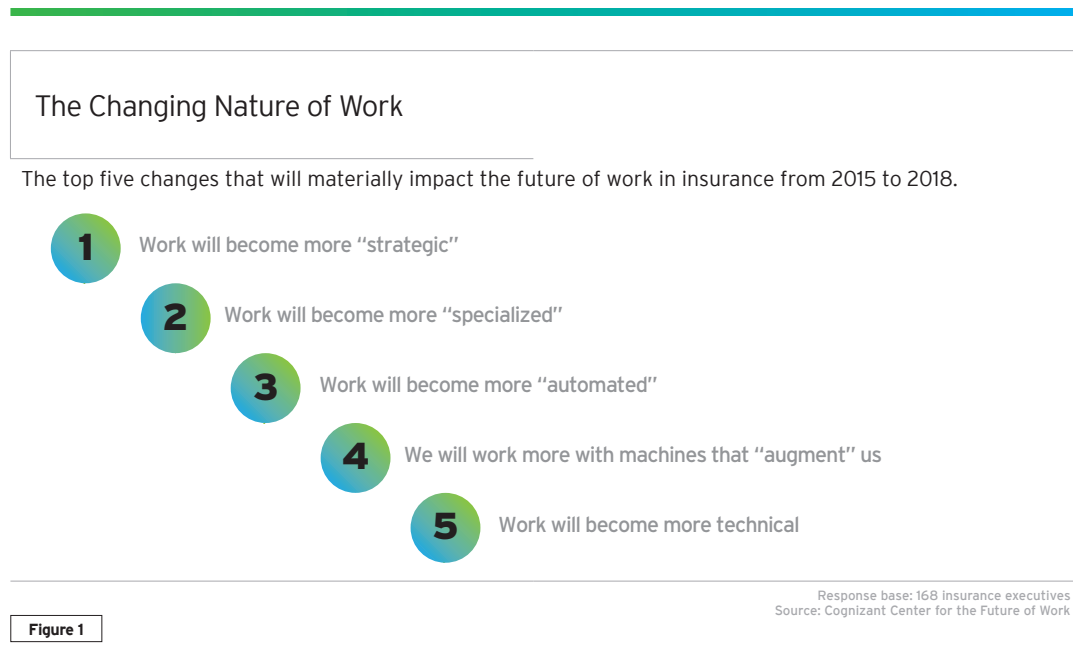
Figure 1 can almost be regarded as a manifesto for how the work of insurance will change - both for the corporation and the individuals working therein. More "strategic," "specialized," "automated," "augmented" and "technical" work presages a future that demands new skills and mindsets. In other words, what got you to where you are today won't get you where you want to go tomorrow.

For a corporation, being more strategic and specialized may mean targeting a micro-vertical niche - say, bio-chemical research intellectual property protection - rather than continuing to pursue large, undifferentiated marketplaces. Being more automated, augmented and technical may mean reducing costs in back-office business processes through the deployment of robotic process automation (RPA). Insurers such as AXA France and the Lincoln Financial Group are said to be upskilling middle-office workers with new generations of AI-infused collaboration tools such as Slack and Tableau.³

Correspondingly, for employees, these dynamics will mean learning to leverage these new tools and migrating from repetitive, routine, marginal value-add tasks that can increasingly be performed more quickly, accurately and less expensively by software.

Keeping an Eye on AI

Respondents also agree the industry will be forced to reinvent itself, and that everyone - from the loftiest executive perches to the lowliest janitorial cubbies - will be required to reconsider how their contribution will remain fit for purpose. Figure 2 shows a ranking of the technological forces creating this upheaval.



³ This information was revealed through our study.

Figure 2 clearly shows the industry’s consensus of the central role of data and analytics – both now and even more so over the coming years – in shaping business models and commercial opportunities. In many ways, this is not a surprise, but the research confirms something profound: Without a data-centric approach at the core of what an insurance company does and how it does it, competitive irrelevancy looms. The harvesting, interpretation and monetization of the data generated by every digital interaction (what we call a “Code Halo™”) is the foundational building block of being an insurer in the 21st century. (For more on this concept, please read our white paper “[Building a Code Halo Economy for Insurance.](#)”)

Without a data-centric approach at the core of what an insurance company does and how it does it, competitive irrelevancy looms.

What is more surprising is the pace at which AI has come to be seen as an important technology for leveraging big data. Between 2017 and 2020, a new generation of leaders will separate from the pack by injecting AI and its sub-components (e.g., machine learning, neural networks, decision theory, etc.) into the algorithms that produce actuarial models and premium quotes.

AI, having long germinated in academia and research labs around the world – and consequently still regarded by many as a curio not fit for primetime – is quickly becoming a very real tool for those who recognize its power to solve the next set of business challenges presented by huge volumes of data. That AI ranks – in mid-2016 – as the second most important technology/business dynamic impacting the future of insurance illustrates that senior leaders are highly aware that digital disruption is real. Further, it reveals that the double-edged nature of new technologies – i.e., their ability to create powerful new potentialities and to undermine “business as usual” – is a phenomenon to be taken seriously.

The Major Technology/Business Dynamics Impacting the Future of Insurance Through 2020



Response base: 168 insurance executives
Source: Cognizant Center for the Future of Work

Figure 2

It is clear that insurers' business and operating models are being fundamentally challenged by new customer expectations, particularly around speed and personalization. In fact, "personalized risk management" is a concept that is set to gain traction over the next few years. With personalized risk management, an individual, family or small business understands the most important risks to cover, and uses analytics, data and risk management techniques such as insurance, self-insurance or risk transfer, to manage those risks in a targeted way. The ability to meet these expectations will increasingly distinguish relevant from irrelevant insurance suppliers.

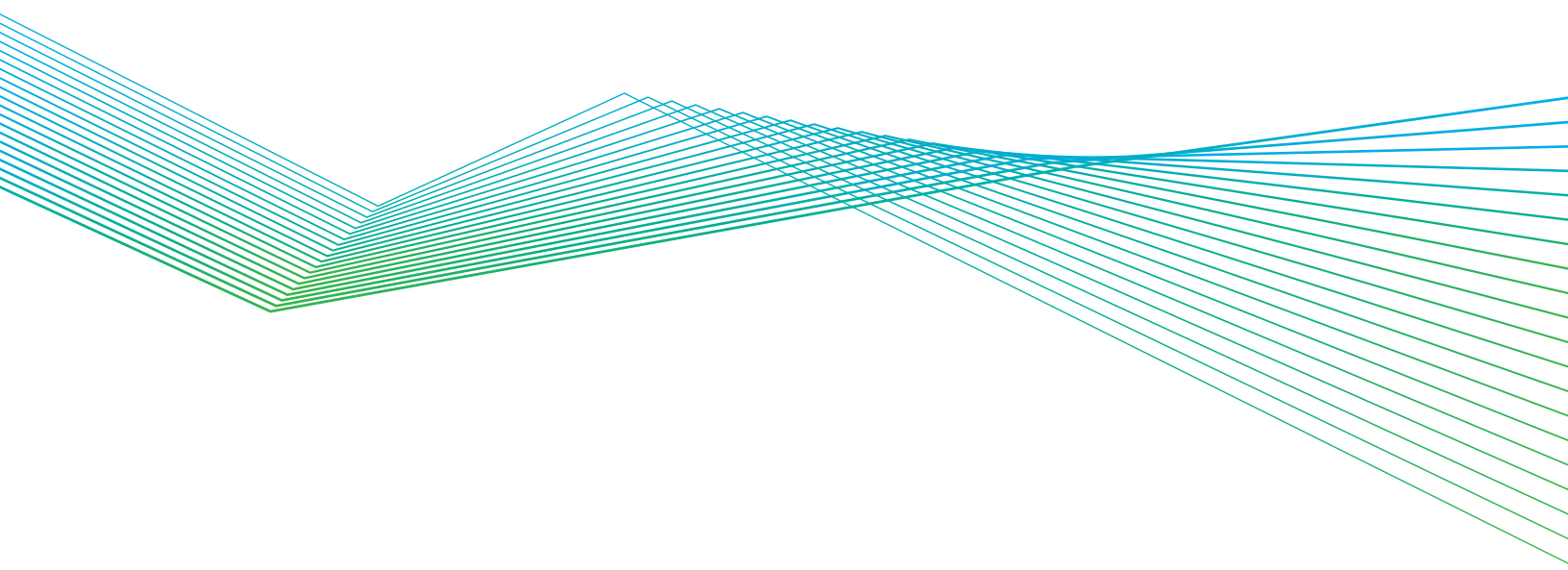
As this trend progresses, the market will increasingly move toward what large insurance brokers (such as Marsh and Aon) do for large corporations but at an unprecedented scale, for millions of households and thousands of small businesses.

This dynamic will pose a significant challenge for many insurance companies that still don't understand their customers and segments in sufficient detail due, in part, to the structure of the industry, in which agents and distributors still hold incredible market power.

The advent of big data and analytics will drive change over the next few years, and AI will add further momentum. Large insurance providers will begin to understand their end customers in more detail through natural language processing and analysis of relevant structured data - from databases - and unstructured data - like claims notes. They will also use machines to help humans make more rational recommendations or decisions in ways heretofore impossible.

These technologies will also reduce the need for rote/repetitive work, which will either be automated or sourced externally. Employees will need to add value that machines or external sourcing alternatives can't.

Of course, an intellectual understanding of where the market is going isn't the same as action/preparedness to act on these trends. We believe the ideals reflected in the survey responses will take years to ring true (three to five years at least); however, the building blocks will begin to fall into place within this period.



BIG PRIZES AT STAKE IN A FAST-CHANGING ENVIRONMENT

A hotly debated topic among economists and academics is the question of whether technology is a deflationary force; i.e., whether the increasing pervasiveness of technology makes goods and services cheaper and consequently reduces aggregate GDP and/or GDP growth rates.

As famed venture capitalist Marc Andreessen put it in 2014, "While I am a bull on technological progress, it also seems that much of that progress is price deflationary in nature, so even extremely rapid tech progress may not show up in GDP or productivity stats, even as it equals higher real standards of living."⁴

Consider that 85% of respondents say digital channels represent less than 20% of revenues today – but will generate between 20% and 30% of all sales by 2020, according to 72% of those surveyed. This is a seismic and unprecedented shift by any measure, making it clear that industry disruption is a very real issue (and a huge concern) for all.

New entrants are flooding every corner of the market (e.g., TrueMotion, Cuvva, Acculix, Guevara, among many, *many* others⁵), all with value propositions based on lower than incumbent-based pricing. With this influx of innovation, it is clear that digitization – while offering many benefits – may fundamentally block incumbents' attempts at growth.

Growth will be more challenging if the establishment sticks with its traditional approach to insurance premiums and established lines of business. We believe winning insurers will move beyond a focus on claims submissions and begin offering more targeted, often higher margin insurance products and new, related risk management products and services that focus on better outcomes (such as better health, better protected homes, safer cars). The smart play for insurers is to move into the "good news business" rather than interacting with customers mainly to collect payments or process claims when something negative has happened.

⁴ Myles Udland, "Marc Andreessen Dismisses Secular Stagnation Theories as Silly in a Macroeconomic Tweetstorm," Business Insider, Dec. 29, 2014, <http://www.businessinsider.com/marc-andreessen-secular-stagnation-tweetstorm-2014-12?r=UK&IR=T>.

⁵ TrueMobile and Acculix are focused on data analytics and telematics; Cuvva provides hourly, on-demand auto insurance; Guevara is focused on peer-to-peer car insurance.

Executives believe the overall effect of digitization will be hugely positive. Between now and 2018, the economic impact of digital transformation will be \$1.63 trillion.

To understand how these dynamics might play out, we asked survey respondents a series of questions examining their attitudes toward, and plans for, investment in technology-oriented digitization.

The bottom line: We found that concerns of “digital deflation” are overstated, and that executives believe the overall effect of digitization will be hugely positive. Between now and 2018, the economic impact of digital transformation will be \$1.63 trillion. In an industry worth \$5 trillion globally in 2015, according to industry giant AON, and which grew at 3.8% between 2014 and 2015,⁶ according to Swiss Reinsurance, findings of this scale are very positive news. (“Net impact” is calculated by analyzing investment costs, and then subsequent changes in operating costs and revenue growth projections. More details of this analysis can be found at [The Work Ahead Data Explorer](#)).

With the potential to more than double growth rates,⁷ digital transformation is simply too important an opportunity to overlook. In fact, in 10 years’ time, the most important question you and your company may have to answer is, “Did you see the shift toward ‘digital’ occurring, and what did you do about it”?

The insurance industry’s role of “shock absorber” for the global economy will continue in perpetuity. But the kind of insurance that are required by the market will change dynamically as the global economy itself changes, particularly as new risks such as the sharing economy, human longevity and all things cyber become more and more important in the overall opportunity available to insurance providers.

⁶ “Global Insurance Industry Grows Steadily in 2015, Amidst Moderate Economic Growth,” Swiss Re, June 29, 2016, http://www.swissre.com/media/news_releases/global_insurance_industry_grows_steadily_in_2015_amidst_moderate_economic_growth_but_outlook_is_mixed_sigma_report.html.

⁷ \$1.63 trillion divided by three years equals \$540 billion per year, which is 10% of \$5 trillion – as opposed to 3.8%.

YOUR NEW JOB

Unlike Your Old Job (Or Your Current Job)

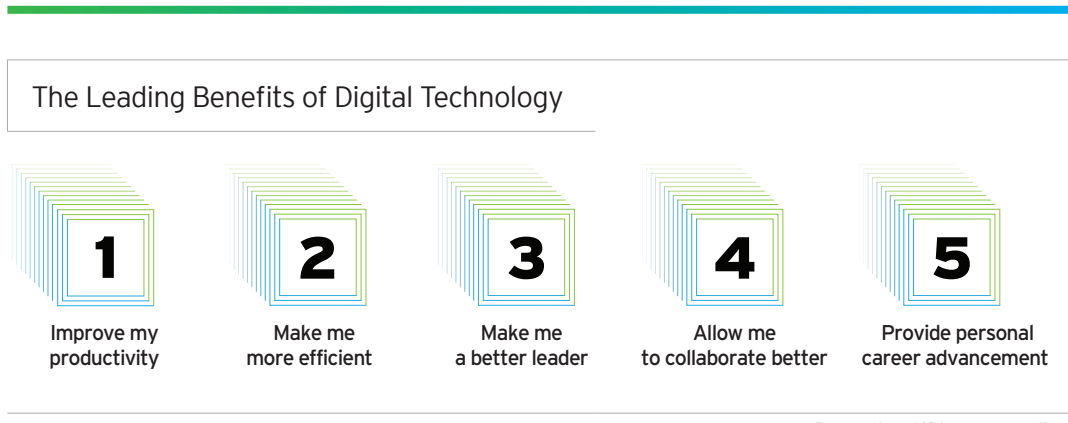
Along with changes in the industry, corporate dynamics and economics, digitization is producing tremendous upheaval in the day-to-day work that people do within insurance organizations. In our survey, we asked senior leaders how they expected their own work to change, at a personal level, as digital transformation gathers momentum. As anyone working within a modern corporation knows, strategic decisions made in the upper echelons of a company can often require lower level staff to take actions they know will potentially “hurt” their own careers, too. A directive to reduce costs in a department (through job cuts or sourcing) can frequently result in the manager, in essence, putting him or herself “out of business.”

The tensions inherent in these dynamics are very much in play when organizations - which are, in the end, simply collections of individual people - must make difficult decisions in the face of profoundly changing “environmental” conditions, such as those created by digitization.

At the root of these tensions are the advances in the sophistication of software, new horizons for the deployment of automation in white-collar work, and the practical application of AI. In a world where machines and software can increasingly do higher order “human” work, many are questioning how humans remain in the loop.

Our survey respondents clearly recognized these tensions; with their “corporate” hat on, they can see the upside of digitization and are focused on leveraging its potential, including automating work and reducing headcount. But with their “personal” hat on, they can also see - and are willing to acknowledge - some of the less positive aspects of technological disruption, including those headcount reductions.

Figure 3 shows the major improvements already being generated by digital transformation in respondents’ own work. These benefits are clear and undeniable; increasing productivity and efficiency, facilitating better collaboration and leadership - all resulting in career advancement - is a perfect formula that most people are willing to sign on for. This upbeat perspective goes a long way toward explaining why digitization is happening in the first place. People ultimately “vote with their fingers” - if smartphones, apps, videoconferencing, algorithms and personalization software didn’t ultimately help people, then people wouldn’t use these tools.

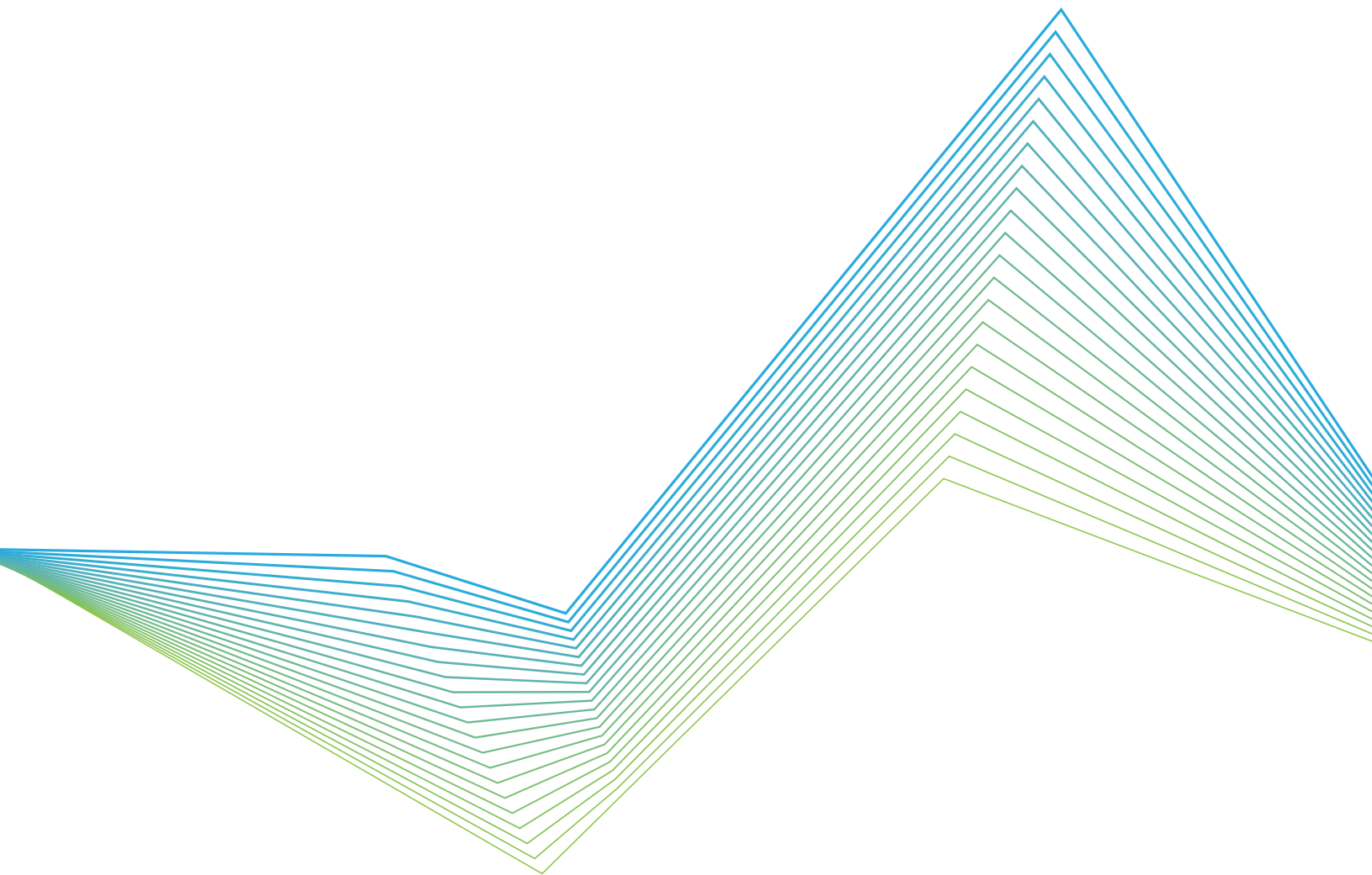


Response base: 168 insurance executives
Source: Cognizant Center for the Future of Work

Figure 3

One of the major challenges organizations and the people within them face is to empower lower level employees to analyze new types of data and make new types of decisions rather than simply carry out the often rote types of work and decision-making of the past. This will particularly translate into employees who have the skills and experience to understand and master both business- and technology-related issues.

These “hybrid” types - previously regarded as utility players - are increasingly becoming “starters” in the game of insurance. This trend is particularly noticeable in insurance companies seeking to build their business intelligence and predictive analytics capabilities from where they are currently. Whereas it was previously necessary to excel at a well-defined business or technology function/role in order to move up the corporate ladder at insurance companies, now these “hybrid” employees are moving to center stage and have bright career prospects ahead. This is a significant trend that will shape the types of roles that people play in an era when machine intelligence will require people to contribute higher and higher levels of “value add.”



NEW SKILLS REQUIRED IN THE NEW SUCCESS FORMULA

This success formula can also be seen in respondents' views on the most important skills needed today and through 2020. As Figure 4 reveals, the abilities to analyze and lead are regarded as paramount today and will remain so in the future. Selling and dealing with customers is another skills area that will remain crucial for success. The ability to think strategically becomes more important as lower level tasks become more automated, as does ease with working in a global environment as business becomes ever more multi-national.

Even more noteworthy are the "spread ranks" shown in Figure 4. These rankings - which represent the deltas between responses for 2016 and 2020 - show the skills becoming even more important in the future. For instance, 68% of respondents said that analytical skills were the most important in 2016. By 2020, this figure rises to 88%. The implication is that analytical skills - already regarded as the most important overall skill by a majority of respondents - will only grow in importance as even more people see the power of data and data-based insights.

In contrast, 57% said "selling" was the second most important skill in 2016, but by 2020, this figure will only have grown to 61%. Respondents are indicating that selling is also very important but that its importance won't grow that much over the next few years.

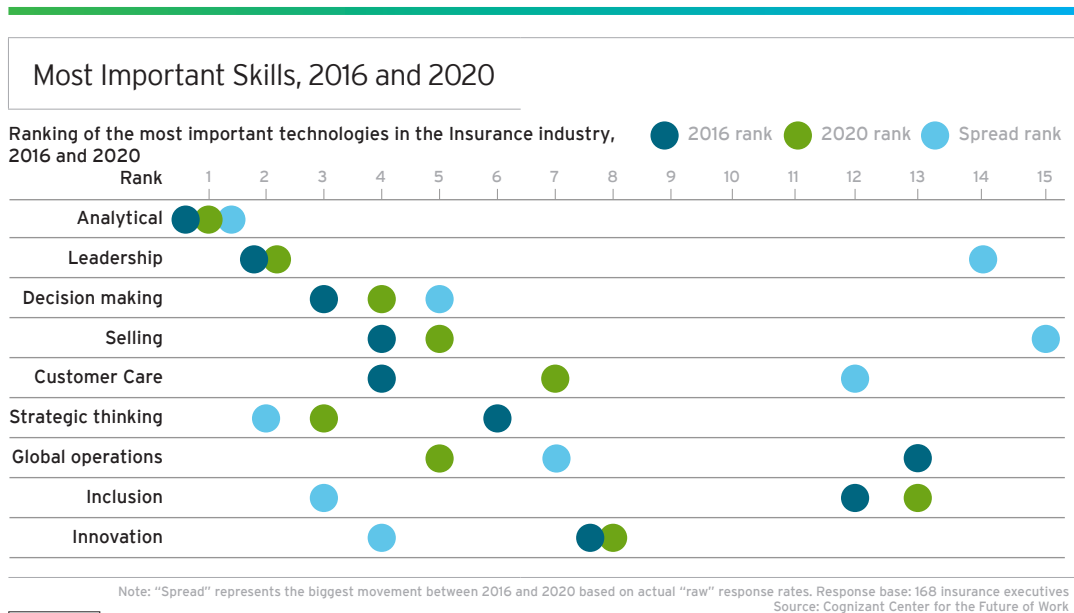


Figure 4

This is an important finding and provides a major clue as to what the future of work in insurance will look like in the coming years.

Some skills, talents and abilities are deep and immutable; there will always be a seat at the top table for those who can sell. But other skills - such as analytics - which are widely recognized as important, are in some ways regarded today as less worthy of attention and focus. In effect, survey respondents are saying the ability to analyze data, see patterns, leverage big and small data, and navigate through complexity to the "next best action" are *the* most fundamental and profound skills any organization can - and indeed should - have in a world increasingly driven by software. This ability is not ephemeral or "fluffy" at all but is crucial to surviving and thriving in increasingly competitive markets.

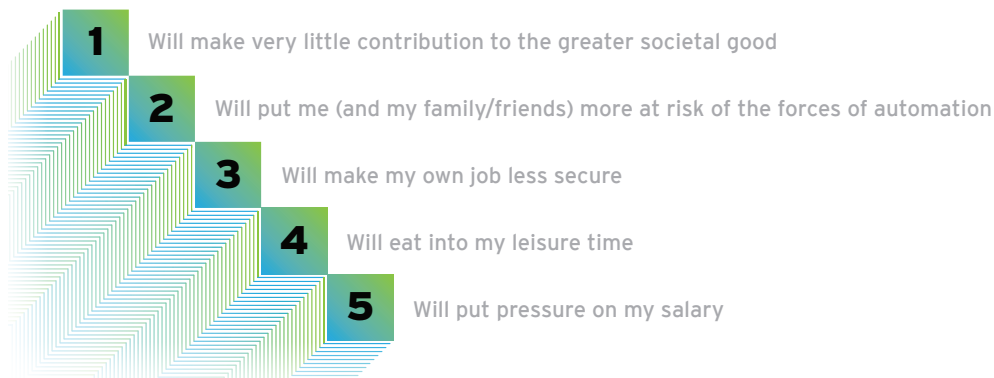
The ability to analyze data, see patterns, leverage big and small data, and navigate through complexity to the "next best action" are the most fundamental and profound skills any organization can - and indeed should - have in a world increasingly driven by software.

Respondents' more personal reflections, as shown in Figure 5, veer toward a darker view of the digital revolution.

Click on any news site's business or technology section nowadays, or browse *Fortune*, *Forbes* or *The Economist*, and it won't escape your attention that the "rise of the robots" is front and center on the minds of many; concern over AI is everywhere in today's *zeitgeist*. Not surprisingly, these concerns find their way into the responses in our survey as well. Respondents report being worried that automation will take their jobs, make them less secure, eat into their "downtime" and suppress their personal incomes. While on the one hand extolling the virtues of digitization and acting to leverage its benefits, the decision-makers we surveyed are only too aware that nobody is safe from unstoppable technological and economic forces.

This conundrum is central to the future of work in every business; the insurance industry is no exception. Technology "giveth" and technology "taketh away." The task for each leader, each organization, each individual, is to ensure that in the "race against the machines" they individually and collectively see that the risks of missing the shift to a digital future are real - and the results of missing those turns can be brutal.

The Least Beneficial Aspects of Digitization



Response base: 168 insurance executives Source: Cognizant Center for the Future of Work

Figure 5

A SEA CHANGE

Technologies at the Heart of Insurance

At the heart of any industry disruption - including insurance - is a key fact: The ascension and mastery of next-generation digital technologies is the key success factor in the work ahead.

Figure 6 outlines respondents' views of the most important technologies they believe are changing their organizations, both currently and in the future. As respondents make clear, they fully understand the centrality of big data, the cloud, mobility, "social selling" and customer service. These interlocking technologies - what we call the "SMAC Stack" - have, in short order, gone from fringe ideas of interest only to "deep techies," to dynamics that are changing insurance companies in profound ways. (Keep in mind, our survey respondents are not exclusively technology professionals but also lawyers, accountants and general managers, too.)

Cybersecurity and big data rank as the first and second most important technologies in 2016 and

will continue to jockey for the top slot between now and 2018; big data will win out in 2020, respondents believe. The "public cloud" will be the third most important technology by 2020.

To some, perhaps, these results are unsurprising; consider, however, that up until very recently, ideas such as the cloud and big data were considered "revolutionary" and met with walls of indifference and disdain by the very executives who now indicate their prime importance.

In a very short period of time (in business cycle terms), a sea change in thinking has occurred regarding the technologies that support well-established mature companies. A business that now tries to compete without leveraging data is fighting a battle with one arm tied behind its back. Trying to match the cost profile of next-generation insurers with the boat anchor of a self-owned legacy data center is an unenviable task. Not having world-class cyber defenses in place opens a corporation (and its executives) to almost existential levels of risk.

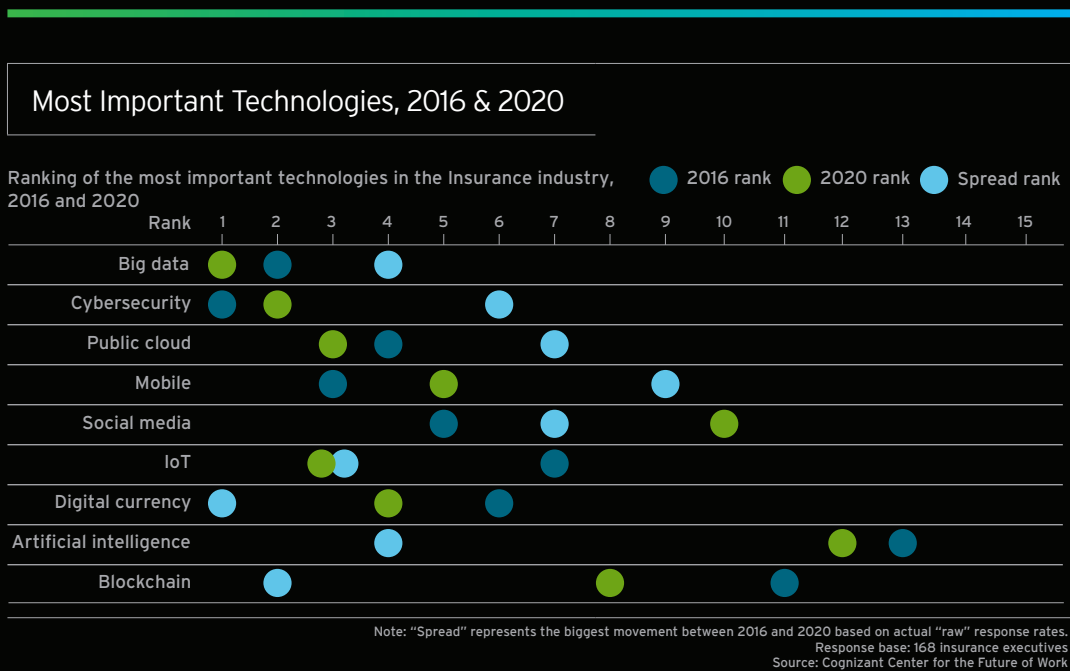


Figure 6

Not having world-class cyber defenses in place opens a corporation (and its executives) to almost existential levels of risk.

The executives surveyed for this report clearly recognize this sea change, and their attitudes reflect the new course their organizations are trying to steer. Of course, navigating toward a new direction and actually arriving there are two entirely separate things. The work ahead is full of building the new infrastructure and designing the new business models that will maximize the chance of getting to where these organizations now want to go.

Just as one wave of technology is grappled with, however, another wave follows quickly behind. Such is the story with the emerging technology blockchain. While the idea of cryptocurrencies has been gathering momentum for a number of years, skeptics, dismissive of the seriousness of these trends, felt pretty safe in believing this was a topic for the next generation of business leaders.

2016 has seen this inertia blown out of the water. Prominent “market movers” such as JPMorgan Chase and Goldman Sachs have taken steps to explore how blockchain could change client-facing transactions and back-office settlements. Both banks, among many others, are major investors in a new consortium, called R3, which is developing the underlying technology to move blockchain into the mainstream.⁸ These steps have signaled to the broader financial services markets that blockchain is something that needs to be considered carefully.

Insurers clearly see that the blockchain and digital currency dynamic is very real and likely to be very significant in the foreseeable future; these were the number one and two “movers” in the rankings between 2016 and 2025.

This is a significant finding; if, for instance, blockchain’s “distributed cloud-based ledger” is less susceptible to cyberattack (as its backers claim), then a booming and profitable element of the insurance market (i.e., cyber risk insurance) could potentially be impacted in a non-trivial way. Likewise, if blockchain can reduce the cost of transaction handling and allow insurance companies to transact or exchange sensitive data or form contracts more securely (through the widespread automation of the underlying process), then the cost advantages/disadvantages of being on the right/wrong side of this development could be game-changing.

If blockchain can reduce the cost and risk of transaction handling, then the cost advantages/disadvantages of being on the right/wrong side of this development could be game-changing.

The insurance executives in our survey have clearly “got the blockchain memo” and are motivated to further explore its potential and infuse it into their organizations - where appropriate - over the next few years.

In contrast with the enthusiasm for blockchain, respondents had little love for a series of other high-profile technologies that have been touted as potentially being very relevant to insurers. Drones, wearables and telematics all ranked very low in both the 2016 and the 2020 rankings and are clearly regarded by respondents as still on the edge of the radar. This begins to change by 2025 as they begin to move up the rankings, but even with this progression, they are still somewhat marginal.

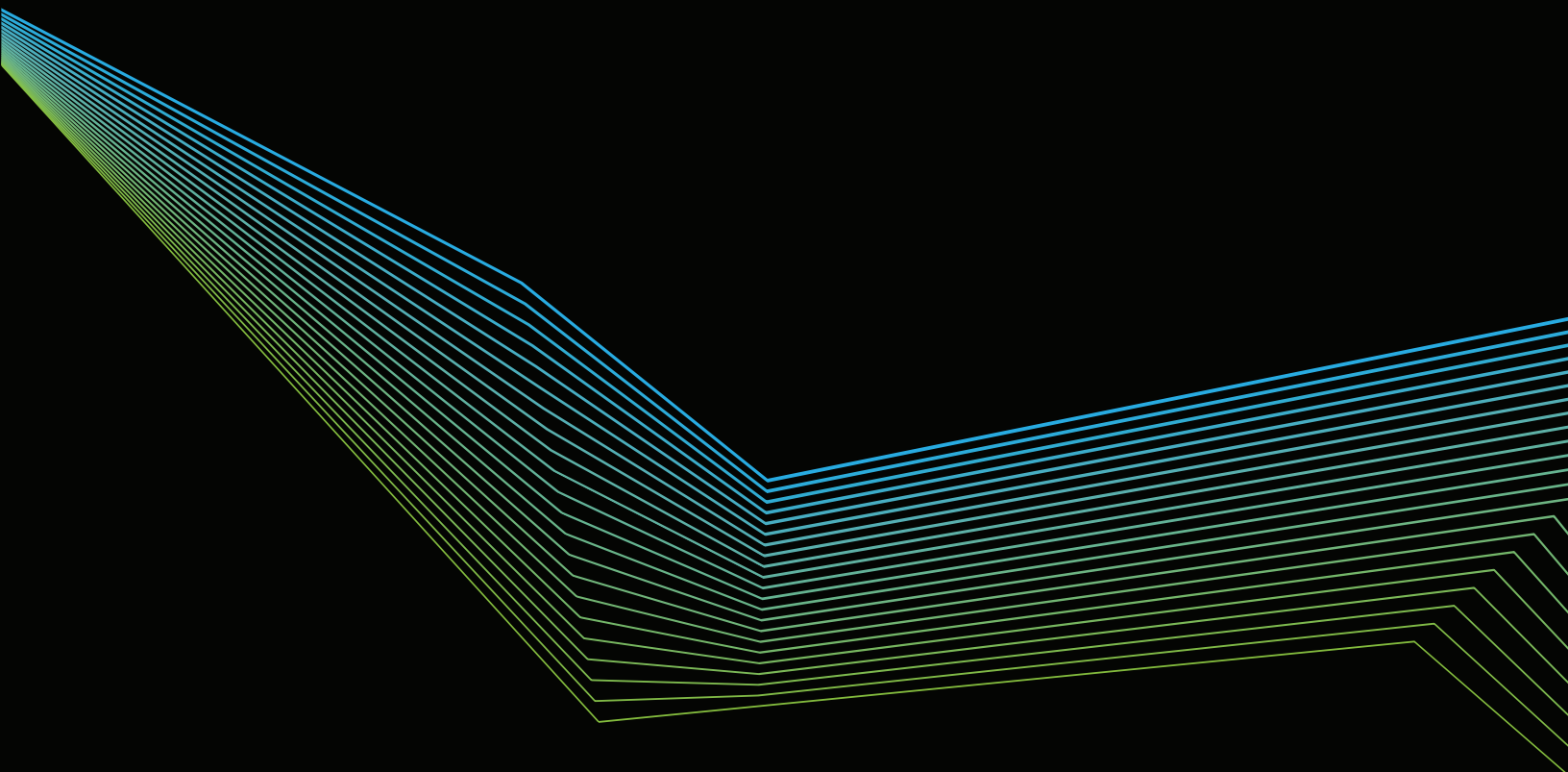
⁸ Oscar Williams-Grut, “Nine Massive Banks Just Teamed Up to Take the Technology Behind Bitcoin Mainstream,” *Business Insider*, Sept. 15, 2015, <http://www.businessinsider.in/Nine-massive-banks-justteamed-up-to-take-the-technology-behind-bitcoin-mainstream/articleshow/48977655.cms>.

This sentiment applies to autonomous vehicles as well, touted by proponents as hugely disruptive to the very nature of insurance; respondents remained unconvinced with self-driving cars, which are outside 2025's top 10 ranking list. Reports of the death of auto insurance are, it appears, greatly exaggerated. It should be noted, however, that improved technology in cars is reducing the frequency of crashes and accidents, and putting downward pressure on losses and premiums, even if a significant percentage of cars don't become autonomous by 2025.

The insurance executives in our survey have clearly “got the blockchain memo” and are motivated to further explore its potential and infuse it into their organizations - where appropriate - over the next few years.

Other technologies set to be very important for insurers in the medium to long term include telematics (for other value-added services that ensure car worthiness provided by auto insurers), Internet of Things (particularly for property monitoring services provided by P&C insurers) and drones (for risk management services provided by P&C insurers). As of early 2017, these technologies are not yet central to the work that insurance companies perform; however, as they become more important, insurance executives and their employees should look to become better at smart risk-taking (i.e., accepting small, frequent failures in order to move toward achieving the right business and operating models).

Just as important, insurers need to put in place the right people, culture and operating models to adapt and benefit from new technologies. By doing so, they can move away from a defensive posture as they become more digitally relevant.



OBSTACLES TO THE WORK AHEAD

Given the strong positive sentiment toward digital transformation - recognition of its strategic importance, an awareness of the necessary underlying tools, and appreciation of the money at stake - it is a wonder that insurance companies haven't made more material progress toward achieving large-scale change in their businesses. (Few would argue, we suspect, that insurance companies have genuinely made the types of changes that ultimately will be required.)

Clues as to this lack of progress can be found in the data presented in Figure 7 (next page). Respondents were asked to name the biggest obstacles preventing their organizations from achieving a digitally transformed state. As can be seen, the main issues included "lack of budget," data security concerns, unpredictable market conditions, return on investment, and the simple necessity of having the right people (in large enough numbers) to carry out the work ahead.

The fact remains that the challenges in managing technology-induced disruption remain as unmoved as the stone in Yosemite Valley's Half Dome. In most cases, these obstacles are similar to the ones that executives faced when transitioning from mainframes to minicomputers, from minicomputers to client/server, and from client/server to the Internet - maybe even from steam engines to oil-based combustion engines. Which goes to show, technology changes constantly, but managing change hardly changes at all.

The Biggest Hindrances to Digital Transformation

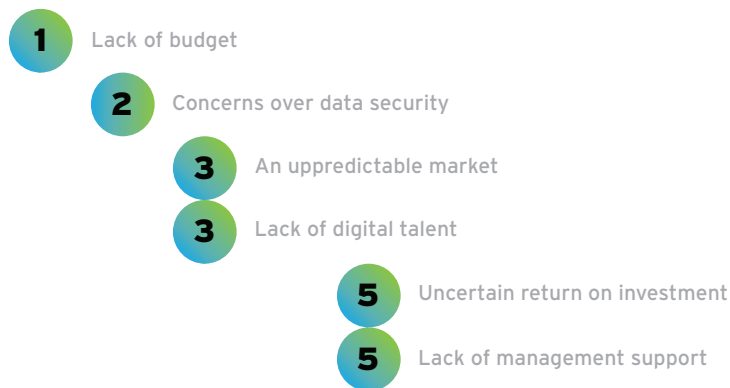


Figure 7

Response base: 168 insurance executives
Source: Cognizant Center for the Future of Work

Technology changes constantly, but managing change hardly changes at all.

So what should we make of these hurdles on the path to the digital future of insurance? Of course, none of them are trivial or inconsequential - in fact, quite the opposite. Each will require skills in maneuvering, politicking and engineering. But in our opinion, all can, and will, be overcome in due course - simply because the alternatives are too unthinkable to contemplate. In not harnessing the power of new "systems of intelligence" (i.e., AI and algorithmic-infused software) and monetizing the "oil of the 21st century" (i.e., data), a company is condemning itself to, if not death, then at a minimum a slow and steady retirement.

As we said in the master report of the Work Ahead series, there are a number of "speed bumps" on the journey to the future but no "brick walls." We already see evidence among many of our clients (and within the market at large) that budgets for purely digital projects are being regarded by senior leaders in a quite different light from non-digital initiatives. It is not uncommon now to see "traditional" IT budgets capped at a 3% to 5% growth rate, while "next-gen" IT budgets are set at a much higher figure (i.e., 20% to 30%). We think this "bi-modal"⁹ financial approach will become more normalized through 2020.

Similarly, talent shortages will be addressed through aggressive re-training, recruiting and sourcing. Further, some crucial skills will increasingly come "pre-packaged" as cloud-based services. High-end machine learning services - that, for example, corral and leverage "data lakes" - are already easily deployable from the likes of Amazon Web Services and Google with a minimum requirement for in-house staff overhead. (To learn more, read our white paper "[Semantic 'Radar' Steers Users to Strategic Insights in the Data Lake.](#)")

In short, many forces of resistance and stasis are undoubtedly at play in most major organizations today. But insurance executives cannot afford an ounce of complacency. Many uncomfortable decisions will need to be made on the path to the work ahead. Over the next three to five years, however, we expect to see many if not all of these hurdles overcome and the transition to a "software-mediated" insurance industry in full swing.

⁹ Gartner IT Glossary entry on "bimodal:" <http://www.gartner.com/it-glossary/bimodal/>.

DEALING WITH THE DIGITAL DARK SIDE

Despite their generally positive and upbeat demeanor about the possibilities and benefits of the next waves of digitization, respondents are not blind to the darker sides of digital. In fact, our research shows heightened concerns about the new world we are creating.

Figure 8 shows rankings of respondents' most significant concerns about transitioning to a more technology-determined world. Terrorism, fraud and theft stemming from the online world were the biggest threats named, followed by technology's role in compounding success and failure. Thanks in large part, no doubt, to the efforts of Edward Snowden, the government's surveillance of individual citizens was perceived as the next major concern. Rounding out the top - or bottom - five were fears that the non-stop digital experience most of us now live in may end in tears, if not for us, then perhaps for our children and grandchildren.

All of these fears and concerns stem from very legitimate places; the threat of a "digital Pearl Harbor" is very real. The massive denial of service attack that struck the U.S. in October 2016 provided evidence, if any was needed, that the techno-infrastructure that runs the modern world is more fragile than we care to admit.¹⁰ Even the largest, most sophisticated banks are struggling to win the cyber war against hackers and protect the integrity of customer accounts.

The Biggest Personal Concerns About the Shift to Digital

The five biggest obstacles to effecting digital transformation



Response base: 168 insurance executives
Source: Cognizant Center for the Future of Work

Figure 8

¹⁰ Darrell Etherington, "Large DDOS Attacks Cause Outages at Twitter, Spotify and Other Sites," Oct. 21, 2016, <https://techcrunch.com/2016/10/21/many-sites-including-twitter-and-spotify-suffering-outage/>.

The slow drip of hacked e-mails from the Hillary Clinton presidential campaign during the 2016 U.S. election illustrates how vulnerable we are to illegal intrusion; we are truly living in a “world without secrets” as Gartner analyst Richard Hunter put it in his 2002 book of the same name. Few parents can look at their children’s use of phones and social media without questioning whether we would have been better off if these wonderful, addictive things had never been invented.¹¹

It is clearly true that digital technologies do not come without cost. But t’was ever thus. Each new phase of technological-driven innovation and change has produced winners and losers, unsettled incumbents and made new heroes, threatened well-established norms and mores, and introduced the “shock of the new.” Digitization is changing our world - and our work - seemingly faster than ever, and it is understandable that amid so much uncertainty and confusion, many people feel anxious and fearful.

Each new phase of technological-driven innovation and change has produced winners and losers, unsettled incumbents and made new heroes, threatened well-established norms and mores, and introduced the “shock of the new.”

But as with the obstacles that will be overcome given time, we believe that many of these concerns will similarly be mitigated and resolved in the new few years. Our money is on the “white hats,” not the “black hats;” the “great digital build-out¹²” that will gather steam in the next few years as enterprises focus on leveraging digital technologies for “things that matter” (rather than things that are just fun) will spread opportunity far beyond Silicon Valley and the digital arms builders and dealers. Big Brother will probably loom a little smaller now that we know who he is and where he lives, and our legislators act to bring him more to heel. And we will get more comfortable with the pace of the modern world in which we browse 30 different news sites in the time it used to take us to watch the evening news.

Although the pace of digitally-induced change is at times bewildering, most people over time will adjust and adapt. And in doing so, most will find themselves living in the future they dreamed of as small children.

One final thought in passing: Perhaps all the concern expressed by survey respondents will end up being a good thing for insurers. For those worried about how to survive and thrive in the brave new world of the 21st century - with digital barbarians at the gate and decade-old certainties washed away like sandcastles in an incoming tide - extra insurance may very well be the answer! In a world of fear, consumers will look to entities and brands they trust to protect their health/property/information, and many insurance companies are in a unique position to do that.

In a world of fear, consumers will look to entities and brands they trust to protect their health/property/information, and many insurance companies are in a unique position to do that.

¹¹ Richard S. Hunter, *World Without Secrets*, Wiley, 2002, <http://amzn.to/2h9Su6h>.

¹² Curtis Franklin Jr., “Gartner: Digital Business Depends on Core IT, IoT, AI,” *InformationWeek*, Oct. 18, 2016, <http://www.informationweek.com/infrastructure/gartner-digital-business-depends-on-core-it-iot-ai/a/d-id/1327200>.

SUMMARY AND NEXT STEPS

What We Found

Insurance companies are not the digital “laggards” that some critics perceive them to be. Conversely, they’re more motivated than some other industries (namely retail). If there are hints of complacency and a “wait and see” mentality among the respondents we interviewed, they are fleeting and well-disguised. Overall, the executives we surveyed seem keen to “get on with things” and leverage the upsides of a period of momentous change.

What We Learned

Respondents have clearly “received the memo” on digital. Having watched industry after industry be disrupted by software-based platforms, they are not going to sit idly by and let the same thing happen to them. Given that insurance companies sell nothing physical, this threat is very real. Insurance is already an information-rich environment; full-scale digitization of this information is a mere half-step away.

We triangulate these findings, though, against our own perspectives – based on working with many leading insurance companies in the world – that while insurance executives appreciate the need to make digital “real” within their organizations, there is still an awfully long way to go before they can fully and confidently declare victory. There is a lot to be done. This is the work ahead.

What You Should Do About It

Digital transformation is not solely the work of the executive leadership team, nor of the “digital natives” on the bottom rung of the corporate ladder. It is the work of every single person in every single part of your organization. Ergo, you have a major role to play in making digital “real” whatever it is you do. This is your work ahead. No matter what work you do today, and plan to do tomorrow, there is a series of things that you can do – or can agitate to get done – that will optimally position your organization for the future of insurance work. They include the following;

- **Double down on the future:** Nobody can credibly argue today that digital is a drill. Only the most stubbornly contrarian would suggest that business as usual is the business of the future. Enterprises, and the executives who run them, must prioritize the actions that will make material progress toward transformation. These actions include increasing spending on digital initiatives, hiring greater numbers of people with future-ready skills and leveraging the new tools that will enhance and augment the products and services offered by the organization.

On the flip-side, it means de-prioritizing investments in non-digital initiatives, old skills and processes, and past-their-sell-by-date technologies. This is hard work; “sun-setting” the past of work means changing systems and approaches that have been fundamental to historical successes and market relevancy. But without recognizing, acknowledging and accepting that all things must pass, enterprises (and individuals within them) will find it hard to make room for what’s to come. The past will take care of itself; it is the future that needs nurturing.

- **Embrace the new machines:** Central to this need to build the future of your work is leverage of the “new machines” (i.e., AI-infused software) that are mushrooming all around us. The executives in our survey clearly see AI as moving very quickly to becoming central to how the work of insurance gets done. Despite the woe and worry about a robot-filled future in which humans are surplus to requirements, the reality is that AI is a tool that humans will use to improve their productivity and job satisfaction. Organizations that dawdle on the sidelines worrying about the philosophical implications of machine learning will be left behind, while those that take advantage of the practical, pragmatic contributions these new machines can make will succeed with the work ahead.

Only the most stubbornly contrarian would suggest that business as usual is the business of the future.

- **Make it personal:** This is perhaps the most important trend for any industry in the next 24 to 36 months. Of particular importance to insurers is the concept of “mass-personalization,” i.e., treating everyone as an individual and not simply as part of a demographic – or, in insurance terms, as part of an actuarial profile. Personalizing services, personalizing premiums, will be a great leap forward in the historical development of the insurance industry. Being part of this process (both at a companywide and individual level) will be a smart move. Building this capability will require deep and broad resources in the areas of analytics, automation and AI. Place a surfboard on any of these big waves, and you’ll be in for a thrilling ride.
- **Revitalize the core:** The technology infrastructure at many mature, well-established insurance companies is commonly in urgent need of modernizing and upgrading. Our survey respondents acknowledge the importance of the SMAC Stack and the need to embed these technologies in the core of their organizations. But while some insurers have made progress on the SMAC journey, many others have only scratched the surface of what they need to do.

Revitalizing core technology and business processes that run a business is a non-trivial undertaking. In truth, it is a program rather than a project, akin to painting the Golden Gate Bridge; i.e., the second you finish painting one end, you need to start the other. But without this constant refresh cycle, it is only too easy to fall further and further behind the competitive pace of the industry. This is particularly true when wave after wave of (significant) new technology continues to appear. Leveraging new technology on the edge of the organization is a step in the right direction, but without addressing the core, the future of work will remain tantalizingly out of reach.

The technology infrastructure at many mature, well-established insurance companies is commonly in urgent need of modernizing and upgrading.

- **Plant seeds for the future:** Our respondents are clearly focused on using technologies that have been maturing for some time (e.g., the cloud) and are now ready for prime time. They report less interest in drones and the IoT, preferring to let them gestate for a while longer. This is understandable and a wise call. However, we counsel that experimenting with the use of these unproven but immensely promising new areas is important work that needs to be done now, not at some indefinite time. Large enterprises need to have an open mind to innovations and a process for examining and testing them to ensure that when they are ready to make a genuine contribution to the business, the business is ready to adopt and use them.



A FINAL WORD

The insurance industry is set to change more in the next 10 years than it has in the last 100. The new technologies explored in this report will cause the very definition of insurance - the way in which it is created, sold and used - to morph, leaving it quite unrecognizable when our teenage children start thinking about their own insurance needs.

At the heart of this digital transformation will be data, automation and algorithms.

Insurance companies have long been “datavores,” vacuuming up ever increasing reams of information about ancestry and health and lifestyle and location to make optimal quote decisions. Now insurance providers have the opportunity to use the data we all generate from every digital interaction - our “Code Halo” - to “see us” in unprecedented ways, and to create “individualized markets.”

New SMAC technologies, along with AI and the IoT, provide a once-in-a-generation opportunity to build and leverage these “markets of me” and win on the new competitive battlefield where insurers will be playing over the next few years.

Insurance companies that can seize the opportunities to know their customers - using the new machines - will dominate for generations to come. Those that don't will join the sad roll-call of once prosperous companies that fell by the wayside.

Ensuring a future for your company and yourself is the work ahead. Better start today.

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

All company names, trade names, trademarks, trade dress, designs/logos, copyrights, images and products referenced in this white paper are the property of their respective owners. No company referenced in this white paper sponsored this white paper or the contents thereof.

Survey Methodology and Demographics

We conducted a worldwide survey between December 15, 2015, and January 28, 2016, with 2,000 executives across industries, 250 middle managers responsible for other employees, 150 MBA students at leading universities around the globe, and 50 futurists (including journalists, academics and authors). 168 insurance companies took part in the survey.

The executive respondents from insurance companies came from the following countries; 52 from the U.S. and Canada, 20 from the UK, 18 from France, 16 from Germany, 15 from Scandinavia, 12 from the Netherlands, 6 from China, 5 from Singapore, 5 from Dubai, 5 from Abu Dhabi, 4 from Japan, 4 from Australia and 2 from India.

We used telephone interviews for executives and online surveys for the managers. The MBA and futurist surveys were fielded in English using telephone interviews (in 15 countries for the MBA survey and 10 countries for the futurist surveys). The study was conducted by Roubini ThoughtLab, a leading independent macroeconomic research firm founded by renowned economist Nouriel Roubini.

For more information about the survey undertaken for this report (including the questions posed to respondents) and to explore the data collected in greater detail please visit our website, which also contains a link to the Data Navigator that enables users to configure the data along multiple lines (i.e., by country, job title, company size, etc.).

About the Authors



Ben Pring

Vice-President, Director

Benjamin.Pring@cognizant.com

CENTER FOR THE
FUTURE OF WORK

Ben leads Cognizant's Center for the Future of Work and came to Cognizant in September 2011 after spending the previous 15 years with Gartner as a senior industry analyst researching and advising on areas such as cloud computing and global sourcing. Prior to Gartner, Ben worked for a number of consulting companies, including Coopers & Lybrand. At Gartner, Ben was one of the lead analysts on all things cloud; he wrote the industry's first research notes on cloud computing (in 1997) and Salesforce.com (in 2001). He became well known in the IT industry for providing predictions of the nature and velocity of the change that would impact everyone as the paradigm shifted again and cloud computing became the foundation for the next wave of competition in global IT. Ben was also heavily involved in tracking and analyzing the emergence of IT talent from outside western markets and the impact that globalization would have on business and IT strategies for organizations of all types. Ben's expertise in helping clients see around corners, think the unthinkable and calculate the compound annual growth rate of unintended consequences has brought him to Cognizant, where his charter is to research and analyze how clients can leverage the incredibly powerful new opportunities that are being created as new technologies make computing power more pervasive, more affordable and more important than ever before. Now based near Boston, MA, Ben graduated with a degree in philosophy from Manchester University in the UK, where he grew up.



Mike Clifton

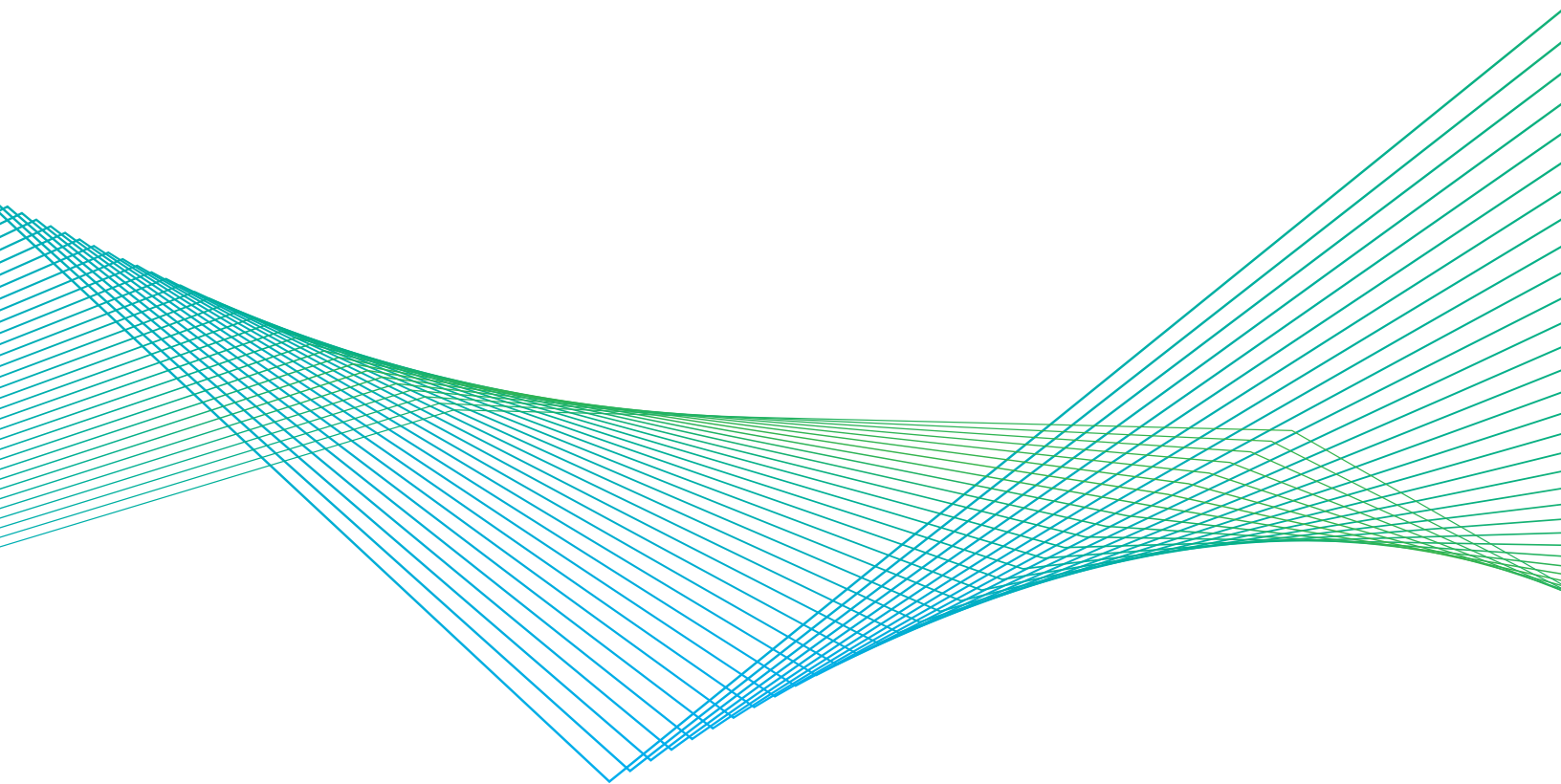
Vice-President

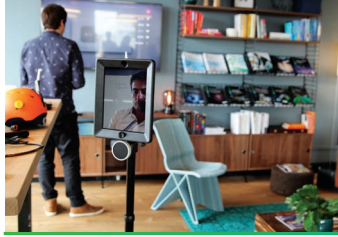
Michael.Clifton@cognizant.com

INSURANCE GLOBAL STRATEGY &
MANAGING CLIENT PARTNER

Mike leads the Emerging Business Group within Cognizant's Insurance business unit, which focuses on developing and delivering innovative solutions to market. He is known as a senior leader and strategist with broad expertise in assessing operations and business challenges, developing strategies, and delivering results.

Mike brings extensive experience in driving innovation and change for business transformation. He has a diverse background in the insurance, financial services and technology industries (software and services), focused on delivering global initiatives that align corporate targets. His specialties include IT modernization of infrastructure and legacy applications and strategy. He has worked closely with large scale and geographically-distributed workforces to enable change. Prior to Cognizant, Mike held C-level positions within the federal banking system and a global insurance provider and was a founder of numerous early stage companies.





Cognizant

Cognizant (NASDAQ: CTSH) is a leading provider of information technology, consulting, and business process 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 255,800 employees as of September 30, 2016, 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 or follow us on Twitter: Cognizant.

World

HEADQUARTERS

500 Frank W. Burr Blvd.
Teaneck, NJ 07666 USA
Phone: +1 201 801 0233
Fax: +1 201 801 0243
Toll Free: +1 888 937 3277
Email: inquiry@cognizant.com

European

HEADQUARTERS

1 Kingdom Street
Paddington Central
London W2 6BD
Phone: +44 (0) 20 7297 7600
Fax: +44 (0) 20 7121 0102
Email: infouk@cognizant.com

India Operations

HEADQUARTERS

#5/535, Old Mahabalipuram Road
Okkiyam Pettai, Thoraipakkam
Chennai, 600 096 India
Phone: +91 (0) 44 4209 6000
Fax: +91 (0) 44 4209 6060
Email: inquiryindia@cognizant.com

Singapore

HEADQUARTERS

Fuji Xerox Towers #28-02
80 Anson Road
(S)079907
Phone: +60 3 83185228
Fax: +60 3 83185228

Australia

HEADQUARTERS

Level 6
15 Williams Street,
Melbourne, Victoria 3000
Australia

© Copyright 2017, Cognizant. All rights reserved. No part of this document may be reproduced, stored in a retrieval system, transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the express written permission from Cognizant. The information contained herein is subject to change without notice. All other trademarks mentioned herein are the property of their respective owners.