The age of connected intelligence

Digital disruption creates both an opportunity and a necessity for established enterprises to harness innovation and deliver new sources of value for customers, suppliers, and their workforces. Existing views of processes and assets require rapid evolution.

This article shares the views Infor® has acquired about industry trends for the workforce, suppliers, customers, assets, and processes from thousands of conversations with our customers.

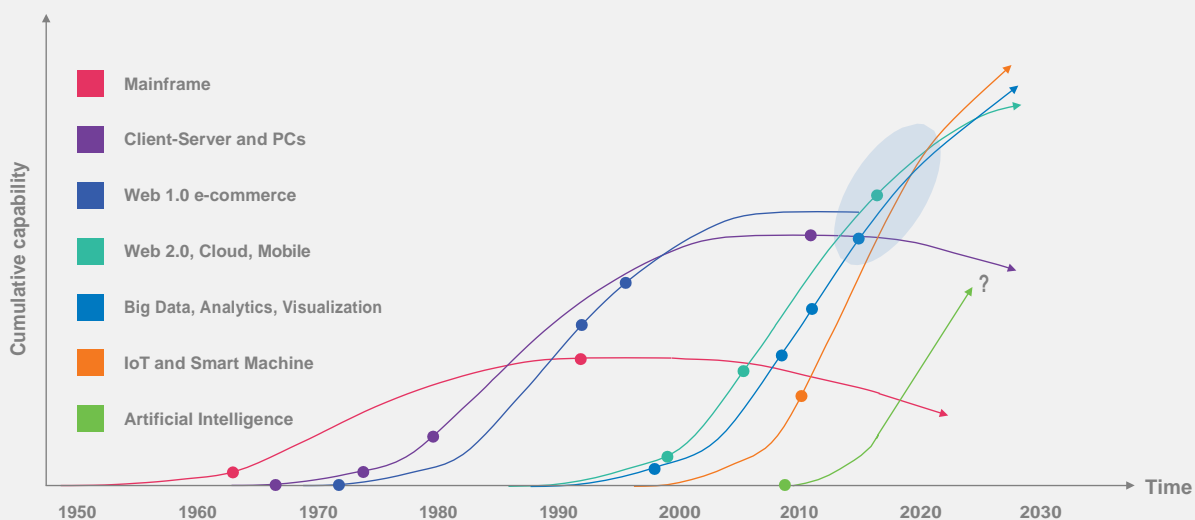Table of Contents

The enterprise's connected future

The powerful technology-based forces that impact us as consumers are fundamentally changing the way people and organizations interact—creating a time of digital disruption. Examples abound. Consider how music is now consumed (Spotify®, Pandora®, Sonos), how we manage our homes (Amazon® Alexa, Google® Home, Apple® HomePod), the ways children use their computers, tablets, or phones (as a gateway to information, rather than as a container for information itself), or how we interact with friends and family (have you ever even heard your child's cell phone ring?).

Now imagine if we could seamlessly apply these technologies to revolutionize the way we work. That's what digital disruption means to business. It's the opportunity to set a digital strategy, remove barriers that limit the impact of new digital technologies, and ultimately deliver greater value. While we call it an opportunity, the reality is that businesses increasingly have little choice. Today's connected economy means going digital or becoming obsolete, regardless of the size of your business or its location. Because digital technologies have powered opportunity and individual freedom in unprecedented ways, they have also made both consumers and businesses more vulnerable. There are always tradeoffs and two sides to every coin.

Figure 1. The combinatorial effects of new technologies are accelerating the pace of change

Source: World Economic Forum Digitization of

How to thrive in an age of disruption

The impact of a digital disruption on all industries is significant, fundamentally changing what it means to have a competitive advantage, accelerating the pace of change, mandating adjustments in pricing and cost structures, and re-defining relationships between organizations and their workers, suppliers, customers. So what is the best approach for capitalizing on everything that's available, while also harnessing the complexity of new technologies and new ways of doing business?

Regardless of your industry, the digital disruption can be viewed across five key dimensions:

1. Workforce—Inevitably, we are a global, distributed, and digital workforce.

2. Suppliers—Suppliers are everywhere. Buyers are able to locate what they need instantly from suppliers all over the world.
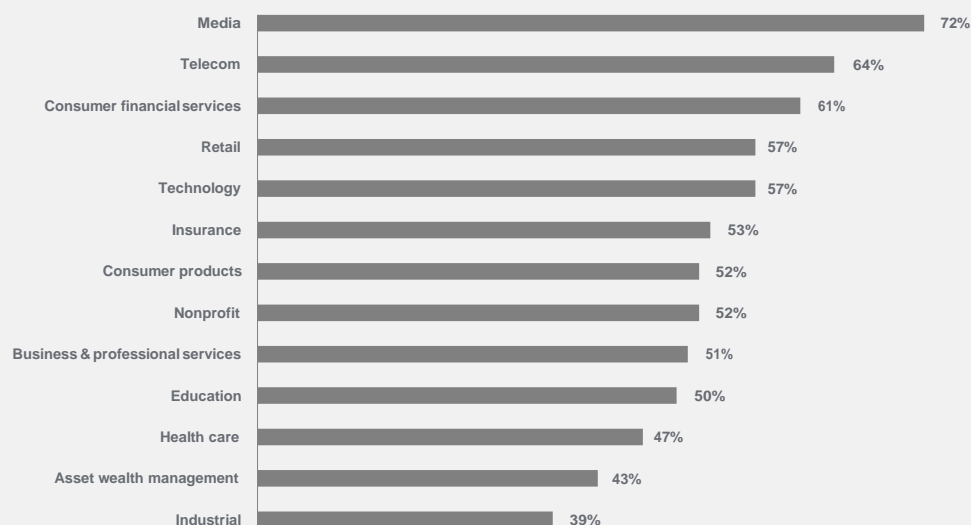
3. Customers—Buyers can access anything from anywhere in the world, instantly from their desks or phones.

4. Assets—Have fundamentally changed with the importance of owning and controlling the customer experience vs. tying up capital in depreciating physical equipment.

5. Processes—Even the smallest firms have to operate globally yet locally, creating big opportunities as well as complexity, risk, and burdens around how businesses operate with suppliers, core operations, and customers.

This paper explores each of these five dimensions to better understand what's at stake for the enterprise and clarify options for achieving a next-generation enterprise.

Figure 2. Executives who anticipated moderate or massive disruption in the next 12 months, by industry

Industry	Percentage
Media	72%
Telecom	64%
Consumer financial services	61%
Retail	57%
Technology	57%
Insurance	53%
Consumer products	52%
Nonprofit	52%
Business & professional services	51%
Education	50%
Health care	47%
Asset wealth management	43%
Industrial	39%

Source: Harvard Business Review

Workforce: People, places, and things

Today's workforce is notable for its unique generational mix of workers—from post-millennials to baby boomers. The impact of a multi-generational workforce is complicated by an overall shortage of skilled workers at every level, resulting in an ever-widening skills gap to support a digital enterprise and organization's ability to recruit them.

"Over the next decade, 3.4 million manufacturing jobs are expected to become available as baby boomers retire and economic growth spurs work opportunities," observes Bloomberg Businessweek. However, a skills gap could result in 2 million of those jobs left open. In addition, "More than 80 percent of 450 U.S. executives surveyed said the gap will affect their ability to meet customer demand, and 78 percent said it will make it more difficult for them to use new technologies and increase productivity."[1]

It's impossible to discuss digital workforce changes without mentioning the underpinning of data and its impact on corporate culture. With greater access to data, decisions that would have been experience or "gut-feel" driven are now becoming increasingly data based. Organizations that foster this culture of data-driven decisions will be better equipped to weather the future.[2]

According to Deloitte and the US Manufacturing Institution:

- 70% of manufacturing execs say their workforce lacks computing and tech skills skills.

- 78 million US employees will retire from manufacturing in the next 10 years.

- 80% of manufacturers are willing to pay more than market rates to attract top talent.

- It takes 70 days to recruit skilled workers and 94 days for engineers, researchers, and scientists.

"With greater access to data, decisions that would have been experience or 'gut-feel' driven are now becoming increasingly data based."

Considering the dynamics of a global workforce—enabled by global consumption, the flattening of organizational structures, and impact of the service-value economy—it's not surprising that everything has changed. Every business needs to recognize the importance of optimizing its talent portfolio and continuously evolving skillsets to drive opportunity. Doing so starts with a more sophisticated recruiting process to attract the right people and then reinforcing that process with ongoing recognition and rewards, including professional development to encourage employee development.

Mobile, social, and collaborative technologies have changed the workforce. Today's employees are on-the-go, digital natives. "Digital natives are people who grew up in one culture. They don't have two cultures to compare," explains Marc Prensky, who coined the terms "digital native" and "digital immigrant."[3]

Digital natives have a different view of the world, and support the democratization of content and information. They don't rely on manuals and business process flow diagrams like previous generations of workers. Instead, they go to YouTube or ask a digital assistant like Siri—Apple's intelligent personal assistant—for help. If a business cannot provide this modern, mobile, and highly productive environment—top talent will look elsewhere.

Digital immigrants—those that grew up with wired computers, for example, and have had to make the move to the present digital culture—were raised to be suspicious of technology and have a hierarchical approach to information sharing. Digital immigrants are becoming more comfortable with technology for personal use and interaction, and that is the catalyst for comfort in changing the way technology is used in the workplace.

The key is to use technology to bridge the usage gap. The user experience will be different for each generation based on their comfort-level with technology in general. Ensure your technology choices allow for this to be considered.

Suppliers: Global, intelligent, and collaborative networks

As supply chains grow ever more connected via digital communication tools, business networks are growing more complex. The digitalization of the supply chain has also resulted in reduced lead times, less complexity, and greater speed—all necessary to stay ahead of today's evolving needs.

Companies with strong supply chains are succeeding because they have learned how to analyze and act on the overwhelming amount of data that their businesses and partners generate. In fact, 79% of organizations with superior supply chain capabilities achieve above average growth, while only 8% of those with lower performing supply chains have above-average revenue growth, reports Deloitte.[4]

But as an individual inside your own company, you might only see the transportation lanes that you use. A global supply network is gathering data from all companies, all over the world. This data lake of transportation conditions brings new insights and answers new questions. Which ports have the most traffic heading into them? What is the time lapse from dock to unloading and onward dispatch? What is the average shipping time from Los Angeles to Shanghai? Knowing this information helps companies plan and manage their global supply chains.

The future of suppliers and networks extends the concept of hyper-connectivity to keep pace with change in product development, transaction terms, and other regulations. With the proliferation of options and transparent pricing, more and more offerings have become commoditized, placing a premium on automating the entire process of making, marketing, selling, delivering offerings and doing it in a differentiated, personalized, superior services approach.

Already, the concept of a supply chain as a flow of goods in one direction and money in the other between single, unconnected organizations is dead.

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Winning companies have already learned that success is amplified when they work with their trading partners in interconnected, agile business networks—sharing information such as demand, inventory, and supply constraints as freely with organizations outside their four walls as they would with their employees.

With supply chains that are increasingly global and more uncertain, there is no substitute for enterprise visibility—of orders, inventory, shipments, and receive dates. The faster that changes can be communicated to all parties in the network, the more likely you are to meet your customers' needs—even if planned actions go off track, which they always do.

Further advances in digitization of the supply chain are coming with the accelerated adoption of intelligent, connected devices attached to a shipment, a pallet, or even a product. These devices can tell you not only where your product is at any given time, but also how well it is being cared for by monitoring vibration, temperature and humidity. These new insights help resolve some of the product quality disputes between leaving the factory gate and arriving on customer site—and who pays for defects.

To reach top performance, a company should view and operate its entire supply chain as a unified whole that encompasses participants that are both inside and outside it—including customers, contractors, and suppliers.

Customers: Managing the always-on generation

As consumers, we have the ability to access goods and services from anywhere in the world—all from our phones, whether just driving around in the back of a cab, or on any other device anytime we need them. In fact, 30% of all online purchases happen through smartphones, reports NetElixir.[5] Meanwhile, according to Nielsen, 56% of consumers can't imagine life without their mobile device, while 70% say it makes their life better.[6] In addition, e-commerce and global supply chains that can deliver products from low-wage countries, such as China, also give consumers more options.

For organizations, the proliferation of omni-channel engagement—where users can meet you on multiple digital platforms anywhere, anytime via mobile or other devices—has lowered barriers to entry and created an unprecedented opportunity to market, sell, and deliver products and services; yet, it also adds layers of complexity to each transaction from the regulation, compliance, currency, and delivery perspectives.

So how can you remain competitive and stay ahead of this flurry of information coming at your business? Influenced by their consumer experience, we see customers as ever-more impatient and changeable. There is no excuse for a poor experience, whether delivery or transaction related. The customer and your end-user consumer expect an immersive experience with your brand. While omni-channel engagement has been on radar screens for some time, it has now become an imperative—you must be available on every platform where your customers want to engage with you.

Adding to that is the swift adoption of sophisticated techniques inspired by data science methodologies that automate the buyers' journey, designed to enrich brand engagement and create loyalty. For retailers, data science can be used to engage with customers in non-traditional ways.

> **Research from Forrester finds that:**
>
> - 72% of execs say improving customer experience is their top priority.
> - Only 63% of marketers prioritize implementing technology investments to reach this goal.
> - 49% of execs say their tech management is still too slow to meet their business needs.

For instance, customers can receive coupons and recommendations as soon as they set foot in one of your stores or outlets. In the old way of doing things, customers might only receive an opt-in loyalty program offer, or coupon for their next purchase, when they're at the register, checking out.

By sending them coupons and promotions when they're already in the store, you don't have to wait for that next visit for them to spend. Data science techniques can also enable you to allocate staff to store departments based on the next likely purchases of the people currently in your store, so you can match up the right sales people with the right customers. Or, if you know there are areas of the store where customers always have questions, you can be sure to have those areas staffed.

A recent Harvard Business Review study shows best-in-class companies recognize how data science techniques like measurement and analytics can improve the customer experience. By examining customer data across multiple touch points, preference patterns are revealed and suggest opportunities to deliver a better experience.[7]

Assets: To automate or not to automate—that is the question

Today, the concept of an asset has extended beyond a physical piece of property to embrace the concepts of service, data, and purposed support staff. All asset-related activity from wearable devices, Internet of Things (IoT)-linked devices, artificial intelligence, smart sensors, drones, and new services create a massive mountain of data and the potential to automate more parts of your business than ever before. But because data is often cross-linked to other assets, it might be visible to anyone (with access) anywhere in the world.

And so with more information coming into your business systems—from more places—you must take care to choose reliable data sources and to continue to refine which influencing factors provide the best signposts for future activities.

As the IoT and wearable technologies change how we connect to our assets, an enterprise asset management (EAM) system can be a valuable tool for making sense of your data. As digital technologies allow more data-generating assets into your enterprise, you want to be able to pinpoint problematic assets, predict reliability issues before they happen, minimize costly down time, and give senior management greater visibility into operational efficiency.

Through the digitalization of assets, you gain a fully integrated approach to using technology to connect people, processes, machines, and products with contextual, meaningful insights. Most importantly, these insights can be used to improve your business processes, whether that means speeding delivery of products or engaging directly with your customers to create highly personalized products.

A modern asset management strategy fueled by modern technology systems can help you improve your performance and speed, reduce errors, and enhance your productivity—providing you with valuable time and cost savings, so you can hone in on improving the issues most important to customers, such as as-ordered delivery, consistent quality control, better services, and exceptional value.

CCS Insights forecasts:

- 40 times more devices than people on the internet by 2020.

- $14 trillion is the global economic value created by IoT by 2025.

- 441 million smart wearable devices will be sold in 2020.

- $34 billion is the value of wearables market by 2020.

"A modern asset management strategy fueled by modern technology systems can help you improve your performance and speed, reduce errors, and enhance your productivity."

Processes: Changing the way work gets done

Business models have fundamentally changed forever. From large to small enterprises, the opportunity to function globally and reap the rewards impacts how you strategically operate with suppliers, core operations, and consumers.

In a Harvard Business Review survey, 42% of the executives reported that "digital was helping them to enhance their existing products and services and 29% said that digital was helping to launch new products and services. These executives were making money by using digital to evolve, instead of revolutionize, their business models."[8]

Many innovative companies are using digital technologies, as well as data science and analytics, to change how they do business. Manufacturers, for example, can use sensors and advanced analytics to monitor machinery, parts, warehouses, and worker productivity—generating real-time analytics and insights that can be used to develop better business processes and models.

When looking for ways to use digital to transform your business, HBR suggests, "Many opportunities exist to profit from digital business models. But building radically new ones can be expensive, difficult, and highly risky. There are many opportunities to do something perhaps less revolutionary, yet still highly valuable—evolving your business models using digital technology. But don't start with the technology. Start with how you can deliver greater value to customers through technology."[9]

Embracing digital models has increased the focus on the enterprise mandate to stay current on changing regulations across products and countries where business is conducted. It has also clarified the need to scale beyond borders, handle multiple currencies, languages, and laws, while also personalizing and connecting the brand. All this has the potential to turn enterprise operations and processes upside down, causing immediate disruption.

A Thompson Reuters report on regulatory compliance found that:

- 33% firms continue to spend at least a whole day every week tracking and analyzing regulatory change.

- 25% of firms have opted to outsource at least part of their compliance functionality.

- 67% of firms expect compliance staff to cost more due to demand and need for additional staff.

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Innovative technologies and business transformation: A shared evolution

We live in a world where change is increasingly dynamic, and complexity and competition are fierce. As a result, it's never been more important to remain true to who you are as a business and focus on the core of what you do, while capitalizing on everything the world has to offer. By mapping your plan to hone your most important business processes powered by technology, you can build a strategy for fundamentally changing your competitive position in your marketplace—now and in the future.

Learn more about digital transformation ›

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