



The
Big Pivot

POINT OF VIEW | DATA INTELLIGENCE & AUTOMATION

Accelerating to an Intelligent Enterprise

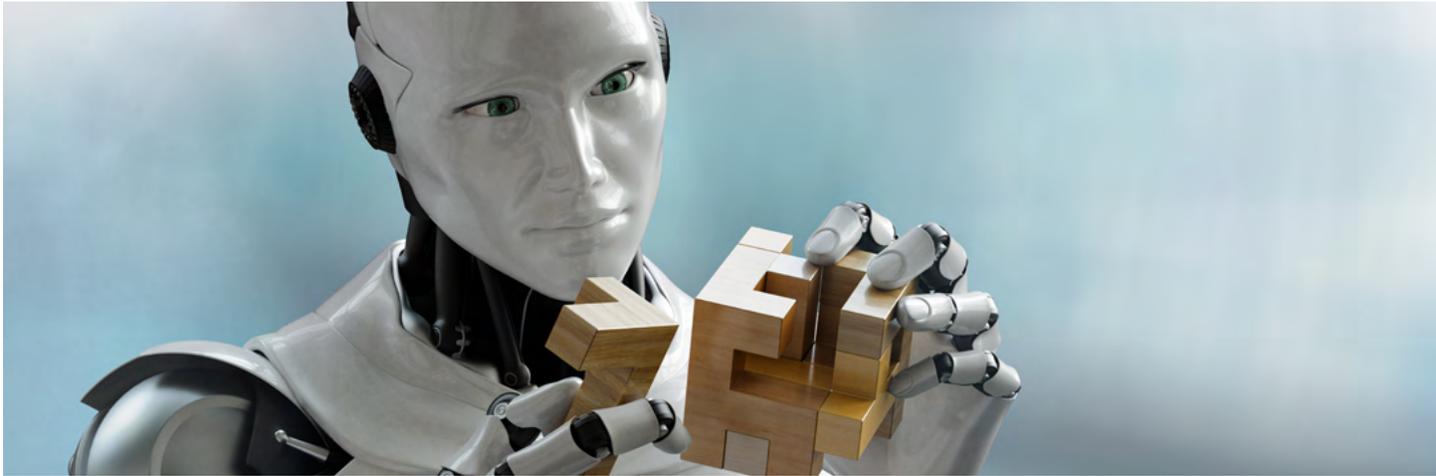
In the organization of the future, technology and employees will work as one to create unprecedented value

OCTOBER 2020



Table of contents

Defining the intelligent enterprise	4
Looking at the intelligent enterprise from different perspectives	5
Long-term outlook	9
About the authors	10
Let's get started	10
Sources	10



The year 2020 has become an inflection point for business leaders, many of whom find themselves at a strategic crossroads regarding technological advancement within their organizations. It has also become increasingly more complex and challenging in the face of COVID-19 and the disruption this pandemic has caused to businesses and enterprises globally.

The technological revolution of the past 30 years has already reshaped the world we once knew, and continued innovations in data analysis, automation and artificial intelligence (AI) promise to bring innovative and revolutionary capabilities to companies and consumers alike. The business case for an increasingly technology-driven organization is now stronger than ever, as executives envision unprecedented breakthroughs in cost efficiency and optimization, productivity and customer experience. The wholesale adoption of advanced technology creates complex questions, however, about how and where humans fit in. Leaders will be forced to think deeply about the relationship between man and machine, and what role employees will play in the organization of the future. The answers are even more elusive in the wake of the pandemic, as millions of workers have shifted to remote working arrangements and millions more have lost their jobs completely. Exactly when, where and how companies will recover and reinvent themselves remains to be seen. There's no doubt that technology will play a leading role in the solutions. But how can companies find the right balance between computerized efficiency and the value of human ingenuity? The eventual goal is what industry experts refer to as the "intelligent enterprise," where people and machines don't compete for the same jobs but rather work together synergistically.

This type of synergism is described in David Epstein's 2019 book, "Range," where he recounts a series of experiments in which amateur chess players used consumer-grade computers to take on the world's best chess players. When the humans focused on higher level strategy and let the computer handle tactical movements, they were able to defeat both grandmasters and chess-playing supercomputers. This combination of human intellect and the computer's proficiency in performing rules-based tasks created a hybrid ability that was far better than man or machine alone.

It's the same in an intelligent enterprise. Technology serves to enhance the human contribution, not replace it. As a result, the company's capabilities and business performance are elevated to new heights. These same synergies occur in our everyday personal lives as well. Thanks to smartphones, ecommerce, digital assistants and other consumer technologies that touch nearly every aspect of our lives, we're far more productive and efficient than we used to be. According to the Economic Policy Institute, worker productivity in the U.S. increased by nearly 70% from 1979 to 2018.¹ In the same way, businesses keep injecting technology into everything they do to continuously improve and digitally reinvent operations.

While it might not be stated explicitly in their strategic plans, many companies are already pivoting toward the intelligent enterprise. Reaching that destination won't be easy, however. Companies need a clear understanding of what they hope to gain from sweeping digital transformation, and a cohesive plan to bring technology and people together for the maximum benefit.

Defining the intelligent enterprise



What does it really mean to operate as an intelligent enterprise? It's a fair question, especially considering all the technology buzzwords that clutter today's business landscape.

Contrary to what some marketing messages may claim, an intelligent enterprise is not a product or platform to be bought and installed but rather a strategic mindset or a desired state of being. An intelligent enterprise is the result of a successful digital transformation.

That transformation includes the adoption of a suite of advanced technologies that match the company's digital initiatives. It could be robotic process automation (RPA) to streamline repetitive tasks for an insurance company, AI that detects fraud for a financial institution, an internet of things (IoT) network that reveals data-based insights for a manufacturing plant or a blockchain solution that tracks shipments for a logistics provider.

In a best-case scenario, the intelligent enterprise uses technology to help humans become more productive and valuable, and not as a replacement for human labor and human intellect. How we measure delivered value shifts from measuring the amount of time saved through automation to measuring what incremental value was delivered instead. This shift, achieved through technology, not only enables the automation of mundane, repetitive tasks but also the cognitive automation that gives a more informed perspective from which to make strategic decisions.

Far from a robotic organization where machines make the decisions, an intelligent enterprise could be compared to how people interact with today's early self-driving cars. It's humans who set the desired destination, and then rely on a sophisticated amalgam of technologies to execute specific tasks along the way.

Diverse benefits build on each other

Most business and IT leaders have at least some idea of how certain digital upgrades could help them improve or completely reinvent a particular function or process. What may be less obvious is how an enterprise-wide mindset to embrace technology can have a compounding effect, with each individual improvement creating benefits that echo through the organization. The potential impact extends to nearly every key metric companies care about, including:

- **Enhanced employee experience.** Through the use of self-service automation, AI and other solutions that help employees stay engaged and productive, they're empowered to do their best work and make more meaningful contributions to the organization. In turn, a happy employee population helps the company reduce turnover and recruiting costs.
- **Better customer service.** Enabled by technology, the organization and its customer-facing employees can focus on delivering the convenient, personalized experiences today's customers expect. That builds long-term customer loyalty and increases sales.
- **Operational efficiency and resiliency.** The functions that drive and support the core business (such as manufacturing, finance, human resources, IT, facilities, security and business continuity) are able to streamline processes with automation, gain real-time visibility and glean valuable insights through IoT, and create trust and transparency with blockchain solutions.
- **Unfettered growth.** The right technologies can foster collaboration and spark innovation, reducing time to market and revealing entirely new business models.
- **Cost reduction.** Thinking beyond the temptation to downsize, digital capabilities can also deliver substantial savings in other ways, such as using automation in certain routine tasks and reassigning workers to more meaningful jobs.

Different companies apply technology in different ways, but it's the harmonious convergence of multiple projects that creates an intelligent enterprise.

Looking at the intelligent enterprise from different perspectives



Exactly what an intelligent enterprise looks like depends on who you ask. Executives in different areas of a company will have different agendas and priorities to be addressed. While the solutions deployed and the results achieved will vary, it all adds up to driving the business forward through a commitment to technology modernization and digital reinvention.

Advancing IT and corporate functions

From the perspective of the chief information officer, pivoting to an intelligent enterprise could mean achieving new levels of IT service and strategic value within the organization. IT naturally has a head-start on understanding the potentially game-changing capabilities of technology, and when the right tools are applied in the right situations, the entire company benefits.

One of IT's primary functions, of course, is to "keep the lights on" by managing essential technology services that employees use every day. Whether it's helping internal customers with network access issues or installing monthly software patches, these activities steal valuable hours from IT employees who are often overqualified for such routine tasks. This no longer

needs to be the case, as many employee requests can be handled through user-friendly self-service portals. Repetitive, high-volume tasks also can be automated.

For example, one NTT DATA client, a global company with 200,000 employees, was able to make a significant impact in the way IT handled service termination requests from HR. After analyzing tickets to identify which requests occurred most frequently and took IT staff the most time to complete, the company deployed an RPA bot to perform the task automatically. Working 24x7 and monitored through a virtual command center, the bot solution reduced the mean time to resolution by 90% when compared to the manual resolution process.

A specific RPA use case such as this only hints at the multitude of opportunities for IT to get leaner, faster and more strategic. Typically, about 80% of a CIO's budget is committed to operations, but automation can lower support costs dramatically and free up resources to focus on proactive business improvements. Those might include enhancing the customer/employee experience or strengthening cybersecurity.

With much of the day-to-day operations running on autopilot, IT can rise above its reputation of technology caretaker and become a true strategic partner to the core business.

Streamlining operations

As the name would suggest, the concept of an intelligent enterprise extends well beyond the IT department. Ideally, it brings the benefits of advanced technology to the frontline personnel who make and deliver the company's primary goods and services. Nearly every company — whatever it provides — is continually challenged to do more of it, in less time, for less cost, at higher levels of quality. And there is a dizzying array of technology solutions that promise to meet those goals. The hard part is choosing which solutions will do the most good, and then weaving them into the fabric of the organization.



For one global contract manufacturer, NTT DATA was able to do just that. Many of the company's production facilities relied on physical inspections and manual data entry to monitor and track product quality. Serving as a third-party expert to implement SAP MII and other automated measurement systems, NTT DATA helped the manufacturer digitize and automate these workflows. The solution gave the company real-time insight into process performance to make more informed business decisions and ultimately cut costs while raising production yields.

Another client, a large U.S. health plan, required approximately 15,000 provider contracts to be updated every month. Its agents had been completing the process manually, which took 45 to 60 minutes per record and often resulted in data entry errors. Using RPA in conjunction with optical character recognition and natural language processing, NTT DATA's solution cut the processing time by 20% to 25% and increased accuracy to more than 99%.

The intelligent enterprise at work

To envision the cumulative effects of various technologies working in concert, consider a hypothetical warehousing and logistics company. The company uses AI and machine learning to help it make more accurate forecasts, optimize stock levels and reduce product waste. It employs robotics to perform warehouse picking duties, improving fulfillment times and order accuracy while reducing costs. With insights from sophisticated data analytics, it reconfigures the warehouse layout based on seasonal demands and constantly adjusts its transit routes for maximum delivery efficiency at all times. The company also uses blockchain to track every transaction and shipment, achieving unprecedented visibility up and down the supply chain. Many warehouse employees are retrained to manage and work in partnership with these technologies.

As it all comes together, it raises the ceiling on speed, productivity, quality, customer service, employee experience and other targeted improvements. Many technological enhancements working in lockstep with people to serve complementary business goals — that's an intelligent enterprise.

Boosting business development

Pivoting toward the intelligent enterprise does much to strengthen the bottom line, but it can just as effectively drive top-line growth. Whether it's launching a disruptive product or opening new revenue streams, technology and other digital initiatives can simplify and speed up the process.

A global beverage bottling company, for example, needed to modernize its customer support to both empower its increasingly mobile sales force and streamline ordering processes. NTT DATA helped the company implement a suite of mobility software, including VMware's AirWatch, to give sales associates a 360-degree view of customer accounts at all times. Sales reps can now access in-depth insights into new business opportunities, from any device in any location.

On the order management side, the bottling company chose an AI solution using IPsoft's Amelia virtual agent, which can walk customers through voice orders in English and Spanish. In only a few months, the system not only made marked improvements to order accuracy, but its upselling and cross-selling features unlocked new revenue growth in the channel.



Delighting demanding consumers

Consumers today have high expectations, and they keep getting higher as ambitious companies continually raise the bar on speed and convenience. From online shopping to food delivery to banking services, consumers have become accustomed to getting everything they want with a few taps of a smartphone app. More than that, they expect companies to know who they are and cater to their personal needs. In this new reality, no intelligent enterprise would be complete without advanced technologies that enable satisfying customer experiences.

Of-cited examples include major online retailers that use big data and machine learning to make shopping incredibly easy and personalized, or friendly AI agents that can solve customers' problems without putting them on hold or bouncing them to another department. But there are far more use cases in which technology plays a critical role in the customer experience without being the star of the show.

Consider the case of a global auto manufacturer that worked with NTT DATA to process, aggregate and analyze more than 5 trillion records of telematics data collected since it introduced "connected cars" a decade ago. The insights revealed from the ocean of historical data helped the company develop more than 100 new vehicle improvements for driver safety and enjoyment.

NTT DATA helped another client, a major pharmaceutical company, use blockchain to collect and store data from consumers' wearable healthcare devices. This practice provides insights into new product developments while protecting consumers' privacy.

Enabling social progress

It's not only private sector companies that benefit from technological advancement. Governments and non-profit organizations are equally intent on harnessing the power of the intelligent enterprise. Whether it's dealing with public health crises, emergency situations or simply improving community services for residents, today's forward-thinking health systems and agencies are implementing smart tools and technologies to do meaningful work more effectively.

During the recent global health crisis, healthcare providers and patients have had to use technology like never before – from COVID-19 chatbot screeners to telehealth tools for remote patient monitoring and high-quality medical care. Smart technologies capture data from mobile apps, IoT thermal sensors and other sources to perform automated temperature checks, monitor mask and social distancing compliance requirements, as well as provide contact tracing notifications to make sure individuals can safely return to work or school and resume community interaction.

For example, NTT DATA recently partnered with the City of Austin to launch an application that rapidly deploys a self-service channel and secure portal to collect COVID-19 screening and intake information from citizens and healthcare workers throughout the city. It

allows citizens to schedule tests and receive results through the secure portal, and the city to assess, track and map the spread of COVID-19 in a quick, reliable and secure manner. The app could potentially be expanded to include social listening to manage the tracking and communication of publicly available information to provide a more complete picture of the crisis and help officials better address the public's concerns.

Automated social media monitoring and data analysis are paying dividends in non-profits and the public sector. One NTT DATA client, a major humanitarian relief organization, now tracks social media conversations to help guide people to safe locations during natural disasters and, later, pinpoint its relief efforts to affected areas. Another client, a statewide department of education, monitors social media for potential incidents of bullying, gun violence, suicide and other threats in its schools, and conducts interventions when necessary.

Of course, tools like this can have commercial applications as well. Enterprising companies are using social media and big data to gauge customer sentiments, predict behaviors and deliver highly targeted, perfectly timed services.

As all the aforementioned examples illustrate, the potential for business improvements made possible by technology is inexhaustible. And every project is a pivot toward the ultimate goal of the intelligent enterprise.



Long-term outlook



While the vision for a truly intelligent enterprise is beginning to take shape for many companies, realizing it still remains just out of reach. Automation, AI, analytics and other technologies are generating significant gains in some corners of the organization, and yet they remain mostly isolated achievements, cut off from one another. As companies find ways to build bridges, powerful benefits will begin to materialize. Realizing this orchestration of complementary technologies will be a great challenge in the coming years, and the pace of change is accelerating at an unprecedented rate as companies look to make themselves nimbler and more resilient in a post-pandemic world.

On the human side of the equation, there is no denying that in certain functions, technology can take over specific tasks that have been performed by people. In fact, it's impossible to talk about the company-wide adoption of advanced technology without considering its impact on employees. Job losses will occur at the hands of technology; that much is inevitable, and companies must remain sensitive to the fact that what they see as progress could disrupt employees' livelihoods. This is, however, only a sliver of a much bigger picture.

To grasp the long-term positive implications of the intelligent enterprise, today's workers need only take stock of their daily work habits. Most jobs, regardless of level, still involve some element of "grunt work." In today's technological age, we have the right to ask: If the monotonous chores were taken away, what could we achieve with all the time and energy we saved?

In that regard, digital reinvention will give more to the world of work than it takes away. NTT DATA's viewpoint is that the intelligent enterprise will reshape traditional organizational structures and transform the way people do their jobs. Machines will indeed handle many of the repetitive tasks that humans find boring and repetitive. But the capabilities and business growth those technologies unlock will lead to different, better jobs that people find challenging and fulfilling. As employees work in concert with intelligent machines, entirely new career fields will emerge that have yet to be imagined.

Admittedly, it's a long-term opportunity shift that may never be fully realized if people and organizations aren't willing to change. Private industry, governments and educational institutions will need to collaborate to prepare the workforce of tomorrow to thrive in the digital workplace. Employees will need to adapt as well, accepting the fact that nearly every job in the future will be done in cooperation with technology.

If the world can embrace the evolution of work and pivot to the intelligent enterprise, this will be a substantial victory for businesses, their customers and the employees who continue to innovate as only humans can.

About the authors



Greg Betz, Senior Vice President, NTT DATA or over 20 years, Greg has led complex, international organizations to deliver desired business outcomes for some of the world's largest enterprises. He leads NTT DATA's strategic digital offerings, including data analytics, intelligent automation, IoT and blockchain.



Karthik Ranganathan, Chief Enterprise Architect, NTT DATA is a seasoned technology leader and innovator in service design, sales and delivery with a proven track record of platform development and sales for large global client engagements. He is NTT DATA's chief enterprise architect and a member of the Forbes Technology Council.



Tim Musselman, Software Development Director, Intelligent Automation has spent his career focused on using leading-edge technology to design and deliver innovative products and solutions for clients. He is NTT DATA's Intelligent Automation offering owner and leads NTT DATA's Global Intelligent Automation Center of Excellence.

Let's get started

See what NTT DATA can do for you.

- Deep industry expertise and market-leading technologies
- Tailored capabilities with your objectives in mind
- Partnerships to help you build and realize your vision

Contact one of our authors, or visit nttdataservices.com to learn more.

Sources

1. Economic Policy Institute. "The Productivity-Pay Gap." July 2019. <https://www.epi.org/productivity-pay-gap/>

Visit nttdataservices.com to learn more.

NTT DATA Services, a global digital business and IT services leader, is the largest business unit outside Japan of NTT DATA Corporation and part of NTT Group. With our consultative approach, we leverage deep industry expertise and leading-edge technologies powered by AI, automation and cloud to create practical and scalable solutions that contribute to society and help clients worldwide accelerate their digital journeys.

NTT DATA
Trusted Global Innovator