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Accenture Technology Vision 2016

People First: The Primacy of People in a Digital Age

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Contents

Foreword

We are pleased to present the Accenture Technology Vision 2016, our annual view of the technology trends that will have a profound impact on enterprises for the next three to five years.

We are in the midst of a major technology revolution—specifically a digital revolution—with digital now dominating every sector of the economy. And we are seeing an important new shift as the technology revolution begins to put people first. To put it simply, as businesses become digital, their people and cultures must become digital, too.

The theme of our Accenture Technology Vision 2016, "People First: The Primacy of People in a Digital Age," looks at the competitive advantage that awaits companies that move beyond digital culture shock to create a thriving digital culture. And we look at the early adopters who are leading the way.

High performers of the future won't merely consume more technology. They will enable their people to accomplish more with technology. They will create new corporate cultures that use technology to enable people to constantly adapt and learn, create new solutions, drive change and disrupt the status quo.

The critical message from our Accenture Technology Vision 2016 is counterintuitive. While technology is the driver, it's the people, not just technology, that will transform organizations for the future. Indeed, digital culture and talent is a clear differentiator in a highly competitive business environment and an increasingly digital world.

The Accenture Technology Vision 2016 is a must-read for leaders of organizations across industries and around the world. We hope it provides relevant ideas to help you in your journey to become a digital business and guides you as you transform your business—and your people—for digital success.

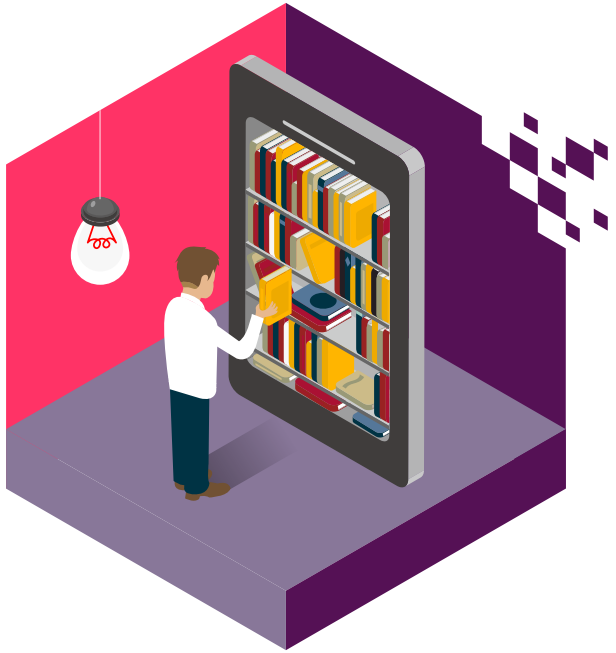
Pierre Nanterme,
Chairman and CEO

Paul Daugherty,
Chief Technology Officer

Introduction

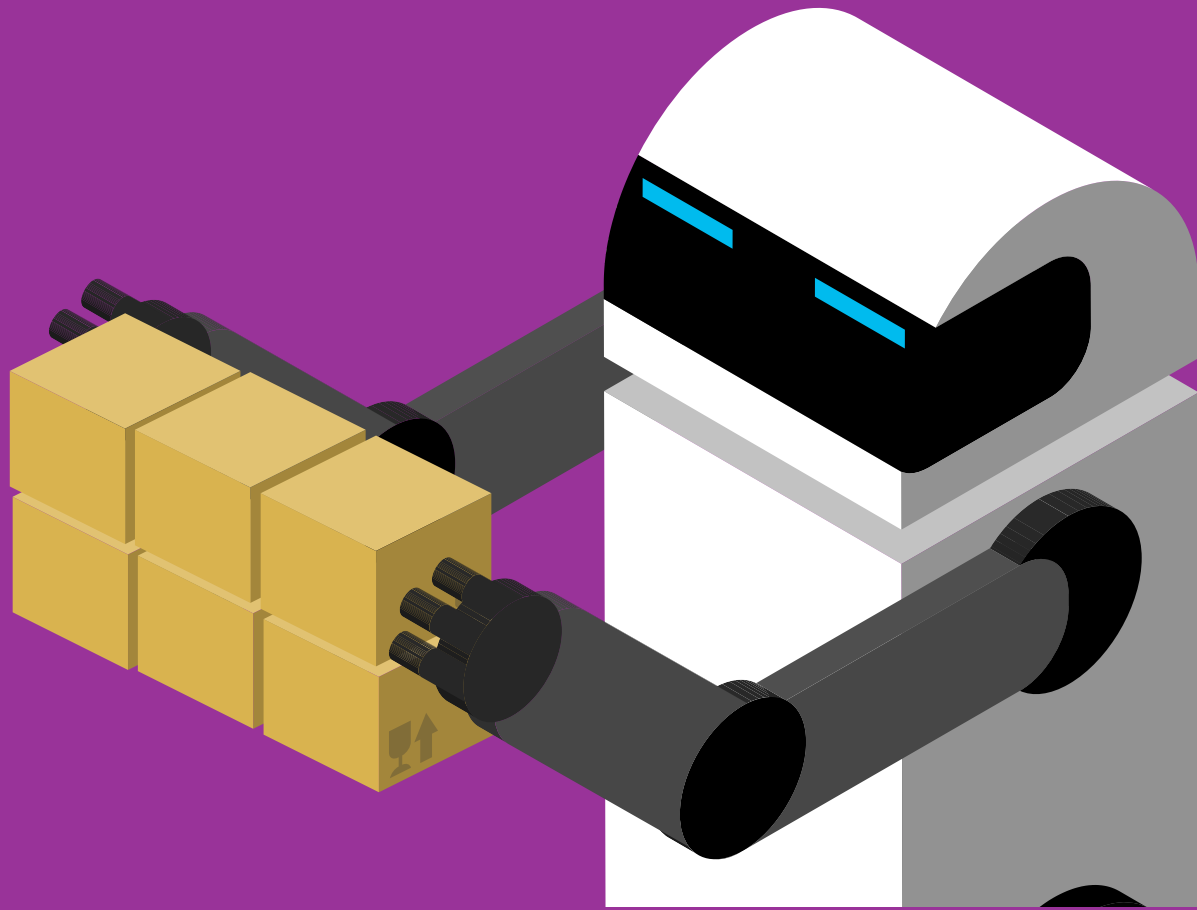
People First: The Primacy of People in a Digital Age

Winners in the digital age do much more than tick off a checklist of technology capabilities. They know their success hinges on people. The ability to understand changing customer needs and behaviors is, of course, vital. But the real deciding factor in the era of intelligence will be a company's ability to evolve its corporate culture to not only take advantage of emerging technologies, but also, critically, embrace the new business strategies that those technologies drive.



Succeeding in today's digital world is a challenge that can't be solved simply by consuming more and more technology, or, as some fear, replacing humans with technology.

Enterprises must focus on enabling people—consumers, workers and ecosystem partners—to accomplish more with technology. They will have to create a new corporate culture that looks at technology as the way to enable people to constantly adapt and learn, continually create new solutions, drive relentless change, and disrupt the status quo. In an age where the focus is locked on technology, the true leaders will, in fact, place people first.



Executive Summary

Digital Culture Shock

We are in the midst of a major technology revolution, specifically a digital revolution. Our research model and analysis shows that digital is now dominating every sector of the economy.

This global digital economy accounted for 22 percent of the world's economy in 2015. And it's rapidly growing, as we forecast those numbers to increase to 25 percent by 2020, up from 15 percent in 2005.[1]

With digital pervading everything, it's bringing with it ubiquitous and unprecedented amounts of change. There are new technologies and solutions, more data than ever before, legacy and new systems to tie together, an upsurge in collaboration (inside and outside the enterprise), new alliances, new startups…new everything. Meanwhile, out in the marketplace, digital customers are also maturing. Their dramatically transformed expectations of service, speed and personalization are just the start.

The rise of the millennial generation brings with it not just a new type of customer, but also a new kind of employee with very different outlooks and aspirations. This 'born digital' generation demands a world fashioned to its needs and new expectations about how work should be organized. Pervasive collaboration technologies are reconfiguring long-established norms of employment. The push toward freelance and portfolio careers is reshaping the workforce—how, when, and where.

These changes are no phase. Change, in fact, has become the new normal. According to our global technology survey of more than 3,100 IT and business executives, 86 percent of the executives anticipate that the pace of technology change will increase rapidly or at an unprecedented rate in their industry over the next three years. And many companies, already reeling from the impacts of technology and the changes they need to make in response, find themselves temporarily overwhelmed—some even paralyzed as they absorb the magnitude of the tasks ahead. That's understandable.

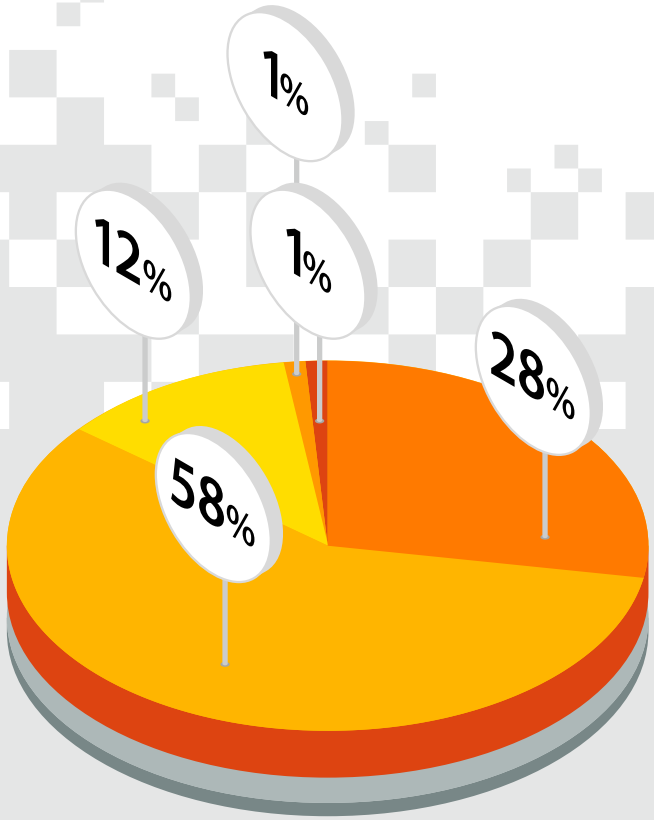
But once they've paused for breath, they'll need to start changing their products, their business models, and all of the processes that support them. They'll need to develop new skills. And they'll have to learn different, more agile ways of working across ecosystems composed of looser, partner-based collaboration. This requires a different way of looking at all the business's moving parts—and particularly its people. New ways of investing in their development, managing them and helping them adapt and embrace change are all foundational. The business is digital, so the organization, its people and its culture must now become digital too.

25% of the world's economy will be digital by 2020.

Source: Digital Economic Value Index, Accenture, January 2016

Getting past the digital culture shock that so many businesses find themselves in today sounds daunting. But fortunately there are models already available for inspiration. Not only have many large tech companies established thriving digital cultures, but there are also early adopters in other industries showing the way ahead. Virgin America, for example, is the only airline based in Silicon Valley, and it has learned to think like the disruptive tech businesses that surround it. It has experimented with everything from in-flight social networks to rethinking how to buy tickets.

The company even went so far as to collaborate with its frequent flyers: 30,000 people signed a Change.org petition to give the airline two gates at Dallas Love Field (which it was subsequently allocated). Virgin returned the favor with cash, by offering stock options to frequent flyers before the company went public. Most impressive of all, the rewards to the company have been very real: 2014 revenue of almost $1.5 billion and a $306 million initial public offering (IPO).[2]



How do you anticipate the pace of technology will change in your industry over the next three years?

- 28% say pace will increase at an unprecedented rate
- 58% say it will increase rapidly
- 12% say it will increase slowly
- 1% say it will remain the same
- 1% say it will decrease

Source: Accenture Technology Vision 2016 Survey

Pillars of the Corporate Cultural Shift

So what is a vibrant and successful digital culture built on? There are four key pillars. Enterprises will need to strive to be built for change, be data driven, embrace disruption, and be digitally risk aware.

Built for change

As perhaps the most basic of the four aspects, organizations must be built for change, which may mean changing how you operate as a company. Moving at the speed required for a digital business means developing new skills, new processes, new products, and whole new ways of working. Agile methodologies come to the fore. 'New IT' is essential, with DevOps models and practices to drive continual delivery, service-oriented architecture (SOA) and the cloud for scalability, software-as-a-service (SaaS) for efficiency, architectures built for agility, and platforms for collaboration.

The wraparound for all this is an acceptance of change by people, enterprise wide. Whatever their role, people need to expect change, understand its impact and keep pace with it by evolving and adding to their skills. Already, 37 percent of business and IT executives we surveyed report that the need to train their workforce is significantly more important today compared to three years ago. The most advanced organizations will become champions for change, harnessing the latest developments to grow and improve the business.

Data driven

As important (but still underdeveloped) is making the shift to becoming a fully data-driven organization. While much has been said over the last few years about increasing the capabilities within enterprises for using data and analytics, being truly data driven goes beyond just having better tools or even better skills. It means changing the basis for making decisions at every level of the company. Instead of relying on gut instinct, traditional experience, or even the HiPPO principle (i.e., the highest-paid person's opinion is paramount), what's needed is for data to become so pervasive and readily available that it supports insight-driven decision-making throughout the enterprise.

This doesn't just mean people using data—machines must also be equipped to harvest and act on intelligence. For shoe and apparel e-tailer Zappos, data transcends ad placements and site personalization, because they use it to make critical decisions about their customers—most notably, which are the customers they care about the most. Using a combination of their own and third-party data, Zappos' marketing analytics team unearthed two key customer segments to find and nurture. The end result is still ads, but ads targeted at the right people. And to drive this data and consumer culture home, Zappos famously offers new hires $3,000 to leave after four weeks, effectively cutting loose anyone who is not inspired by the company's obsessive customer focus.[3]

Embrace disruption

With people, at every level, driving change with new tools, new skills, and new machines, leaders will have a critical role to play. Instead of focusing primarily on efficiency gains from digital, the real frontrunners will **embrace disruption** as part of their corporate DNA, inspiring their people with a vision for how technology enables processes to be done differently—to be done better—so that the business can follow a completely new direction. As a key part of this, they'll listen carefully to people—customers, partners and employees—using technology as the channel to deepen understanding of the emerging needs, requirements and attitudes that drive disruption.

They'll create and embed strategies to underpin their success in a dynamic world. And they'll be at the forefront of reshaping their (and others') industry's boundaries—playing a lead role in the formation and coordination of existing and future ecosystems.

Take, for instance, what Samsung is doing. Samsung is pushing out a constant stream of next-generation wearables and smart appliances: refrigerators that text you when a door is left open, washing machines that use spot energy prices to determine when to run a load of laundry, robot vacuum cleaners controlled by a smartwatch or smartphone. "Imagine a world in which these appliances are connected to each other," says David Eun, a Samsung executive vice president. "What you'd have is one of the largest platforms for distributing content and services and apps—even ads."[4] Moreover, the disruption doesn't stop with Samsung's products: on the people side the company launched its C-Lab program where employees pitch ideas as part of a competition. Winners take a year or more off from their regular job to run a small team to research and develop the idea.

Digital risk awareness

Unfortunately, change at the pace we're seeing from the digital economy also creates new areas of risk. Compounding the risk is the recognition that the huge scale that gives software much of its opportunity also amplifies the potential problems. Digital businesses will encounter and create risks that traditional businesses were never exposed to: new security vectors; responsibility for consumer privacy; demand for transparent use of data; and questions around the ethical use of new technologies. In response, leaders will inherently need to take **digital trust** into consideration in everything they do. Security, privacy and digital ethics can't be reverse-engineered around a technology; instead, they must be integral to the development process from the outset.

"Imagine a world in which these appliances are connected to each other. You'd have one of the largest platforms for distributing content and services and apps—even ads."

David Eun,
Executive Vice President at Samsung

Digital Means People Too

We've come a long way in a short time. Companies no longer just serve customers; they collaborate with them. They no longer just compete with rivals; they partner with them. They're no longer limited by industry boundaries; they ignore them. The connecting tissue for all this may be digital, but the defining factor is people. And it's much, much more than a means of improving business today. Digital's power is to drive fundamental change in the status quo—whether that's the industries that companies operate in, the markets they serve or the talent they employ. However, it's increasingly clear that technology, on its own, will not be enough to propel organizations toward their new strategic objectives. Winners will create corporate cultures where technology empowers people to evolve, adapt, and drive change. In other words, the mantra for success is: 'People First.'

Technology Vision 2016 Trends: Reinventing the World Again and Again

Digital is now firmly embedded in every business. But even with technology as an integral part of the organization and its strategy, it is people who will underpin success in a world that continues to reinvent itself at an unprecedented rate.

This year's Accenture Technology Vision highlights five emerging technology trends shaping this new landscape. Although each trend starts with technology, as you read you'll see our 'People First' theme flows through each of them. Tomorrow's leaders are taking these trends on board and executing strategies to secure their clear digital advantage.

Trend 1: Intelligent Automation

Intelligent automation is the launching pad for new growth and innovation. Powered by artificial intelligence (AI), the next wave of solutions will gather unprecedented amounts of data from disparate systems and—by weaving systems, data, and people together—create solutions that fundamentally change the organization, as well as what it does and how it does it.

Trend 2: Liquid Workforce

Companies are investing in the tools and technologies they need to keep pace with constant change in the digital era. But there is typically a critical factor that is falling behind: the workforce. Companies need more than the right technology; they need to harness that technology to enable the right people to do the right things in an adaptable, change-ready, and responsive liquid workforce.

Trend 3: Platform Economy

The next wave of disruptive innovation will arise from the technology-enabled, platform-driven ecosystems now taking shape across industries. Having strategically harnessed technology to produce digital businesses, leaders are now creating the adaptable, scalable, and interconnected platform economy that underpins success in an ecosystem-based digital economy.

Trend 4: Predictable Disruption

Every business now understands the transformational power of digital. What few, though, have grasped is quite how dramatic and ongoing the changes arising from new platform-based ecosystems will be. It's not just business models that will be turned on their heads. As these ecosystems produce powerful, predictable disruption, whole industries and economic segments will be utterly redefined and reinvented.

Trend 5: Digital Trust

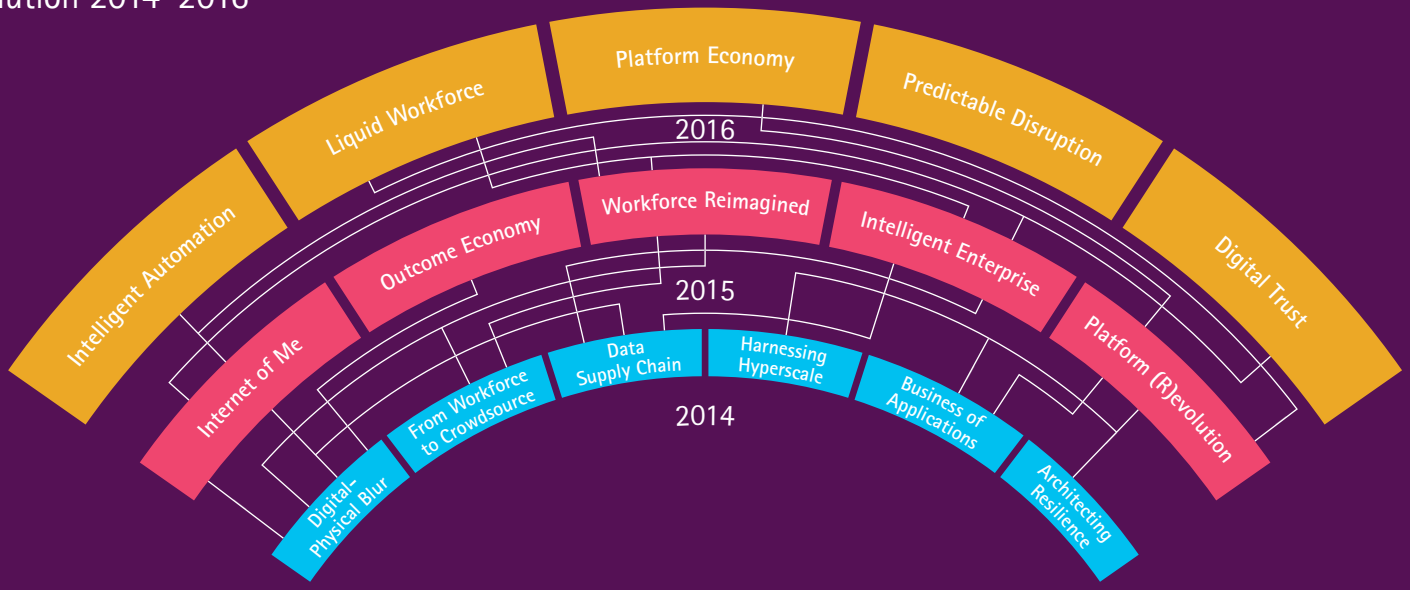
Pervasive new technologies raise potent new digital risk issues. Without trust, businesses cannot share and use the data that underpins their operations. That's why the most advanced security systems today go well beyond establishing perimeter security and incorporate a powerful commitment to the highest ethical standards for data.

Winners will create corporate cultures where technology empowers people to evolve, adapt, and drive change.

Completing the Picture

Accenture's Technology Vision comprises a three-year set of technology trends. While each year we highlight the latest trends, it's important to recognize that each trend represents just part of the picture. As enterprises continue their journey toward becoming digital businesses, they will need to keep up with the latest evolutions in technologies, and continue to master those that have been maturing. These technologies are quickly becoming the base for how enterprises build their next generation of business, as well as the catalysts for many of the trends that we discuss this year.

Technology Vision Evolution 2014–2016



The 2016 trends represent an evolution from our reports from the past two years:

Accenture Technology Vision 2015: Digital Business Era—Stretch Your Boundaries

The Internet of Me: Our World, Personalized

As everyday objects are going online, so too are experiences—creating an abundance of digital channels that reach deep into every aspect of individuals' lives. Forward-thinking businesses are changing the ways they build new applications, products, and services. To gain control over these points of access, they are creating highly personalized experiences that engage and exhilarate consumers without breaching their trust. The companies that succeed in this new 'Internet of Me' will become the next generation of household names.

The Outcome Economy: Hardware Producing Hard Results

Intelligent hardware is bridging the final gap between the digital enterprise and the physical world. As leading enterprises come face to face with the Internet of Things, they are uncovering opportunities to embed hardware and sensors in their digital toolboxes. They are using these highly connected hardware components to give customers what they really want: not more products or services, but more meaningful outcomes. These 'digital disrupters' know that getting ahead is no longer about selling things—it's about selling results. Welcome to the 'outcome economy.'

Workforce Reimagined: Collaboration at the Intersection of Humans and Machines

The push to go digital is amplifying the need for humans and machines to do more together. Advances in natural interfaces, wearable devices, and smart machines will present new opportunities for companies to empower their workers through technology. This will also bring to the surface new challenges in managing a collaborative workforce composed of both people and machines. Successful businesses will recognize the benefits of human talent and intelligent technology working side by side in collaboration—and they will embrace them both as critical members of the reimagined workforce.

Intelligent Enterprise: Huge Data, Smarter Systems—Better Business

The next level of operational excellence and the next generation of software services will each emerge from the latest gains in software intelligence. Until now, increasingly capable software has been geared to help employees make better and faster decisions. But with an influx of big data—and advances in processing power, data science, and cognitive technology—software intelligence is helping machines to make even more well-informed decisions. Business and technology leaders must now view software intelligence not as a pilot or a one-off project, but as an across-the-board functionality—one that will drive new levels of evolution and discovery, propelling innovation throughout the enterprise.

The Platform (R)evolution: Defining Ecosystems, Redefining Industries

Among the Global 2000, digital industry platforms and ecosystems are fueling the next wave of breakthrough innovation and disruptive growth. Increasingly, platform-based companies are capturing more of the digital economy's opportunities for strong growth and profitability. Rapid advances in cloud facilities and mobility not only are eliminating the technology and cost barriers associated with such platforms, but also are opening up this new playing field to enterprises across industries and geographies. In short: platform-based ecosystems are the new plane of competition.

Accenture Technology Vision 2014: Every Business is a Digital Business—From Digitally Disrupted to Digital Disrupter

Digital–Physical Blur: Extending Intelligence to the Edge

The real world is coming online, as smart objects, devices, and machines increase our insight into control over the physical world. More than just an Internet of Things, it's a new layer of connected intelligence that augments employees, automates processes, and incorporates machines into our lives. For consumers, this provides new levels of empowerment because they are highly informed and can interact and influence the way they experience everything around them. For their part, organizations now get real-time connections to the real world that allow machines as well as employees to act and react faster—and more intelligently.

From Workforce to Crowdsource: Rise of the Borderless Enterprise

Picture a workforce that extends beyond your employees—one that consists of any user connected to the internet. Cloud, social, and collaboration technologies now allow organizations to tap into vast pools of human resources across the world, many of whom are motivated to help. Channeling these efforts to drive business goals is a challenge, but the opportunity is enormous. Such an approach can give every business access to an immense, agile workforce that not only is better suited to solving some of the problems that organizations struggle with today, but in many cases will do it for free.

Data Supply Chain: Putting Information into Circulation

Yes, data technologies are evolving rapidly, but most have been adopted in piecemeal fashion. As a result, enterprise data is vastly underutilized. Data ecosystems are complex and littered with data silos, limiting the value that organizations can get out of their own data by making it difficult to get to. To truly unlock that value, companies must start treating data more as a supply chain, enabling the data to flow easily and usefully through the entire organization—and eventually throughout the organization's ecosystem of partners as well.

Harnessing Hyperscale: Hardware is Back (and never really went away)

Eclipsed by more than a decade of innovation in software, the hardware world is now a hotbed of new development as demand soars for bigger, faster, more efficient data centers. Every company will see the benefits of 'hyperscale' innovation trickle into its data center in the form of cost reduction; but as companies digitize their businesses, more and more will see these systems as essential to enabling their next wave of growth.

Business of Applications: Software as a Core Competency in the Digital World

The way we build software is changing. Mimicking the shift in the consumer world, enterprises are rapidly moving from applications to apps. Yes, there will always be big, complex enterprise software systems to support large organizations, and it will still be necessary for IT developers to keep customizing those systems, providing updates and patches, and more. But now, as organizations push for greater operational agility, there is a sharp shift toward simpler, more modular apps. The implications for IT leaders and business leaders alike: they soon have to decide not just who plays what application development role in their new digital organizations but also how to transform the nature of application development itself.

Architecting Resilience: Built to Survive Failure, the Mantra of the Nonstop Business

In the digital era, businesses are now expected to support the nonstop demands that their employees and stakeholders place on business processes, services, and systems. This shift to support ever-changing priorities has ripple effects throughout the organization, especially in the office of the chief information officer, where the need for 'always on' IT infrastructure, security, and business process economics can mean the difference between business as usual and the erosion of brand value. As a result, today's IT leaders must ensure that their systems are designed for failure rather than designed to spec.

Trend 1

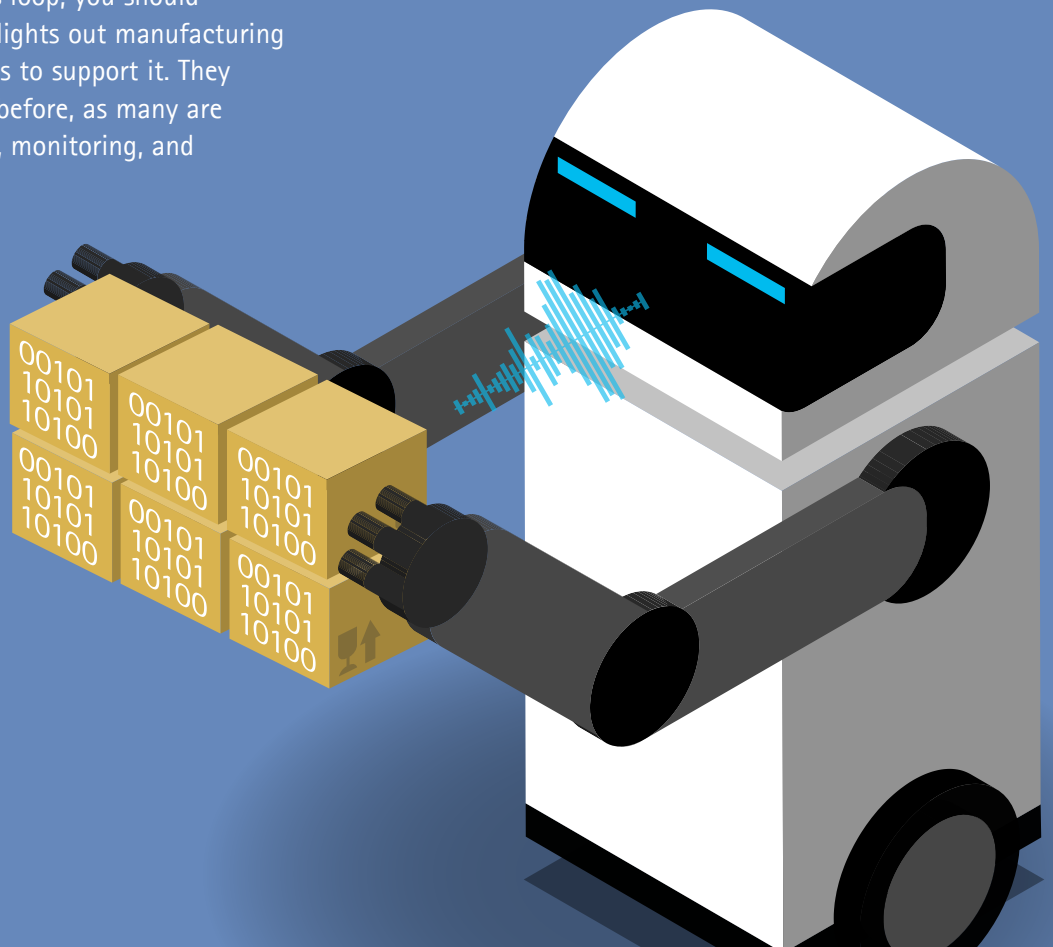
Intelligent Automation: The essential new co-worker for the digital age

Leaders will embrace automation not just to take advantage of the breakneck pace of digital change, but also to create a new digital world where they hold competitive advantage. Machines and artificial intelligence will be the newest recruits to the workforce, bringing new skills to help people do new jobs, and reinventing what's possible.

Customers at Singapore's Timbre restaurant will notice something is different. Instead of waiters carrying dishes to and from the kitchen, autonomous drones now fly dirty dishes off customer tables.[1] Visitors to Siemens' so-called 'lights out' manufacturing plant will notice a change, too, as Siemens has automated some of its production lines to the point where they can run unsupervised for several weeks.

This is intelligent automation in action today. On the surface it may appear to be a simple transfer of tasks from man to machine. But look a little closer. The real power of intelligent automation lies in its ability to fundamentally change traditional ways of operating, for businesses and individuals. These machines offer strengths and capabilities (scale, speed, and the ability to cut through complexity) that are different from—but crucially complementary to—human skills. And their increasing sophistication is invigorating the workplace, changing the rules of what's possible so that people and their new digital co-workers can together do things differently. And do different things.

Look again at Siemens' lights out manufacturing plant. While it may seem like a transfer of tasks from people to machines, for Siemens it's a step toward a larger goal of creating the fully self-organizing factory (aka Industrie 4.0). Here, machines will largely organize themselves, supply chains will automatically link themselves together, and orders will be directly converted into manufacturing information that is incorporated into the production process. This will make the industrialized manufacture of highly customizable products a reality. Before you assume that people are cut out of this loop, you should recognize that even Siemens' lights out manufacturing plant requires 1,150 employees to support it. They just have different roles than before, as many are now focused on programming, monitoring, and machine maintenance.[2]



Machines and artificial intelligence will be the newest recruits to the workforce, bringing new skills to help people do new jobs, and reinventing what's possible.

Intelligent automation is being used across multiple industries to create new value for businesses and society alike.

Natural Language Processing: Finance companies apply NLP to compliance and fraud prevention by monitoring electronic communications at financial institutions to identify relationships and entities across threads.

Knowledge Representation: Healthcare providers use a system to analyze massive amounts of data to extract useful sections, such as doctor names, costs, and number of complaints, in order to create a clean and easy way to find the root cause of declining clinic performance.

Computer Vision: Law enforcement uses computer vision on facial recognition systems to identify or verify a person from a digital image or a video frame from a video source.

Reasoning and Planning: Automated planning and scheduling, typically for execution by autonomous robots and unmanned vehicles, from warehouse to retail store to household.

Examples like these are popping up everywhere as leading organizations are driving more and more of their processes into smarter machines. Their goal is not restricted to performing the same tasks faster and more efficiently. They've understood that intelligent automation changes the rules by empowering the creation of new products and services on a scale that was previously infeasible. And they're already rethinking what they do across every area of the enterprise—from their business processes right through to the customer experiences they provide.

Far from killing jobs and creating a dehumanized future, pioneering companies are using intelligent automation to drive a new—and much more productive—relationship between people and machines. Leaders are exploiting this potential. For example, luxury retailer Moda Operandi was able to scale and improve its high-touch customer service, where stylists provide personalized recommendations and one-to-one communications with clients. By building a new personalization engine that allows a single stylist to work with up to 300 customers (compared to 50–75 previously), the company is able to offer the same luxury services to its valued clients as it does to its very top customers.[3]

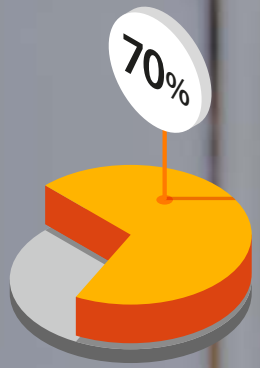
Discussions and projections about the possibilities of automation and artificial intelligence have been swirling around for decades. So why are changes like these starting to take off now? The answer lies in part simply in the increased footprint of digital technology. As more and more business processes and even objects are touched by software, the scope of what can possibly be automated has expanded exponentially. The second part of the answer lies in advances in application of AI technologies.

Fundamental Change in IT

Rather than just being looked at as an add-on, AI now represents a fundamental change in how IT systems are built. As a new foundational layer of IT architecture, an increasing number of tools are being created that allow machines to become more sophisticated in how they learn and make decisions. This means that the process of actually automating these tasks becomes much easier. Examples abound: from Google's now open-sourced image recognition software to IPsoft's AI platform, Amelia, that automates knowledge work and is able to speak to customers in more than 20 languages.

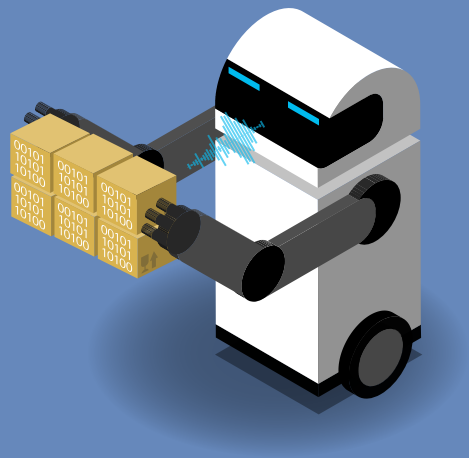
These tools, and many others like them, are making the AI industry a renewed focus of interest for investors and Global 2000 organizations alike. Funded with venture capital, AI startups in the US alone have increased 20-fold in the past four years.[4] And in our Technology Vision survey, 70 percent of corporate executives said they are making significantly more investments in AI-related technologies than two years ago, with 55 percent stating that they plan on using machine learning and embedded AI solutions like Amelia extensively.

70% of executives are making significantly more investments in artificial intelligence technologies than they did in 2013.



For all its focus, it is important to note that incorporating artificial intelligence into the business will not be a trivial task. For a start, enterprises will have to redefine both their business and IT architectures. The use of artificial intelligence at each layer means that firms will be essentially doing things differently, and that includes incorporating AI as a new and important layer in that architecture.

Technology leaders already see the amazing potential of intelligent automation and how it will inevitably pervade every aspect of business, but all enterprise leaders must also now look beyond the potential of automation to simply cut costs. The companies that will grow and dominate their industries will be those that systematically embrace automation across their organizations, using it to drive the changes to their products, services, and even business models as they continue to transform themselves and their industry.



Rapid technology advancements are opening up new possibilities for innovation, intelligence, and automation.

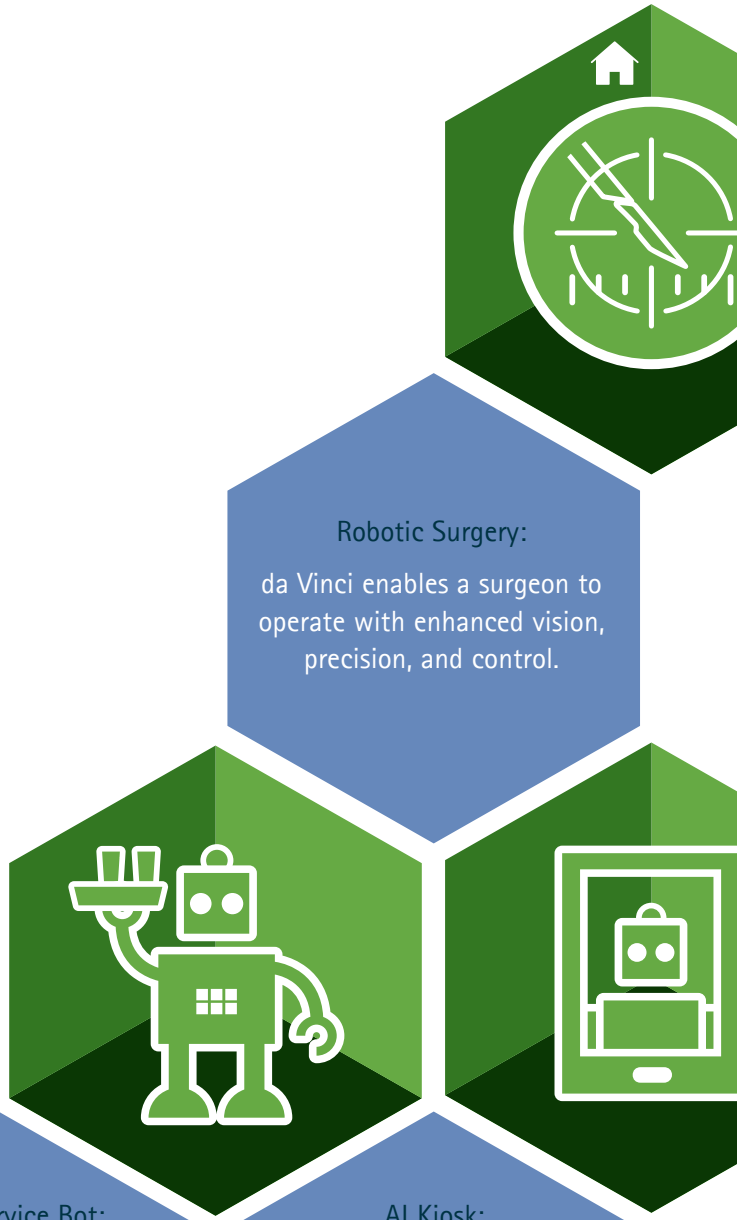
- **Unprecedented data volumes:** By 2020, there will be more than 44 zettabytes of data, 35 percent of which will be considered useful for analysis.[6]
- **Decreasing cost of storage:** Over the past 30 years, the cost per gigabyte of hard disk data storage has halved every 14 months, from $3,488,630 in 1980 to $0.03 in 2015.[7]
- **Virtually unlimited computing power:** Public cloud computing was estimated to reach almost $70 billion in 2015 worldwide.[8]
- **Advances in artificial intelligence technologies:** AI startups in the US alone have increased 20-fold in the past four years.[9]
- **Broadening IT scope:** 88 percent of executives agree the IT organization needs to broaden its scope and keep pace with evolving IT needs.[10]

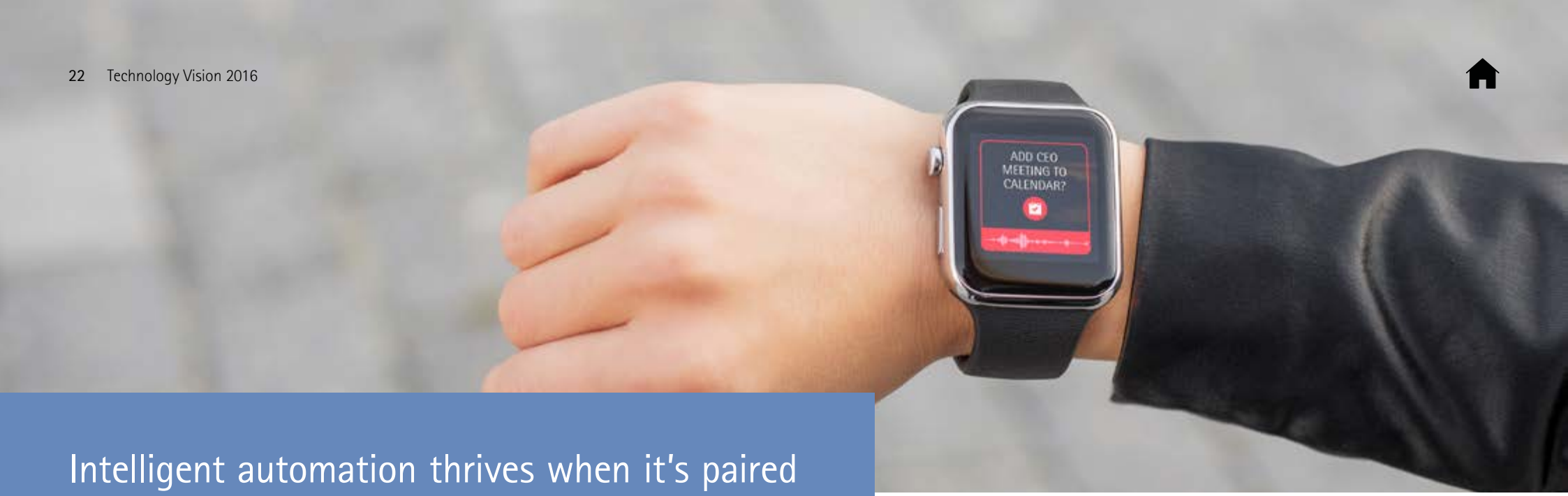
Innovate and Evolve

What will that mean in practice? Intelligent automation will enable enterprises to innovate and evolve by increasing their agility, reducing the complexity of systems and operations, accelerating their time to market, and creating the ability to experiment continually with new products and services.

For example, many pioneering companies are now deploying intelligent automation to transform their use of data. Paxata is showing data scientists where to focus their efforts by automatically finding meaningful relationships within vast data lakes. Adobe Target has automated not just the personalization of ad experiences, but the creation of experiments on those experiences to figure what features a consumer will find compelling, thereby enabling marketing executives to test their ideas without involving IT. Pointing the way ahead, Bloomsbury.ai, a London-based startup, has announced plans to release a demo enabling people with no programming skills to carry out complex data analytics.[11] Bloomsbury.ai claims that, with training, its technology could be used for everything from art creation to consumer products.

It's not just in IT systems that automation is driving real change. It's happening out in the physical world too: improving mining safety by letting men and machines work side by side in a way that takes the most dangerous tasks off the shoulders of people (e.g., intelligent 'worms' monitoring hazardous mining operations), changing the rules of e-commerce by driving ever closer to same-day delivery (e.g., 30,000 Kiva robots helping Amazon to meet rising customer demand), easing urbanites' lives with intelligent street lighting and predictive traffic control, and boosting crop yields through precision agriculture (e.g., companies such as AquaSpy and AGCO, which are already using intelligent automation to support 'digital' farming).





Intelligent automation thrives when it's paired with people to drive better outcomes.

Consumer experiences, too, across the board are set for automation. Coles Supermarkets is piloting Hiku, a countertop barcode reader, to enable its consumers to automatically order groceries from home.[12] Control4, a home automation company, has created a solution to give home owners an unprecedented amount of control by automating features in the home—from whole-house audio to a secure network of cameras to door-locking mechanisms and light and temperature controls. And when we look a little into the future, we see even more. For example, Panasonic is working on creating the so-called 'Laundroid,' a washing-machine robot that washes, dries, and folds your clothes.[13]

All these examples show not only how the pace of change is accelerating, but also the pressure that all companies are under to reinvent themselves. In fact, 82 percent of executives we surveyed agree that organizations are being increasingly pressed to reinvent themselves and evolve their business before they are disrupted from the outside or by their competitors. Intelligent automation has become a key enabler of the changes they need to make.

Businesses will only be able to manage the enormous wave of complexity that arises from pervasive digital change if they can seamlessly harness and integrate, at scale, everything that's coming their way—new products, new services, new technology tools, new business models, new alliances, new ecosystems and more. Meeting that challenge demands new skillsets and a very different workforce. And that will be made possible by the pervasive introduction of intelligent automation—the essential new co-worker for the digital age.

Predictions

Apps by Me: Consumers will be able to build simple, custom apps through voice commands, gestures and more to their devices. Soon, every person will become a programmer.

Age of Avatars: We'll see widespread use of avatars and robots who we will send to be where we can't be and do things we can't—or don't want to—do.

Key Takeaways

- Intelligent automation will give you new-found power to drive change.
- AI will become a core competence—a pervasive capability for every aspect of your business.
- Take a 'People First' approach by adapting the enterprise's organization, culture, skills, and experience to use AI.

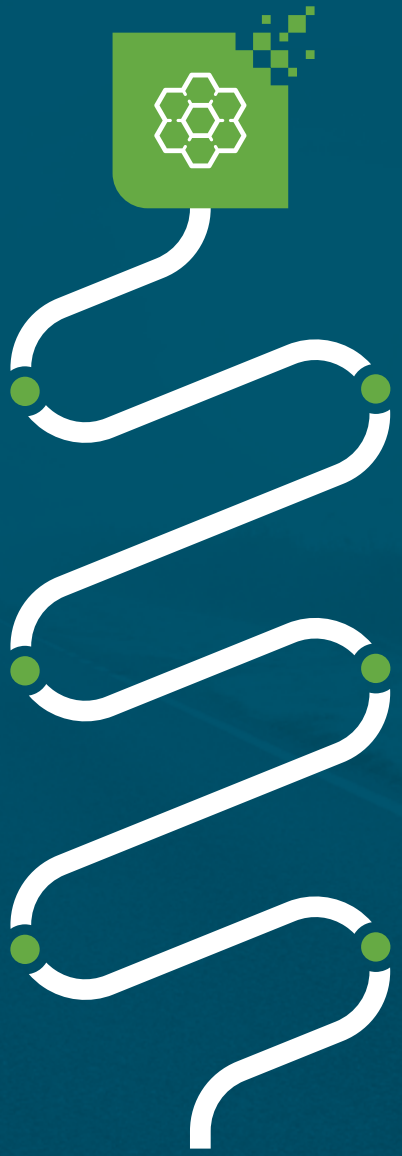
Intelligent automation isn't an option, it's mandatory. The question is whether you have the capabilities to not just use it, but also implement it across every aspect of your organization and maximize the benefits.

Intelligent Automation:

100-Day Plan

Over the next three months, develop a comprehensive understanding of the current state of intelligent automation and artificial intelligence. This should include how it is currently used in your enterprise and its optimal application in your company.

1. Identify the artificial intelligence and analytics capabilities your company uses today to provide a capabilities and gap analysis. Understand the advantages that artificial intelligence provides, from making decisions to self-evolution and discovering opportunities for innovation. How would you build your company differently to take advantage of these?



2. Take an inventory of labor-intensive business processes and identify appropriate opportunities to invest in automation and machine-learning capabilities. These can help to improve operational capabilities and scale analytics.

3. Identify specific applications that require frequent and manual updates, rapid scaling, data extracts, and/or a high degree of personalization. If an application relies on data, classify it as a top candidate for artificial intelligence, such as machine learning for self-evolution.

4. Map these examples/use cases against your current business processes and corporate strategy to prioritize specific opportunities—to catch up or gain new advantages.

5. Cultivate your data talent: develop a plan to build, buy, and/or partner to support your data and your automation know-how.

6. Map the implications of tasks being automated—the changes to roles, organization needs, processes and skills. Determine what needs to be done fundamentally differently once certain automated tasks are removed from the human side of the workforce.

7. Create a 'People First' strategy for transitioning the organization, training on new skills, and implementing the changes.

Intelligent Automation:

365-Day Plan

A year from now, enterprises should begin to infuse automated intelligence throughout their organization to spur change—by providing rule-based automation capabilities, implementing new machine-learning technologies, and evaluating the latest artificial intelligence products.

1. Review your top candidates for automation projects as determined in your 100-day plan. Implement artificial intelligence technologies that address one of these use cases. Quantify its business impact and use those cost savings to justify the next project(s).

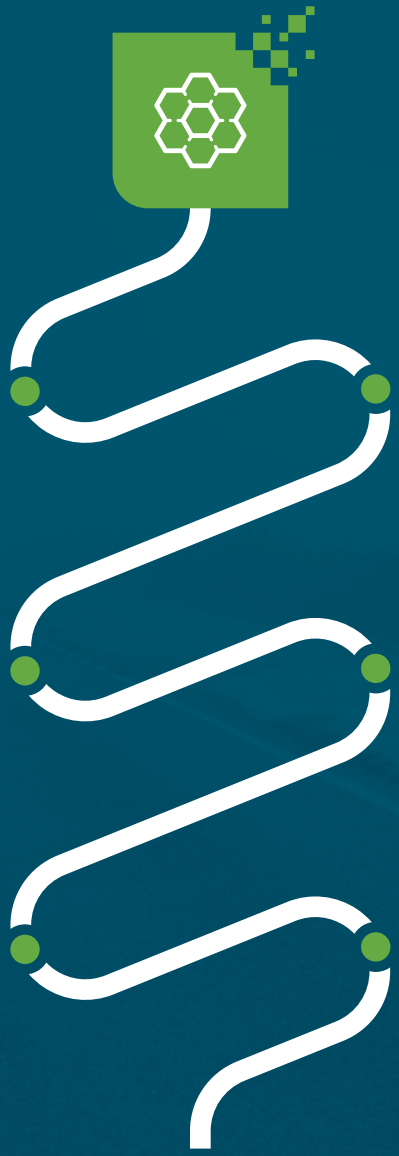
2. Create the impact and transition plans required to scale the automation project. Proper planning will enable a smooth transition, so that the workforce and processes can work well alongside the newly automated elements.

3. Develop machine-learning skills internally by implementing a machine-learning software solution that utilizes a defined data set for a very specific use case. This solution should benefit from advanced analytics, such as a personalization application.

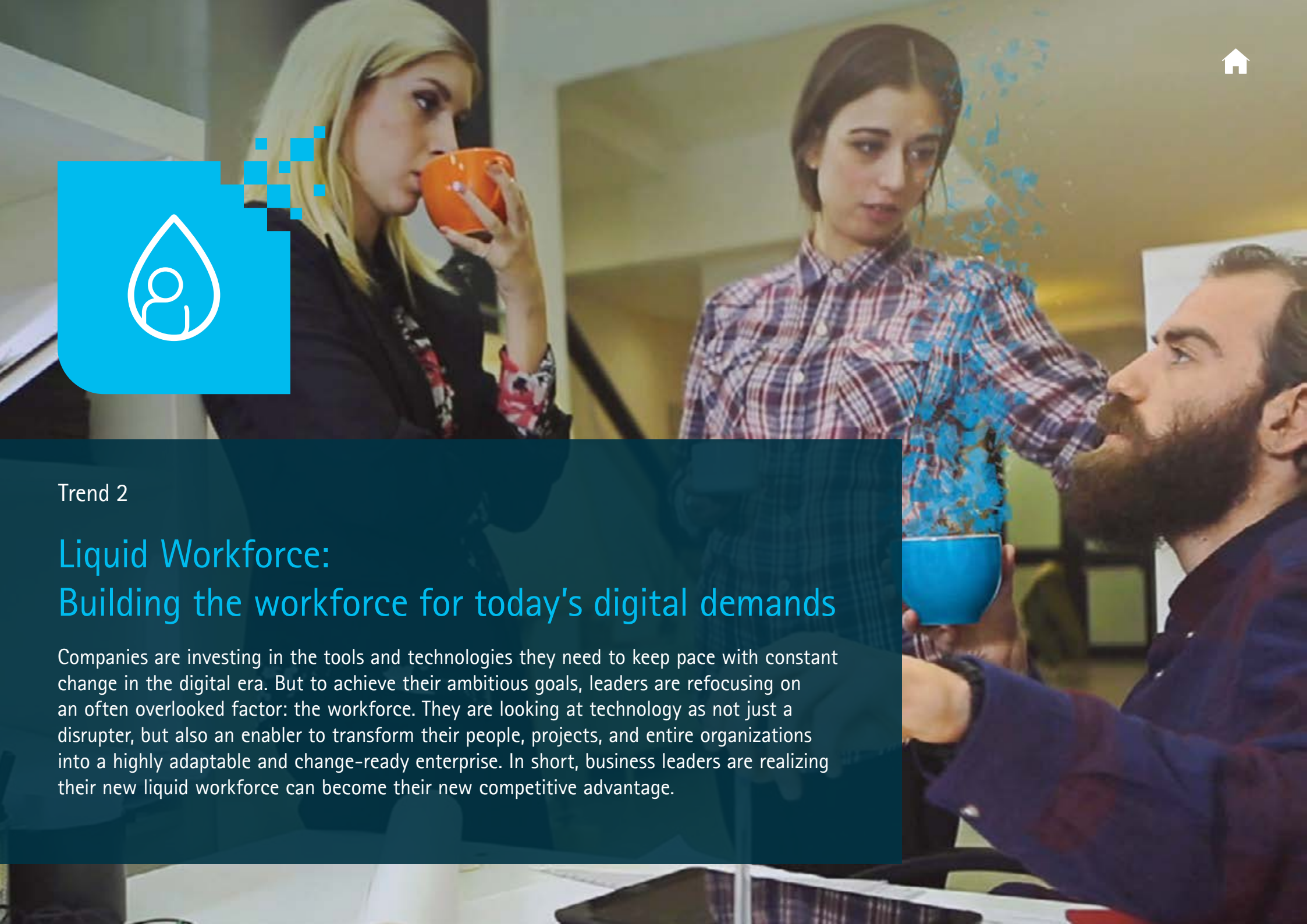
4. Pilot a machine-learning solution that discovers new data associations. Review the outcomes with an eye toward identifying new opportunities for growth and innovation, such as a new customer segment or creating a new product.

5. Review your machine-learning use cases with a questioning eye. Set up a quality assurance process to support or refute the conclusions being drawn and subsequent actions taken. Have your data scientists confirm that the datasets are complete and accurate and that the algorithms are appropriate.

6. Create a training program to ensure that your data scientists and software engineers are educated in the latest deep-learning and AI technologies, specifically in natural language processing and image recognition. Give them time to research and develop potential solutions with these new technologies.



7. Establish a top-down strategic commitment to artificial intelligence and data science, including R&D investment, innovation programs, and production development.



Trend 2

Liquid Workforce: Building the workforce for today's digital demands

Companies are investing in the tools and technologies they need to keep pace with constant change in the digital era. But to achieve their ambitious goals, leaders are refocusing on an often overlooked factor: the workforce. They are looking at technology as not just a disrupter, but also an enabler to transform their people, projects, and entire organizations into a highly adaptable and change-ready enterprise. In short, business leaders are realizing their new liquid workforce can become their new competitive advantage.

Walk through the doors of any tech startup, and you expect to find work being done differently. After all, these companies are renowned for their innovative culture, agility, and passion for reinvention. What most people don't expect is to see these same traits in traditional companies. But take a look at GE. The company is actively changing its culture from a conventional Global 2000 mindset to behaving more like a startup. Through a new approach called FastWorks, GE is embedding lean startup practices into the workforce, pushing it to change faster and make smarter decisions, while staying close to customers. It's doing away with rigid approval processes to instead allow employees to make rapid changes to their projects or quickly switch direction. And the organization bolsters the evolving demand of these projects by providing constant training that gives employees the skills they need to adapt and thrive.

GE is just one example of a wider change in how companies work today. In response to constant disruption and fast-shifting business goals, forward-thinking enterprises are reimagining their workforces. In the past, anyone—from accountants to machinists—could spend their entire careers doing the same job, using the same skills to support businesses with largely unchanging goals. But today we're seeing companies being continually pushed to change products, services, and sometimes even business models. And not just once, but constantly, as each new technology innovation emerges.

Business leaders are realizing a more liquid workforce can become their new competitive advantage

The Present

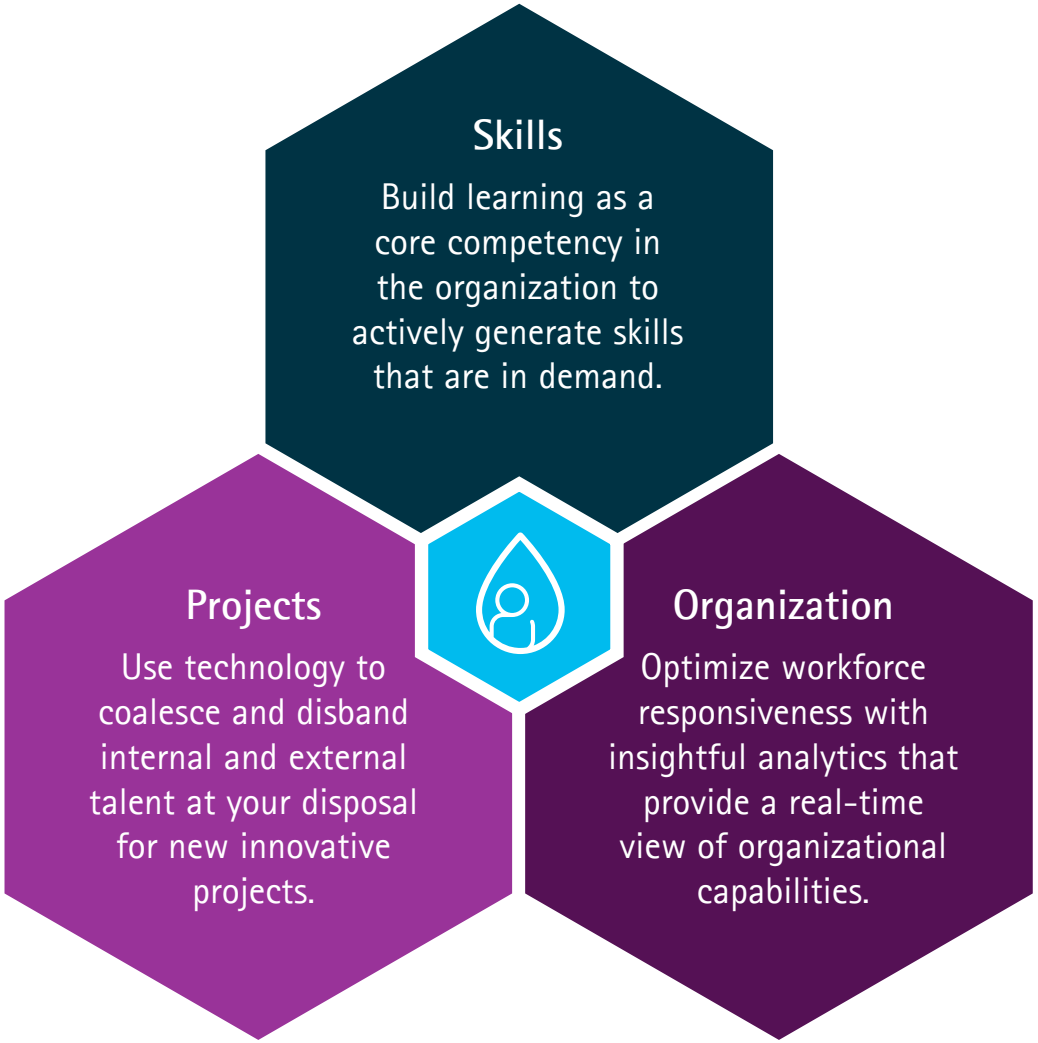
- Siloed work generally aligned by business function (engineering, sales, marketing, design, etc.).
- Training is ad-hoc, as needed for a particular tool or technology (in which the company has generally already invested).
- Fragmented workforce management tools.
- Innovation generally practiced by specific non-official groups or 'lone wolves' in the organization.
- Low levels of collaboration.

Static workforces organized around specific skills and functions.

Tomorrow: Adaptable workforces organized around projects, with embedded training.

Leading enterprises are reshaping themselves to rapidly adapt to any disruption. In essence they're creating a 'liquid workforce.' Specifically, to compete in today's market, companies must look beyond just updating skills. To drive change, they will need to become agile at each level of their business: their skills, their projects, and their organizations. By embedding the assumption of constant change enterprise wide, companies will be able to access critical skills sooner, innovate faster, and operate more effectively. This digitally powered workforce isn't just changing what businesses do; crucially, it's changing how they do it.

And it's working. GE's FastWorks methodology enabled it to build a new regulation-compliant diesel engine for ships nearly two years ahead of its competitors. Using the same approach, GE Appliances was able, in less than one year, to design and deliver a high-end refrigerator that sold twice as well as preceding models.[1]



Labor Market Shifts

Before digging deeper into how companies are shifting to a liquid workforce, it's important to understand why businesses are changing their workforce practices. Right now, core characteristics of the labor market are changing—driven in large part by technology. Digital technology has fundamentally changed every aspect of the business: strategies, processes, job functions, and business models. The workforce needs not only to adapt to meet evolving demands, but also to develop the skillsets to achieve their new goals. For example, to design for the web and mobile devices, graphic designers need to understand coding languages such as HTML5 and others.[2] Similarly, salespeople must understand the data and analytics tools that businesses use to drive growth. As a result, many enterprises are experiencing a skills gap—indeed, a recent survey reports that 38 percent of businesses globally are struggling to find the right talent.[3]

Automation

Automation is taking over more routine and manual tasks.

Rise of Freelancing

Forty-three percent of the US workforce is expected to be freelance by 2020.[5]

Pace of Innovation

New technology is constantly emerging, and the pace of adoption is faster than ever.

A New Generation

In 2015, millennials became the largest share of the workforce.[6] By 2025, that number will be 76 percent globally.

Opportunity

Worker Redistribution: Demand for jobs humans excel at (non-routine interpersonal and analytical jobs) is at an all-time high.[4] Now businesses can both retain talent and devote their human labor to fill this shortage.

Skills Economy: Companies can build new strategies to leverage the contingent workforce and quickly access a wide range of deep technical skills, and other valuable outside experience.

Continuous Training: By making training a core competency, organizations can actively develop the skills that will set them apart from competitors.

Digital Natives: With the right engagement strategy, businesses can leverage the excitement for technology, teamwork, and digital acumen of millennials to push forward on their new initiatives.

The employee pool is changing significantly as well. In 2015, millennials became the largest generation in the workforce.[7] This shift is significant for two reasons: first, because millennials will soon become the predominant source of human capital; and, second, because businesses stand to benefit greatly from the technology acumen and talent this generation (also known as 'digital natives') possesses. But the flipside is that 53 percent of business leaders are finding it hard to attract and retain millennial talent.[8] And that's worrying, as this generation is expected to account for 76 percent of the global labor pool by 2025.[9] This 'people disruption' is about much more than just a new generation of workers.

In the United States alone, it's predicted that 43 percent of the workforce (60 million people) will be freelance by 2020. That's roughly four times the number in 2015 (15.5 million).[10] It's just one more dramatic development affecting how enterprises find and deploy talent.

As these disruptions mount, enterprises are starting to react. In the Accenture Technology Vision 2016, IT and business executives reported that "deep expertise for the specialized task at hand" was only the fifth most important characteristic they required for employees to perform well in a digital work environment. Other qualities such as 'ability to quickly learn' and 'ability to multitask' or 'willingness to embrace change' ranked higher, indicating that leaders are placing a premium on candidates whom they believe will evolve with their business. Fortunately, as well as driving these workforce disruptions, technology is also at the center of creating the solutions: massive online open courses (MOOCs) for scalable training; collaboration tools such as Slack that foster collaboration; and predictive workforce analytics that allow vast organizations to make better decisions. These and other digital technologies are enabling businesses to solve their workforce challenges. The goal? To create a liquid workforce with flexibility fundamentally built into three areas: skills, projects, and the organization as a whole.

Training as a Core Competency

The emergence of every new technology creates abundant opportunities. But in order to capture them ahead of the competition, businesses need to rapidly assemble the right skills. Rather than wait for the talent they need to emerge from the market, enterprises are taking an active approach by making continual training a core competency.

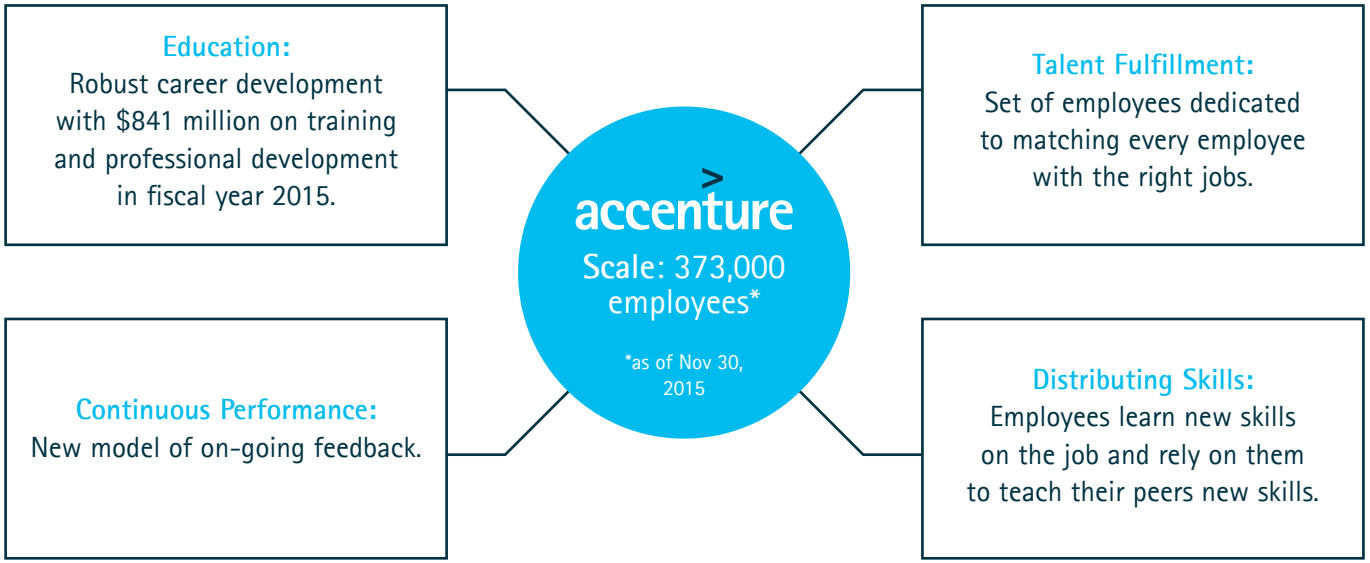
For example, digital training platforms that combine enterprise-developed learning along with MOOCs into a single curriculum are one area of major investment. Some companies, such as Unilever, Monsanto, and Citibank, are going even further. They're seizing the initiative by partnering with local bootcamps like LaunchCode and General Assembly to develop relevant curricula, and then funnel graduates directly into related work.[11] These investments are paying off: one study showed that companies that annually invest $1,500 for training for each employee see an average profit margin 24 percent higher than those that don't.[12]

But the right skills alone are not enough. Enterprises must also take a new approach to projects. Look at Adobe. Through a program called Kickbox, Adobe employees can volunteer to receive a red box with creative tools and a $1,000 prepaid credit card to fund any new projects they want to start. Several of these ideas have led to full-fledged business plans. According to Adobe's Vice President of Innovation, "Before Kickbox, Adobe may have taken a dozen or two dozen ideas from an idea phase to a mockup to put in front of customers. With Kickbox, Adobe has done almost 1,200 ideas in the last two years and done it at a lower cost than doing two ideas in the old way. So our failure rate is dramatically higher as a percentage, but our absolute innovation rate has increased dramatically."[13] Companies striving to build a similar advantage are using collaboration tools and cloud-based workflows to empower 'anytime, anywhere' working. They understand that successful projects require different combinations of internal employees, freelancers, and technology for each new challenge.

Flexible, yet Rigorous

An agile workforce will only flourish in an organization that, in the face of change, is prepared and equipped to bend and flex. And that process demands rigorous oversight. Consequently, more organizations are investing in end-to-end workforce management solutions—such as those provided by Oracle, Workday, and SAP—to deliver key insights into workforce capabilities and readiness. As they get more information about the workforce, business leaders can evolve their HR organization from its focus on people management, to one becoming an orchestrator for optimizing the organization's entire output. Xerox, for example, uses people analytics in its call centers to connect the right personalities with the right roles, effectively raising employee satisfaction while cutting hiring and retention costs.[14]

Businesses are evolving from rigid, decades-old structures to create a workforce that's built to and for change. Creating an agile workforce might sound challenging, but the rewards on offer are immense. Once organizations start to harness the power within such a workforce, they will find that they can grow smarter and faster than they ever imagined. And in the digital age, that's not just desirable—it's mission critical.



Predictions

Roles Vanish: Organization charts become obsolete, gobbled up by software. Employees change their skills and focus to achieve their personal goal which is a common outcome for the business, inventing the new.

Freelance is the Future: Within 10 years, we will see a new Global 2000 company with no full-time employees outside of the C-suite.

Key Takeaways

- Address workforce disruptions today.
- Agile workforce = Agile business.
- Start your transformation in five key ways:
  - Make training a core competency
  - Become more project oriented and agile
  - Empower collaboration and new ideas
  - Manage a distributed workforce
  - Create an organization that is built to facilitate, not impede.

The liquid workforce is rapidly becoming the new normal for how businesses organize themselves. Traditional methods cannot keep up with the pace of change in the digital age and forward-thinking businesses are already beginning to learn that their workforce strategy has the potential to be a major competitive advantage.

Liquid Workforce:

100-Day Plan

The emergence of the liquid workforce is already underway, and the time to initiate a new workforce strategy is now.

1. Perform a skills gap analysis. Have your HR organization review open roles in your company and determine high-priority roles that are remaining unfilled due to difficulty finding appropriate talent.

2. Build a strategy for expanding your organization's training capabilities. Determine what investments in facilities, technology, or people will need to be made to deliver training consistently and effectively across your workforce.

3. Create a new engagement strategy, keeping in mind what millennials demand from their employers. Develop a plan that will allow workers to contribute to projects they are passionate about, move freely through the organization, and find work that best suits native skills with digital technology.

4. Formalize your organization's approach toward engaging with freelancers and contractors. Create a clear distribution of work between long and short-term employees that plays to the strengths of each and communicate this framework with employees.

5. Pilot a new liquid project. Assign a 'stretch' project to one of your groups and grant them the autonomy and dedicated resources that allow them to accomplish their goal. Use this pilot as a foundation for developing a formal liquid project strategy.

Liquid Workforce:

365-Day Plan

A year from now, liquid workforce transformation should be well underway. Plan to drive the momentum across your organization in the following ways:

1. Put your new training strategy to work. Pick one high-need skill and pilot a new curriculum to train existing employees in that area. Use this initiative to determine which combination of training sources (e.g., bootcamps, MOOCs, personalized training) are the most effective strategies for your workers.

3. To understand where your enterprise stands to benefit most from crowdsourcing, commission three projects that each focus on a different area that the crowd is well suited to address. Use insights from these projects to sanction the use of crowdsourcing for projects across the organization that will realize the most benefit.

2. Build a plan to scale your liquid project practices across the organization. Learn from the progress of your pilot group. What were their successes and where did they find setbacks? Use this knowledge to build a plan that will allow you to push this model across your organization.

4. Integrate the use of analytics into your HR organization. Pair a team from HR with your data scientists to derive new insights from your workforce that could help with reviews, promotions, hiring, or other areas that need improvement. Use these insights to strengthen talent retention and recruiting.

5. Introduce predictive analytics to one area of your people management strategy (promotions or hiring, for example). Use your team of data scientists and HR professionals to develop a comprehensive plan for how predictive analytics could enhance existing practices.

Trend 3

Platform Economy: Technology-driven business model innovation from the outside in

Industry leaders are unleashing technology's power by developing not only new technology platforms, but also the platform-based business models and strategies they enable. But the technology changes are only the beginning.

By embracing the transformational power of platforms, enterprises across all industries are capturing new growth opportunities and changing the way they do business. And it's these new business models and the ecosystems being built around them that are driving the most profound change in the global macroeconomic environment since the Industrial Revolution. Platform ecosystems are nothing less than the foundation for new value creation in the digital economy.

Tech companies and enterprises that are born digital, such as Amazon, Google, and Alibaba, have long understood the power of digital technologies. But look a little closer. Many of these companies' most groundbreaking innovations are not products or services; they are the platforms on which these products and services are built, and the business models that these platforms enable. Such platform-based business models fundamentally change how companies can do business.

What makes these models special? They allow companies to create entire ecosystems that do much of the work to grow the company and drive strategies. The platform has become the business model that is opening up entirely new paths to growth for companies. While tech companies and the born digital have successfully mastered platform strategies, the opportunity is now opening up to every company in every industry.

Platform technology building blocks to master:

1. Foundation: Cloud services
2. Digital Glue: API strategy and architecture
3. Accelerator: Open-source and reusable software
4. Digital Treasure Chest: Mobile development platforms
5. Real-time Business Models: Driven by the Internet of Things
6. Containers: Independence and portability of software.

The unparalleled growth of the digital economy has put it on course to account for 25 percent of the world's entire economy by 2020, up from 15 percent in 2005.[1] As this growth continues unchecked, platform business models represent a fast-increasing proportion of the overall total. The rewards that this expansion offers are astounding. The top 15 public 'platform' companies already represent $2.6 trillion in market capitalization worldwide, and they're attracting this unprecedented level of capital investment through the value-creating power of their platform ecosystems and digital assets.

Largely driven by platform strategies, there are more than 140 'unicorns' with a total valuation of more than $500 billion—'unicorns' are startups with valuations of $1 billion or more based on fundraising.[2] Within five years, a core component of corporate valuations and capital markets will be based on their platform ecosystems and digital assets.[3]

Market Cap Valuations—Internet vs. Platform Companies

Internet Companies

Apple
Axel Springer
Copart
Fox Communications
IAC/InterActive Corp
iLive
iStart Internet
Live Microsystems
Netcom Online
Netscape
PSINet
RentPath
Storage Computer Corp.
Wave Corporation
Web.com

Tech Companies and Born-Digital Organizations

Alibaba
Alphabet
Amazon.com
Apple
Baidu
eBay
Facebook
JD.com
LinkedIn
Netflix
Priceline.com
Salesforce
Tencent
Twitter
Yahoo!

Market Cap of Top 15 Public Platform Companies:
$2.6 trillion

Market Cap of Private 'Unicorn' Companies:
$500 billion

TOTAL: $3+ trillion

Platform Players Abound

But it's no longer just about tech and born-digital organizations using platform strategies. Digital leaders across all industries are recognizing these opportunities for new kinds of growth and (capital) rewards.

- Having a platform strategy and the business know-how to exploit it is more important than 'owning' swan ecosystem.
- By 2018, IDC predicts that more than 50 percent of large enterprises—and more than 80 percent of enterprises with advanced digital transformation strategies—will create and/or partner with industry platforms.[4]
- IDC predicts that the number of industry clouds will reach 500 or more by 2018, up from today's 100-plus.[5]

Companies with emerging platform strategies include Fiat (connected car), Kaiser Permanente (digital health), Disney (MagicBands), Caterpillar (connected machines), Schneider Electric (smart cities, buildings, and homes), Walgreens (retail pharmacy), Goldman Sachs (customer analytics), Bank of New York Mellon (financial services), McCormick/Vivanda (FlavorPrint), Houghton Mifflin Harcourt (education)—and the list goes on.

In fact, many leaders are accelerating their uptake of digital technologies and cloud foundations as a crucial first step in breaking into the platform world. Medical equipment maker Philips Healthcare is one of these leaders.

The company is placing a major strategic technology bet on a platform business model by launching the Philips HealthSuite platform with three different cloud partners: Salesforce, Amazon AWS IoT, and Alibaba AliCloud. Providing unprecedented scale, speed, and global reach, the cloud is the technological and economic foundation for unleashing Philips' market opportunities, from patient management to data collection to consumer and home devices.

40% believe adopting a platform-based business model and engaging in ecosystems of digital partners are very critical to their business success.

Philips has a bold vision to reinvent healthcare. With its three cloud partners, it will be able to rapidly scale up to hundreds of millions of patients, devices, and sensors processing an endless flow of data to tackle the bigger global challenges of the industry—from the hospital to the home.

This platform approach will support an entire ecosystem of interconnected patients, providers, and partners. Not only does Philips' vision aim to improve the quality and cost of patient care, but it also provides the company with new paths to growth and an integrated approach that will generate higher margins. Its goal is to grow market share across the continuum of healthcare needs, from healthy living, prevention and diagnosis, to treatment, recovery, and home care. Collectively, this is an addressable market whose combined value exceeds $100 billion.[6]

With their new platform-based business models, companies such as Philips are changing how they do business. The new business rules of the platform economy, which include network effects, distribution power law, and asymmetric competition are providing different paths to growth. Based on these platform rules, digital leaders are designing and optimizing platform ecosystems that scale exponentially without incurring the diminishing returns typically associated with traditional business models.

82% believe platforms will be the 'glue' that brings organizations together in the digital economy.

Platform Business Model

Powered externally from the outside in, these technology-driven business models are based on platforms that create value within and across the new ecosystems. And they are redefining the future of industries.

Three New Rules of the Platform Business

1. Network Effects/Two-Sided Market: Exists when two user groups (typically, producer and consumer) generate network value for each other, resulting in mutual benefits that drive demand-side economies of scale. The network effects of platforms, with more connected users and transactions, drive value creation and scale.

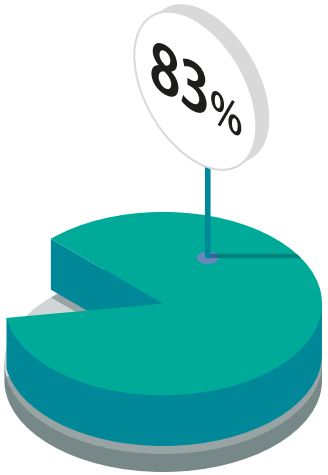
2. Distribution Power Law: Relates to platform business models that enable scale by allowing others to generate profits in the 'long tail' of the distribution curve—avoiding diminishing returns associated with traditional (linear) value chain models.

3. Asymmetric Growth and Competition: Based on driving the demand of a core market through complementary markets, which are often subsidized (or free) to users and which cross industry lines. Asymmetric competition exists when two companies go after market opportunities with very different approaches and resources.

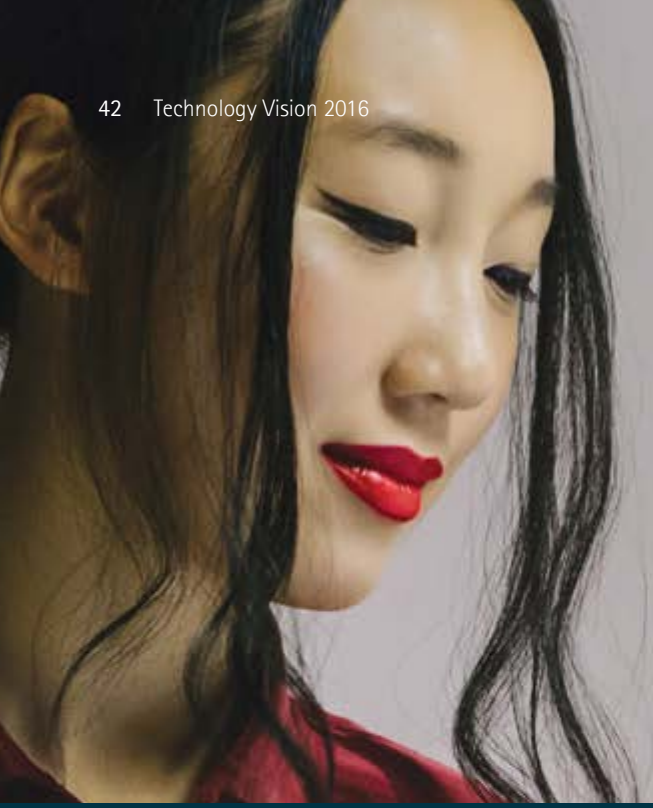
Macroeconomic Shifts

Demand-side economies of scale (also called 'network effects'): Represent a major economic shift from the traditional supply-side value chain model of optimizing the supply chain and creating barriers to entry by controlling or owning resources and assets. Demand-side economies of scale are based on the network effects of two-sided markets, where value is created in platform ecosystems of stakeholders (customers, partners, developers, and others).

Prior to the internet, demand-side economies of scale or network effects did not play a significant role in the economy because of the resource and technical challenges of creating networked business environments. The main exception was the development of telephone networks—the value of the system increased with the mass adoption of phones.



Of the executives we surveyed, 83% believe the digital economy is driving a major shift in power from the supply-side economies of scale to demand-side economies based on the power of ecosystems of customers, partners, developers, and other stakeholders.



Network Effects

This decisive economic shift—from supply-side to demand-side economies of scale (also called 'network effects')—represents the combined impacts of the internet, digital technologies, and platforms. Put another way, the demand-side model means companies can create value by tapping into resources and capacity that they don't have to own. Apple has mastered the demand-side economies of scale with the iOS App Store. Launched in 2008, the iOS App Store includes an ecosystem of nearly 380,000 developers that have created 1.5 million applications that have been downloaded more than 100 billion times and have generated $33 billion in sales by the end of Apple's fiscal year 2015.[7] Based on Apple's 70/30 split with developers, the App Store has generated $10 billion for the company. Apple is successfully harvesting the resources of the ecosystem—resources it does not need to own.

Traditional Value Chain Business Models

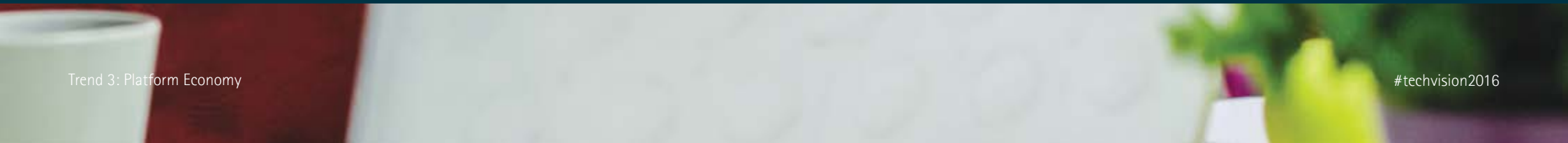
Value creation is linear and one-way

Platform-Driven Business Models

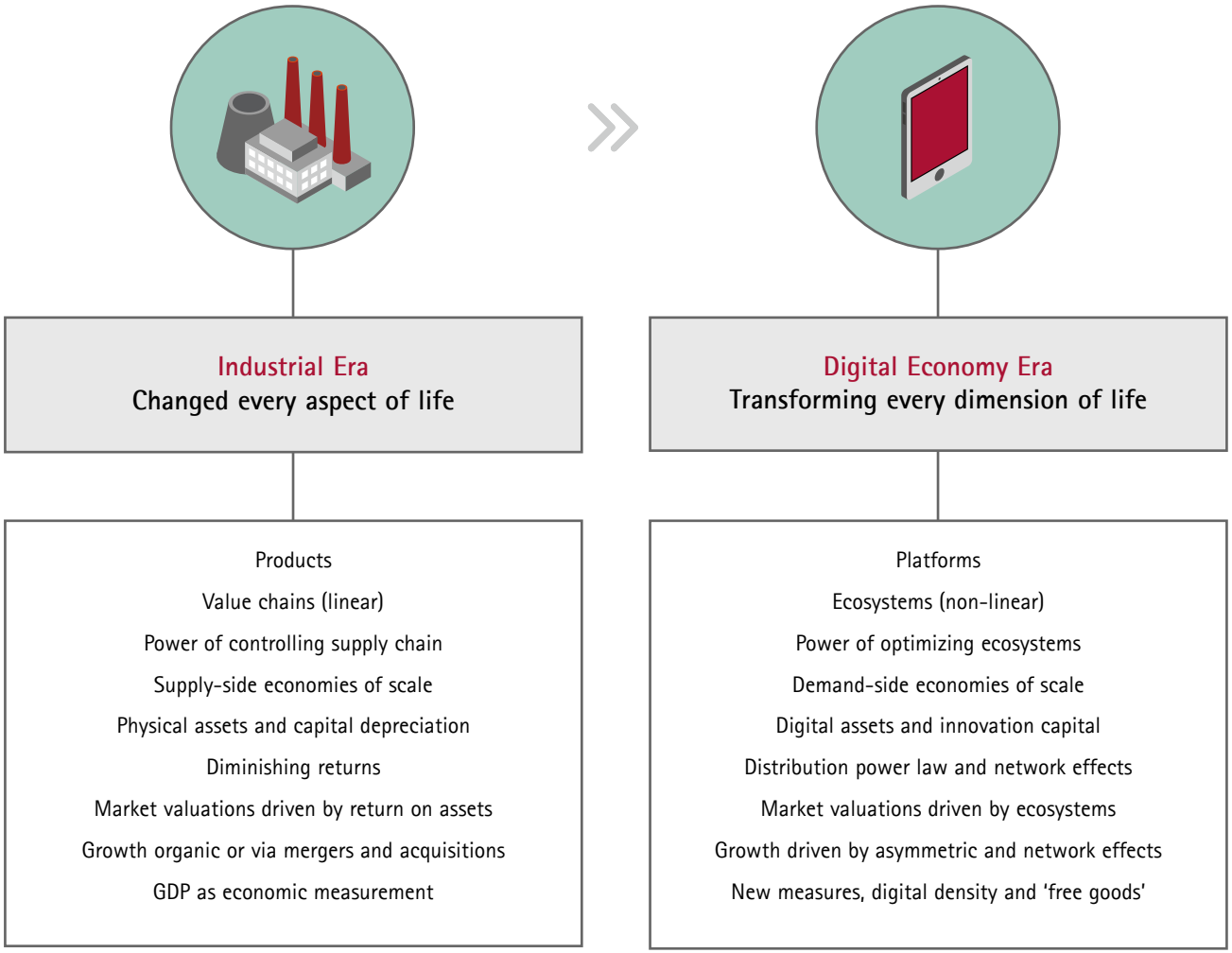
Value creation is two-way and continuous

"Platforms beat products every time."

Marshall Van Alstyne, MIT Initiative on the Digital Economy
Co-author, "Platform Revolution" (to be released March 2016)



Macroeconomic Transformation—Platform Economy

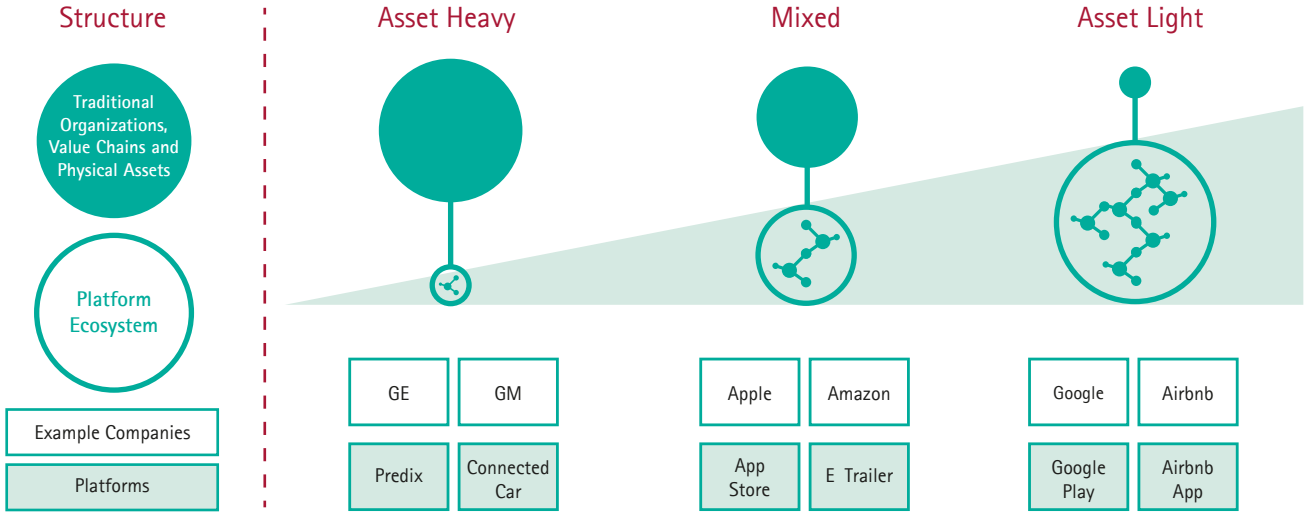


It is important to note that although platform business models are driving a major macroeconomic shift, adopting them does not mean giving up on existing business (value chain) models. In fact, they will often provide the new platform's foundational strength. After all, at its core, Philips is still in the business of making medical devices.

Platform ecosystems play a strategic role in all types of businesses: asset heavy like GE and Philips, asset light like Google and Uber, or those like Apple and Amazon that have powerful platform ecosystems combined with asset-driven businesses. Whether a company 'owns' a platform ecosystem or is plugging into another's, what matters is having a platform strategy and the business know-how to exploit it. Progress will start from a clear understanding of those parts of the business that are prime for platform business models, and those that are most vulnerable to unforeseen attacks from other platforms.

From Asset Heavy to Asset Light, and Every Variation In Between

The most powerful platform ecosystems of the digital economy will emerge from global (asset heavy) conglomerates that not only embrace digital transformation of their organizations, but also learn how to unleash the power of platform ecosystems. They can do this through foundational physical assets and knowledge of their industry and the cross-over effect to other industries.



Capturing growth in the digital economy with platform business models

We're just at the beginning of a major technology-driven macroeconomic shift. It will disrupt the competitive strategies and business models of all companies—from large incumbents to nimble startups, from asset heavy to asset light. Every company will need a platform strategy, even if it's just finding the right role in ecosystems driven by other companies or simply taking a defensive position.

They will need such a strategy not just to grow, but also to protect the profitability of their core business from new forms of platform-driven (asymmetric) competition.

To survive and thrive in this new arena, companies of all types must redefine their roles and goals, and embrace the new rules of business. Winners will master the strategic use of digital technologies to build successful platform business models. Losers will miss their chance.

With the aim of becoming the next tech giants, digital champions across all industries are writing the next chapter of the digital economy, and the time has now come to be a part of the story or become another footnote in the history of disruption.

Prediction

Immersive becomes Pervasive: Businesses go beyond AR, VR and MR to create platforms on which customers, employees and partners can experience all the five senses—together—in any environment they choose. This leads to the early stage of dematerialization where people can be present virtually anywhere in the world at any time and meet with their friends.

Key Takeaways

- Driven by the new rules of business, platform business models represent the most profound disruptive change in the global macroeconomic environment since the Industrial Revolution.
- While tech and born-digital organizations have been dominating the digital economy with record-high market caps, non-tech digital leaders across all industries are developing platform strategies now.
- The strategic use of technologies to create platform business models is driving unprecedented growth opportunities in the rapidly expanding digital economy.

Platform Economy:

100-Day Plan

Over the next three months, begin to develop a comprehensive strategy that will establish the foundation for your platform business model and ecosystem.

1. Appoint a C-level champion to lead a cross-functional team of technologists, business experts, and economists. This team should assess the range of opportunities to build platform business models, and prepare a presentation to the board of directors.

2. Identify and prioritize parts of the business that are prime for platform business models.

3. Identify the parts of the business that are most vulnerable to attack by disruption from new platform-based business models (from incumbents and startups inside and outside the industry). Use the results to help prioritize platform investments in order to protect core profits from attack.

4. Align the platform opportunities alongside existing product and market strategies (platform business models live alongside traditional product strategies).

5. Present initial findings to the Board and establish a top-down, C-level enterprise-wide commitment to pursuing platform business models as a strategic growth path.

6. Assess your knowledge gaps of the new rules of business: demand-side economies of scale, network effects, distribution power law and asymmetric competition. Get help filling those gaps in order to successfully develop platform business models. Start building a knowledge base and education program on platform business models.

7. Launch a company-wide campaign on the new rules of business and platform business models. Create a network of internal platform champions to evangelize the message.

8. Assess your digital technology capabilities and gaps in building platform ecosystems. Get help filling those gaps in order to successfully design, architect, and launch pilot programs within 12 months.

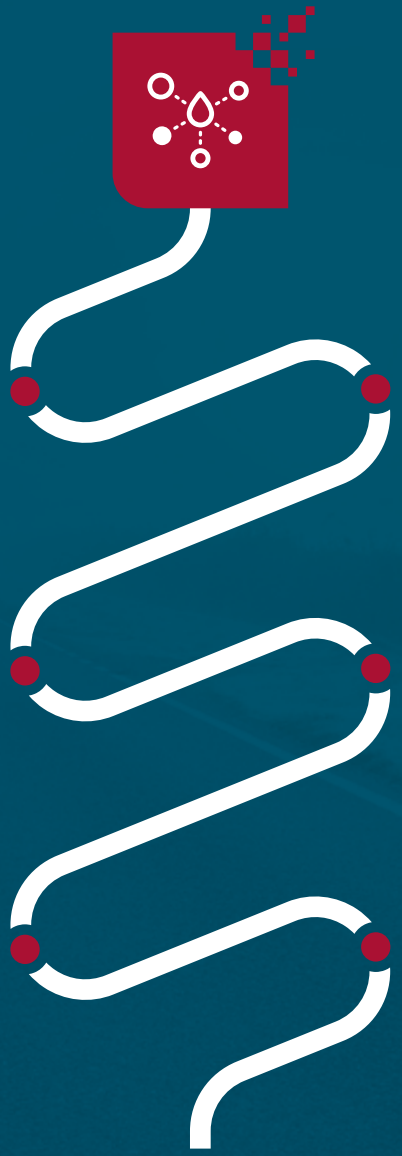
9. Prioritize the overall opportunities and threats, and then start with a small initiative to pilot, including internal initiatives to start the journey into platform business models.

Platform Economy:

365-Day Plan

A year from now, leadership should have a comprehensive understanding of the new rules of business, have developed a platform business model strategy, and launched a small pilot program.

1. Finalize plans to launch the initial pilot to work with a cloud partner to build a platform around one of the most information-intensive parts of the business.



2. Formalize agreements with the cloud partner that will be building the foundation of the platform.

3. Develop a multi-phase plan to transform parts of the business to platform business models.

4. Identify platform opportunities inside and outside your industry based on your executive training programs and platform knowledge base.

5. Establish a formal governance plan and organization to manage digital partnerships and developer communities in order to optimize the value of the platform ecosystem.

6. Formalize an approach to track and report on platform growth opportunities, relevant ecosystems, and competitive threats from both inside and outside the industry.

7. Communicate the vision of where your company fits in an economy without industry sector segmentation and with boundary-less competition.

Trend 4

Predictable Disruption: Looking to digital ecosystems for the next waves of change

Fast-emerging digital ecosystems—think precision agriculture, the industrial internet or smart cities—create the foundation for the next big wave of enterprise disruption.

Digital ecosystems like these, and the businesses that power them, are already straddling markets and blurring industry boundaries. The threat they pose? Unexpected new competitors seizing advantage.

The opportunity? Unlike previous technology disruptions that were often unpredictable, enterprises now have a line of sight to track growing ecosystems' trajectories and anticipate their impacts. Forward-thinking leaders can get ahead of the game, develop their ecosystem strategies, and ride the results into new markets. But they must start now.

Across industries, leading enterprises are starting to make big investments in building digital platforms. As they do, they're uncovering exciting growth opportunities that fundamentally change how they create and deliver products and services as outlined in our Platform Economy trend. But these technology platforms and the new business models they drive are only part of the story. As more companies build or partner in industry platforms, new digital ecosystems are growing around them. These digital ecosystems will become the foundation for the next major stage of technology and economic disruption.

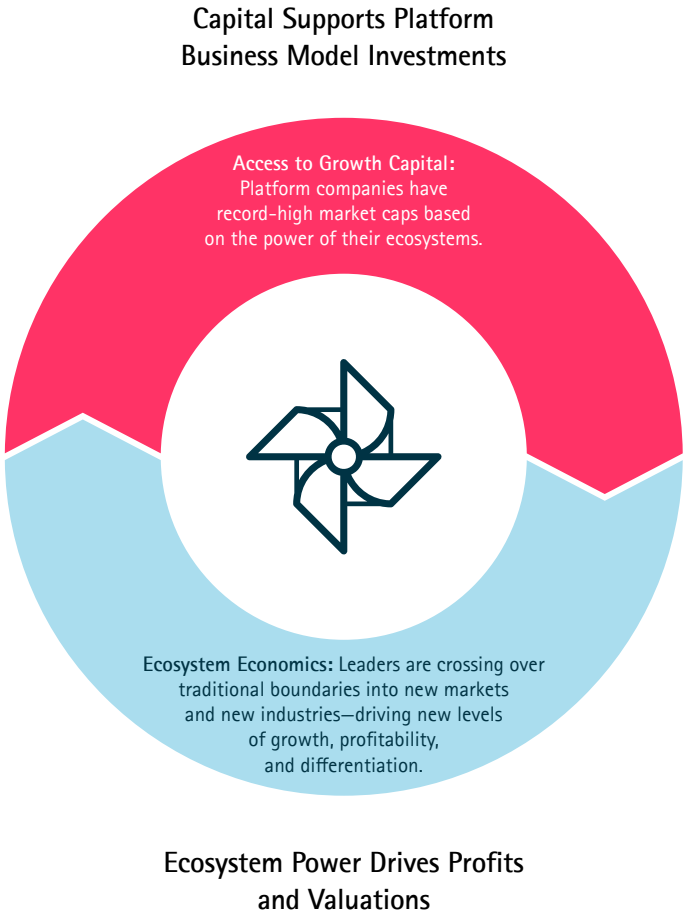
82% of executives say industry boundaries are being erased, and new paradigms are emerging for every industry.

How are we seeing this play out today? Look at the automotive industry. Every major manufacturer is building 'connected' cars that are transforming business model opportunities—that's the platform. As a result, the technology in the connected cars is fueling a rich ecosystem that is becoming one of the next major hubs of innovation. Now, companies across industries are joining the ecosystem to offer digital services and capabilities such as mobile hot spots, remote diagnostics, safety and security, infotainment, variable insurance, car sharing, and much more. This digital ecosystem is redefining what automakers do. Rather than just building cars, they're engaging with customers throughout the vehicle lifecycle, directly managing software upgrades, diagnostics, and safety.

But, the changes that are being driven aren't limited to the industries that these platforms start in. As the ecosystem matures around such platforms, it is becoming the foundation for far more widespread disruption. But unlike technology revolutions of past eras, the disruptive forces of ecosystems can be predicted with a fairly high level of certainty. Using the power of their industry knowledge, companies can map out ecosystem scenarios—unveiling the disruptive opportunities and threats.

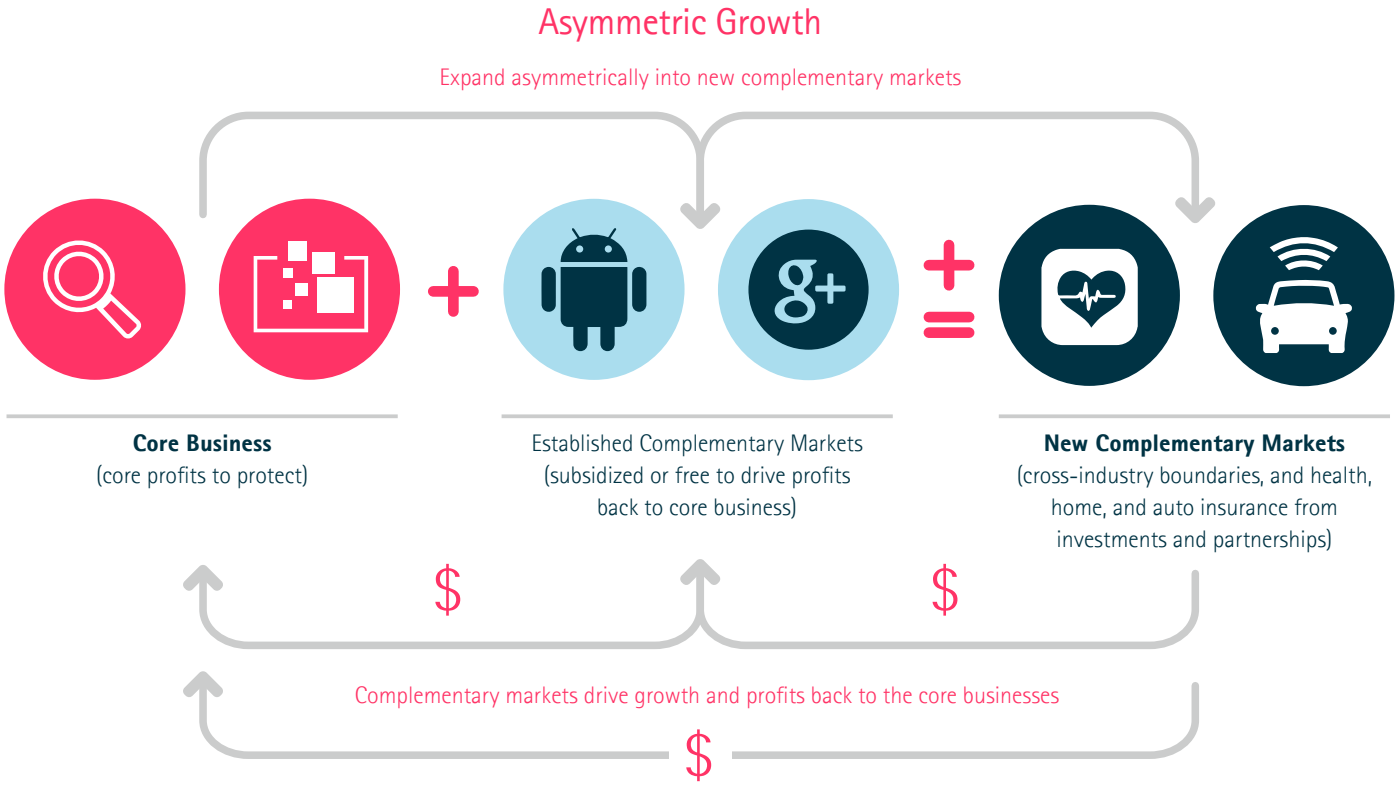
Looking again at the automotive example, we can see that telematics data from a growing ecosystem of connected vehicles is transforming the way businesses optimize their supply chains—reinventing logistics and reducing costs with real-time asset tracking and precise delivery. It's also becoming an integral piece of smart cities—enabling local governments to start developing advanced services, from smart traffic monitoring to road planning and energy management.

Platform businesses are dominating the digital economy with record-high market caps, and growing asymmetrically by crossing over traditional into entirely new markets.



Similarly, in the insurance industry, pulling down driving data from connected car platforms has enabled new services such as pay-per-mile insurance with newcomers like Google and Metromile to challenge the industry status quo. With driverless cars becoming a reality within just a few short years, pay-per-mile is providing a glimpse into the imminent disruption of consumer transportation. Furthermore, Tesla is starting off by offering cars with autopilot, and Google wants to go full throttle in launching driverless cars without steering wheels and gas pedals. But both technologies are posing even tougher questions for regulators and insurers—for instance, who is at fault when two autonomous cars hit each other? Does personal auto insurance even exist for autonomous vehicles?

As these examples show, the disruptive nature of these new digital ecosystems is not bound by traditional industry barriers. As every industry becomes digital, an ecosystem forming in one sector can rapidly become the foundation for disruptions in another. Take Uber, for example. The company started by building a mobile device platform to create an ecosystem of connected cars and drivers that disrupted the taxi industry. But as this foundation has settled, Uber is now using that same ecosystem to push disruption into new sectors—such as the recent trial of UberHEALTH in Boston. With its existing network of cars and customers, and a new set of skilled workers—registered nurses—Uber has been able to provide on-demand delivery of flu shots and similar vaccinations. Neither hospitals nor major pharmacy chains in the United States would have ever previously seen Uber as a competitor.



Power to Predict

Enterprises have become accustomed to disruption over the last few years, and now many will be hearing alarm bells once again. But this time there's a big difference: enterprises can see it coming. Ecosystem disruption will typically be predictable disruption.

That's because ecosystems are inherently tied to industries and business models, so large organizations are particularly well placed to predict ecosystem trajectories—and, what's more, take advantage of them. The scale, resources, years of industry knowledge, and maturing digital abilities of leading businesses provide them with the power to create and capture immense opportunity by crafting new roles and forging inroads into new industries.

Consider GE. This industrial equipment manufacturer has deep experience in building essential tools for all major industrial sectors. With the rapid growth of its digital industry ecosystem and the industrial internet, GE saw the opportunity to do much more than simply sell connected equipment. The company took its understanding of the ecosystem created by connected machines and integrated it with its extensive industry knowledge to capture new disruptive opportunities and forge new partnerships. Now, instead of 'simply' building wind turbines GE is partnering with energy giants like E.ON to build the software systems to analyze and improve the turbines' energy output—in the process becoming a key contributor to the development of alternative energy sources (an innovation that's already spawning an ecosystem of its own).

And rather than 'simply' selling locomotives, GE is creating an ecosystem of connected trains that are contributing to the growth of transportation—and creating services that allow customers to optimize fuel efficiency and their supply chains. Now GE stands at the center of the industrial internet, with its impact reverberating far into other digital ecosystems.

As digital technology transforms how all sectors operate, ecosystems are emerging in every industry. The home is becoming the smart home; governments are building smart cities; manufacturers are moving to Industrie 4.0, which includes precision agriculture; digital health—the list goes on.[1]

Enterprise leaders must study these large-scale changes to spot which ecosystems will press up against their own industry and, more importantly, how their business can take advantage. For example, both the smart home and smart city will significantly impact companies across the energy sector—it's therefore a disruption that power companies should be planning for today. As forward-thinking companies anticipate these disruptions, they can redirect them, turning them into an opportunity to get ahead.

Connected Transportation

Air

Honeywell Connected Aviation
Improved Air Traffic Control
On-board Wi-Fi
Safety Management

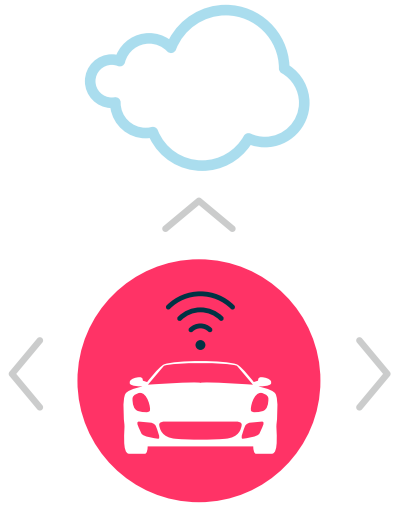
Sea

Hyundai Connected Ships
Product Differentiation
Shipping Optimization
Inventory Transparency

Land

Cisco Connected Rail
Switching Routing
and Mobility
Increased Ridership

Connected Insurance



New Business Intelligence

Data analytics is expected to have the biggest impact on the insurance industry.

Big insurance companies like Allstate and GEICO are offering variable pricing based on performance. The company uses in-car data to gauge speeds, hard stops, and other factors that are known to have a correlation to accidents and subsequently indicate higher risk.

New Business Models

In one 12-month pilot, UK Insurer Direct Line Group gathered more than 11 million miles of data from connected cars.

Usage data is also enabling new approaches to how insurance is delivered. For example, Metromile offers pay-per-mile coverage, so rather than paying a premium every month customers only have to pay per-mile for when they are in the car.

Ecosystem disruptions won't arrive across all industries at the same time, or with the same velocity. But they will arrive and can be predicted. With new entrants already vying for position, industry leaders must act now, and act fast to build the services and develop the new partnerships that will allow them to stake their claim in these ecosystems.

Winners in this new phase of predictable disruption will expand their horizons, watching and learning from the changes in peripheral industries. Armed with that knowledge, they can forge new roles, set new strategies for growth, and, most importantly, plot a course to seize the unlimited opportunities ahead.

Predictions

Leaders Game the Ecosystem: Strategy teams use gamification to play out and predict disruptions.

Industries Go Horizontal: Traditional industry boundaries disappear, leading to the birth of entirely new industry segments.

Key Takeaways

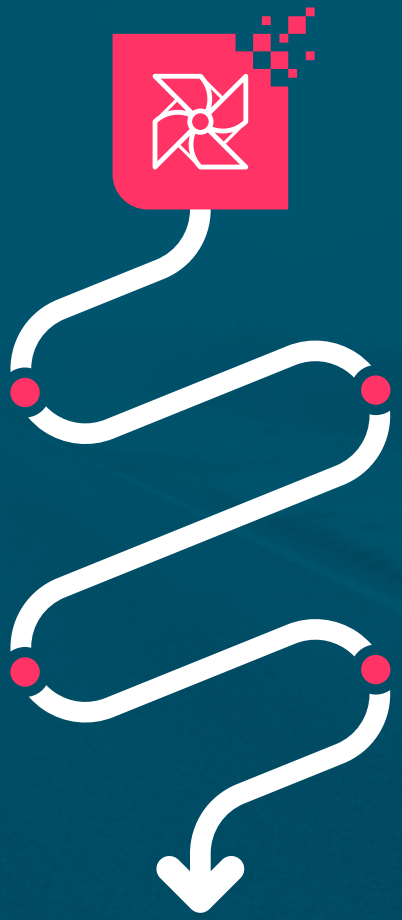
- Digital ecosystems are becoming the foundation for the next wave of enterprise disruption.
- Industry boundaries are already blurring, shifting market power to newcomers.
- Enterprises can gain visibility into the disruptive forces of ecosystems and take action now by developing strategies to forge new roles and new paths.

Predictable Disruption:

100-Day Plan

Over the next three months, start to understand the disruptive forces and opportunities of emerging ecosystems.

1. Appoint a C-suite sponsor to oversee a team that is responsible for championing your new ecosystem and digital partnership strategies.



2. Take an inventory of the ecosystems related to your business and prioritize the list according to those with the greatest potential for impact on your organization. Leverage external industry experts to provide fresh perspectives about growing digital ecosystems.

3. Have your team develop innovative ideas for how the organization will leverage emerging digital ecosystems. Envision your competitive position, new value chains, and new use cases for the ecosystems where you plan to compete.

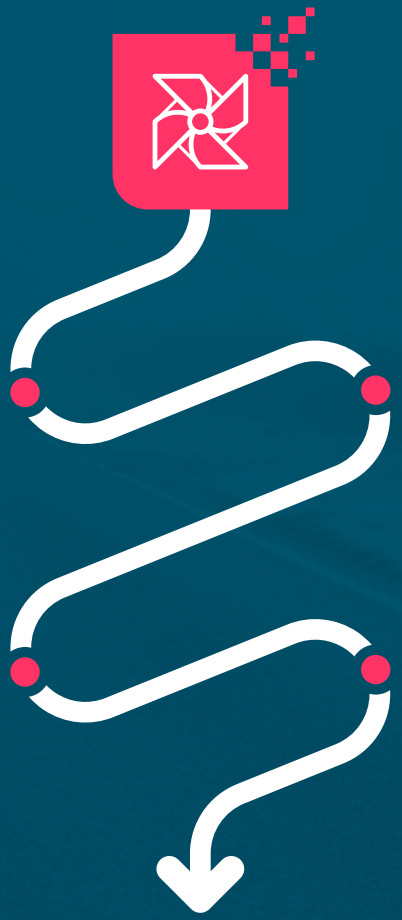
4. Craft the strategy that will bring these ideas to fruition. Start to line up the resources, stakeholders, and investments necessary to forge this new path.

Predictable Disruption:

365-Day Plan

A year from now, your company will have a balanced understanding of traditional industry competition and the ecosystem economy.

1. Build the partnerships that will support your ecosystem strategy. Identify the key players in digital ecosystems, choose your preferred alliances, and have initial discussions.



2. Pilot an initial foray into a digital ecosystem. Pick the one business process, product, or service that is best aligned with your prioritization of potential disruptions and can benefit from existing and new partnerships.

3. Create new metrics to determine success in digital ecosystems. Develop these by tracking the progress of your pilot and use those insights to uncover potential indicators; iterate this process until you find metrics that can reliably measure success.

4. Identify new skills demanded to support the expansion of your digital ecosystem strategy. What new technology skills are needed? Does your organization need experience in a specific industry? Develop a plan to acquire these high-priority skills.

Trend 5

Digital Trust: Strengthening customer relationships through ethics and security

Trust is the cornerstone of the digital economy. Without it, digital businesses cannot use and share the data that underpins their operations.

To gain the trust of individuals, ecosystems, and regulators in the digital economy, businesses must possess strong security and ethics at each stage of the customer journey. And new products and services must be ethical- and secure-by-design. Businesses that get this right will enjoy such high levels of trust that their customers will look to them as guides for the digital future.

After the consumer outcry from its iCloud breach in 2014, Apple came to understand afresh the importance of trust. Its efforts to be transparent in how it uses and secures customer data is testimony to the value this leading brand places on trust.[1] Its new platforms, such as Apple Pay and HealthKit, are clear beneficiaries of this trusted-by-design approach because the strong security and ethics that are 'baked in' give customers confidence that their digital footprints are secure and private, easing the transition to and adoption of the Apple ecosystem. This underscores the role trust plays as digitally powered companies look to disrupt their own markets and enter new ones.

As the example of Apple shows, trust differentiates competitors in the digital economy where businesses can reach vastly more people, iterate quicker, and make faster, better decisions than ever before. Eighty-three percent of respondents to the Accenture Technology Vision 2016 Survey agreed that trust is the cornerstone of the digital economy. But what's at stake is more than just the benefits of building good will. Inherent in a company's use of technology to rapidly scale is the risk of amplifying mistakes.

Rapidly releasing products and services to tens or hundreds of millions of consumers, or sharing data about consumers at that scale, makes exposure to business risk more systemic. This can potentially result in the loss of previously established trust, which in turn can lead to the loss of customers, market share, and company valuation.

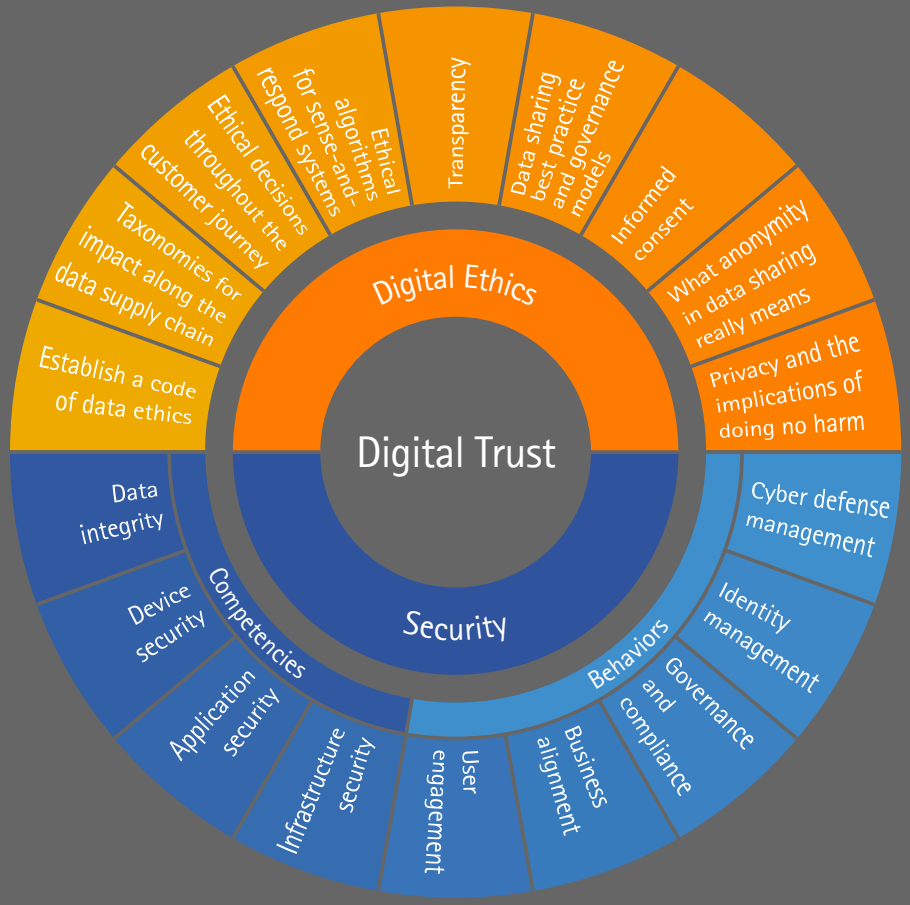
83% agree that trust is the cornerstone of the digital economy.

Exemplifying the importance that trust plays in its ability to do business, Apple told a federal court that "forcing Apple to extract data [from mobile devices]...could threaten the trust between Apple and its customers and substantially tarnish the Apple brand."[2] Companies such as Apple that understand the importance of trust in the digital economy know that in order to compete, push boundaries, and offer new services, they must design products and services that are both ethical- and secure-by-design. Microsoft is designing products this way too. The company is opening data centers in Germany that will be managed and operated by a third party, allowing German customers to use Microsoft technology but to have all of their data controlled by a German company, without a 'back door' for Microsoft.[3]

By building new offerings in such a way, companies are building trust and minimizing systemic risk. This is critical, especially where data is needed to inform personalized services at scale, using technologies that require troves of personally identifiable information (PII). As data-centric products and services put data-handling concerns in the spotlight, 82 percent of executives agree that companies are exposed to exponentially more risk. Managing that risk and building trust starts with data ethics and security.

Recognition of new risks from digital transformations has already propelled security investments across all industries. Global information security spend is set to exceed US$100 billion by 2019, according to Gartner.[4] Even so, a singular focus on security is insufficient to account for the risks encountered by digital businesses. Over 80 percent of companies are required to comply with data-handling protocols that go beyond their internal controls. To account for these intrinsic risks in other parts of a digital business's operations, data ethics—and, more comprehensively, digital ethics—are critical.

Although consideration of ethics should be a key part of digital transformations, it's a new area of focus for the majority of businesses. It's not just customers who are sounding the alarm: 80 percent of knowledge workers are demanding stronger ethical controls on data too. Currently, most companies' strategies align to a single vector: privacy, which is just one component of data ethics. Digital ethics is even broader, encompassing the operational processes where data is applied to affect real-world outcomes.



Data Ethics vs. Digital Ethics:

Data Ethics—moral governance of the integrity, handling, control, and provenance of data.

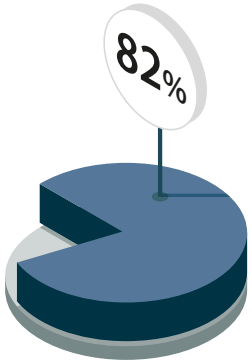
Digital Ethics—data ethics and moral governance of actions taken as a result of insights derived from the analysis of information (where 'information' is data with context).

Company boards, and their risk committees in particular, need to pay attention. Without comprehensive policies, training, incentives, and consequences for data and digital ethics, exposure to risk increases and adverse outcomes are more likely. Cyber risk insurers recognize this and are now demanding more controls and policies to be in place before underwriting cybersecurity insurance.[5] It's a trend that's set to continue.

New Responsibilities

Businesses must identify an executive responsible for developing governance models, taxonomies, and principles-based codes. This role will also focus on technically challenging areas such as decision-making in autonomous systems and confront today's assumptions of what informed consent is, how to do no harm, and what it means to be truly anonymous. These are no longer philosophical puzzles. They are critical business realities that all companies must solve.

One way to account for this risk is to consider whether trust is being enhanced or eroded at every step of the customer journey. What's more, if companies fail to recognize and 'design-in' strong ethical controls in a way that accounts for cultural variances in governance, and human and technological processes throughout the customer journey, they face further damaging outcomes. Eighty-two percent of survey respondents agree that a lack of security and ethical controls on data could exclude them from participating in others' digital platforms and in broader ecosystems—an increasingly critical go-to-market strategy.



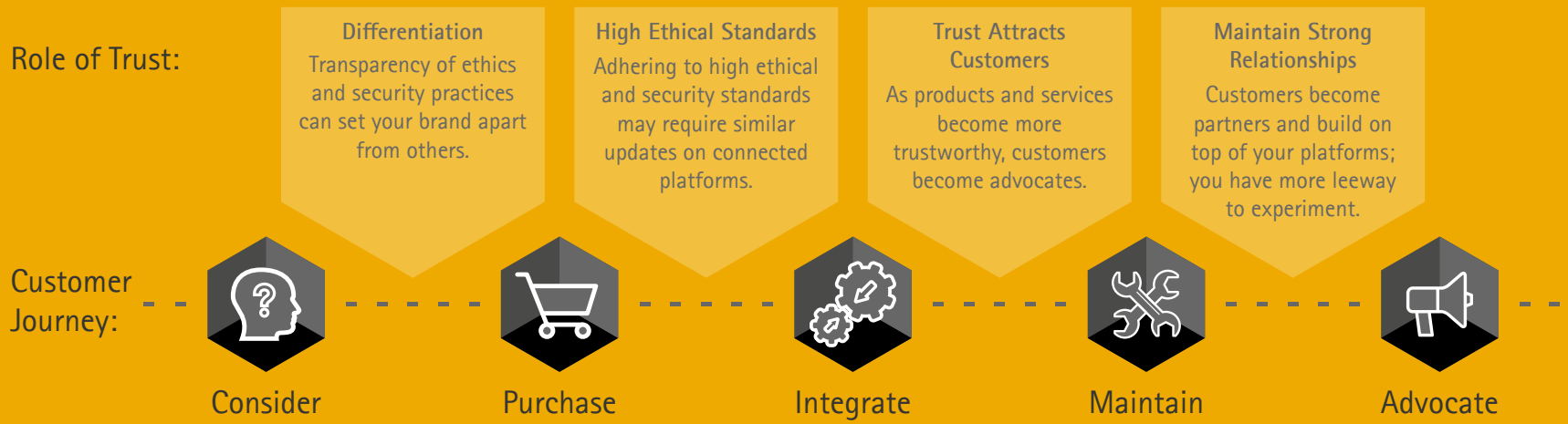
82% say a lack of security and ethical controls on data could exclude them from participating in other companies' digital platforms and broader ecosystems.

Additionally, a failure by companies to address data and digital ethics may prompt regulators to impose their own rules and legal frameworks—and any change in the regulatory environment can not only be onerous, but also contribute to both a stifling of innovation and a forcing of changes in business models. Look at how the invalidation of 'safe harbor' caused scores of companies to redesign how they share PII between the European Union and the United States.

Wherever regulatory scrutiny strikes next, one thing is certain: corporate indifference to data and digital ethics can increase reputational risk and create unwelcome headlines. Uber's pricing algorithm, based on supply and demand, failed to consider extraordinary circumstances and quadrupled fares during a hostage crisis in Sydney.[6] Facebook experimented with the emotional impact of negative news stories on 700,000 users (violating informed consent).[7]

These are two examples among others that have made headlines in the past two years, with some companies facing class-action lawsuits. In these incidences, widely reported public outrage drove the companies to change their data policies.

Trust and the Customer Journey



Making the right decisions internally to gain customer trust is only half the battle; making sure outsiders don't gain unauthorized access to data and abuse hard-won trust is also crucial. That's why next-generation security mechanisms are following the data, taking user behaviors into account, and extending well beyond the perimeter. Wherever data goes, security must go with it. To address this challenge, security solutions—such as security-aware application design, integrated database security, dynamic access controls, and runtime application protection—are being integrated into new products. This data-centric philosophy is also revolutionizing identity and access management. For example, InAuth is a mobile-device security company that establishes the trustworthiness of a device before granting it access to network resources. Once a device is validated, solutions from the likes of BioCatch employ multifactor authentication that considers the way users interact with devices as a way to verify and provide persistent identity.

Global companies are also moving decisively in this direction. AT&T, for example, is undertaking a wholesale upgrade of its back-end architecture, moving toward data-centric security in its databases and its applications. It's doing this to ensure high data integrity, so data is stored securely and not manipulated in transit.[8] Coca-Cola, Verizon, Google, and Mazda are all taking a similar approach.[9] Embracing this transformation, their leaders understand that trust comes from robust security and data ethics.

The scalability enabled through the digital transformation of the customer journey has positive and negative dimensions. The best way to minimize downside risks is to maximize trust. Better security, on its own, won't be enough; nor will rote compliance with privacy regulation. Organizations must manage data and digital ethics as core strategies for mitigating business risks, just as they do with cybersecurity. Their reward? Unprecedented growth in an interconnected, platform economy, with minimal downside risks. Those who master this transformation can move beyond the first level of customer trust, namely that products will meet or exceed expectations, to a higher level where empowered individuals trust a company to lead them into the digital future.

Predictions

Looking into the future, trust and digital ethics will continue to play an increasingly critical role in business operations and become the minimum standard for participating in industry ecosystems.

The Trust Bust: High-profile digital ethics failures will create new governing bodies, new regulations and a new category of jobs.

The CEO Gets a Twin: Trust becomes paramount, and a new leader emerges—the Chief Ethics Officer.

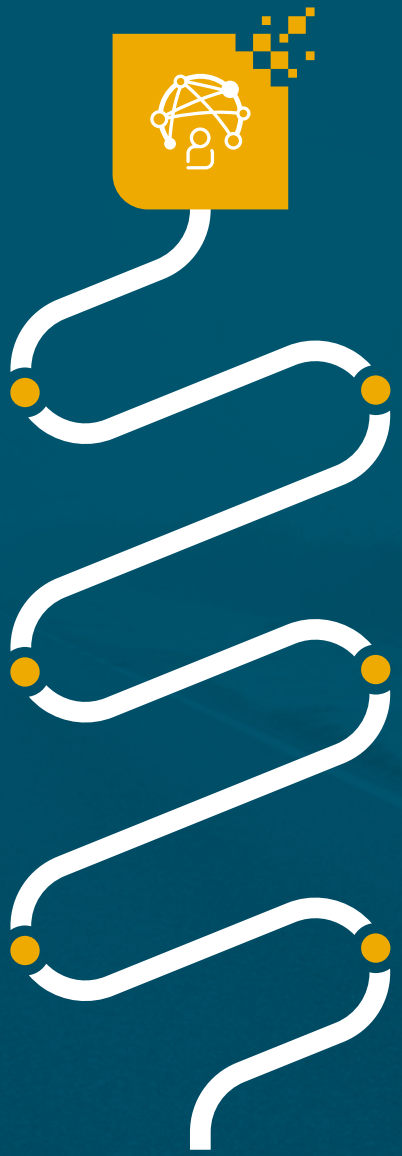
Key Takeaways

- Ethics and security must be primary considerations in any digital transformation.
- Exposure to risk scales in proportion to digital business operations.
- To protect against downside risk, businesses must foster strong ethical decisions, effectively use security to protect against external threats, and build trusting relationships with ecosystem stakeholders.
- In procuring new technologies, security and ethics must be key evaluation criteria.
- Look for opportunities to build trust at every engagement point along the customer journey.

Digital Trust:

100-Day Plan

Over the next three months, businesses should understand the current state of digital risk they're exposed to and benchmark data points that can be improved.



1. Survey stakeholders in an effort to quantify the level of trust across your offering portfolio.

2. Search customer service logs for the word 'trust' and run sentiment analysis against the results to gain understanding in how customers perceive your offerings and brand; make a top-five list of the least trustworthy offerings.

3. Take an inventory of data-driven business processes; describe the current and potential opportunities for enhanced security and data ethics for each.

4. Identify the executive(s) responsible for building and maintaining trust, digital ethics, and security with vendors, partners, and customers.

5. Research what your competitors do to build customer trust. Record what builds and erodes trust. Brainstorm opportunities for improvement within your own operations.

6. Partner with an academic institution, non-profit, or industry group to dive deeper into one aspect of digital ethics. Publish findings/advice for others.

7. Compile a list of opportunities for security to move closer to data.

Digital Trust:

365-Day Plan

In a year, businesses should have started to include provisions for strong digital ethics in their digital transformation strategies, have new security pilots underway, and have concrete plans to mitigate violations of customer trust.

1. From the top-five list of the least trustworthy products, do a complete customer journey analysis and try to understand where opportunities exist to build trust.

2. Discuss hiring a chief digital officer, chief trust officer, or chief ethics officer with your board of directors. This role will be responsible for orchestrating the establishment and maintenance of digital trust.

3. Pick one product/service to maximize trust. Build metrics for tracking improvement over time. Report results to product teams and challenge them to meet aggressive targets.

4. Start tracking metrics for trust and both data and digital ethics. Use this data to include trust and ethical practices in your company's annual CSR report.

5. Implement a portfolio of solutions to move security closer to data. Describe how their implementation has mitigated downside risk. Share this report with your CIO and CFO in an effort to reduce insurance premiums.

Conclusion

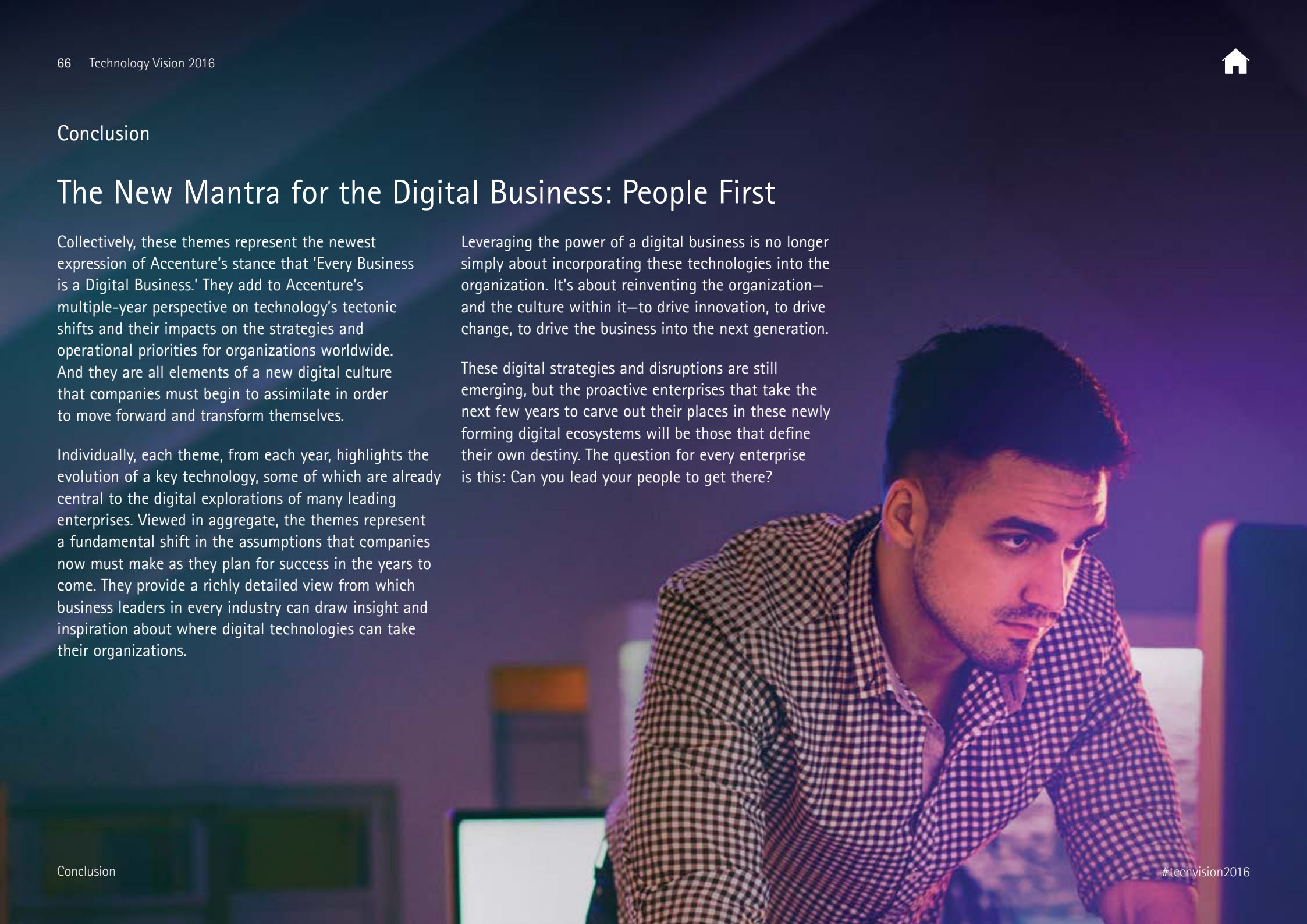
The New Mantra for the Digital Business: People First

Collectively, these themes represent the newest expression of Accenture's stance that 'Every Business is a Digital Business.' They add to Accenture's multiple-year perspective on technology's tectonic shifts and their impacts on the strategies and operational priorities for organizations worldwide. And they are all elements of a new digital culture that companies must begin to assimilate in order to move forward and transform themselves.

Individually, each theme, from each year, highlights the evolution of a key technology, some of which are already central to the digital explorations of many leading enterprises. Viewed in aggregate, the themes represent a fundamental shift in the assumptions that companies now must make as they plan for success in the years to come. They provide a richly detailed view from which business leaders in every industry can draw insight and inspiration about where digital technologies can take their organizations.

Leveraging the power of a digital business is no longer simply about incorporating these technologies into the organization. It's about reinventing the organization—and the culture within it—to drive innovation, to drive change, to drive the business into the next generation.

These digital strategies and disruptions are still emerging, but the proactive enterprises that take the next few years to carve out their places in these newly forming digital ecosystems will be those that define their own destiny. The question for every enterprise is this: Can you lead your people to get there?



Research Methodology

About the Technology Vision

Every year, the Technology Vision team partners with Accenture Research to pinpoint the emerging IT developments that will have the greatest impact on companies, government agencies, and other organizations in the next three to five years.

The research process began during 2015 with gathering inputs from the Technology Vision External Advisory Board, a group comprising more than two dozen experienced individuals from the public and private sectors, academia, venture capital, and entrepreneurial companies. In addition, the Technology Vision team conducted interviews with technology luminaries and industry experts, as well as with nearly 100 Accenture business leaders.

The team also tapped into the vast pool of knowledge and innovative ideas from professionals across Accenture, using Accenture's collaboration technologies and a crowdsourcing approach to run an online contest to uncover the most interesting emerging technology themes. More than 3,200 participants actively engaged in the contest, contributing valuable ideas and voting on others' inputs.

As a shortlist of themes emerged from the research process, the Technology Vision team reconvened its advisory board. The board's workshop, involving a series of 'deep-dive' sessions with Accenture leadership and external subject-matter experts, validated and further refined the themes.

The screens used during these processes weighed the themes for their relevance to real-world business challenges. Specifically, the Technology Vision team sought ideas that transcend the well-known drivers of technological change, concentrating instead on the themes that will soon start to appear on the C-level agendas of most enterprises.

The themes were prioritized using the following criteria:

- Actionable today
- Highly relevant to an organization's transformation within three years
- Having significant impact beyond any one industry 'silo'
- Disruptive beyond a straightforward one-for-one replacement of an existing solution
- Transcending any one vendor or discrete product technology

These tests produced a handful of robust hypotheses that were synthesized into the five overarching trends presented in this year's report.

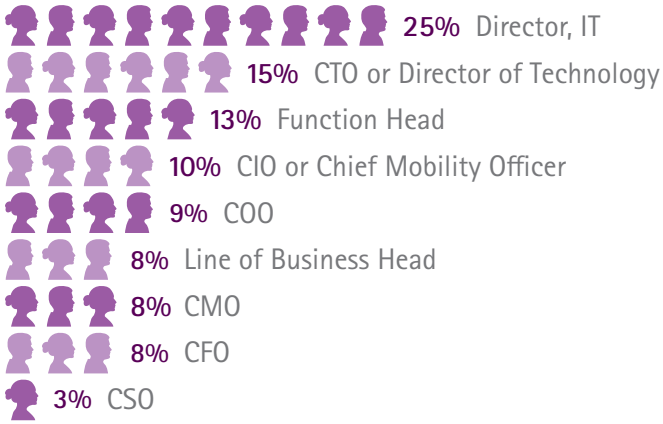
Accenture Technology Vision 2016 Survey Demographics

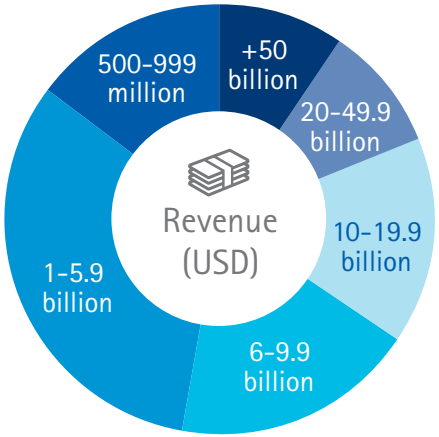
For the second year, we conducted a global survey of more than 3,100 business and IT executives across 11 countries to understand their perspectives on the impact of technology on their organizations, and to identify their priority technology investments over the next few years. The survey was fielded from October through December 2015.

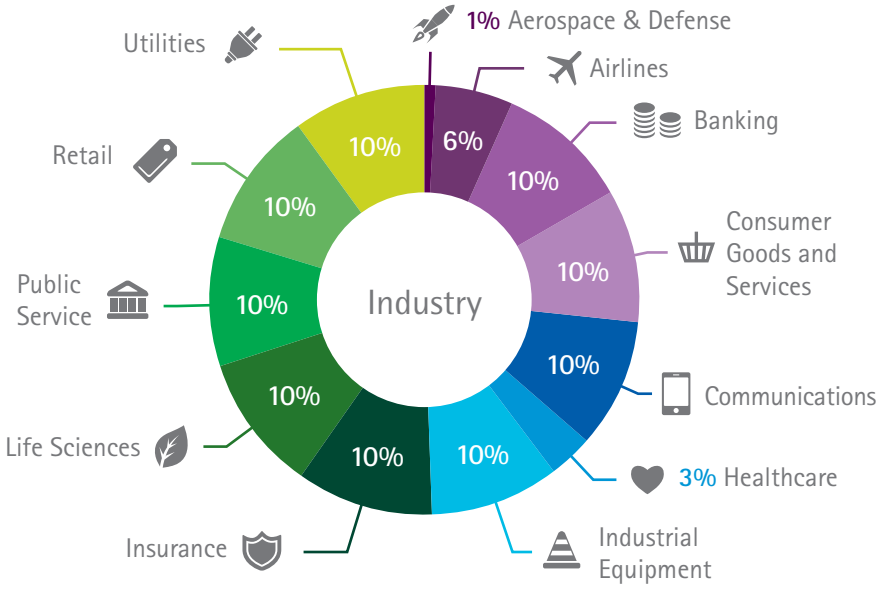
	Australia	Brazil	China	France	Germany	India
Locations	8%	9%	9%	9%	11%	8%
Headquarters	246	274	269	289	337	254

	Ireland	Japan	South Africa	United Kingdom	United States
Locations	1%	8%	8%	11%	17%
Headquarters	36	267	237	337	546

Title







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