

POINT OF VIEW | DIGITAL OPERATIONS

Prepare for the Workplace of Tomorrow

How CIOs can empower employees today and get ready for future innovations

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Point of view summary

When technology is everywhere and digital is everything, where does the role of IT begin and how do you position for success?

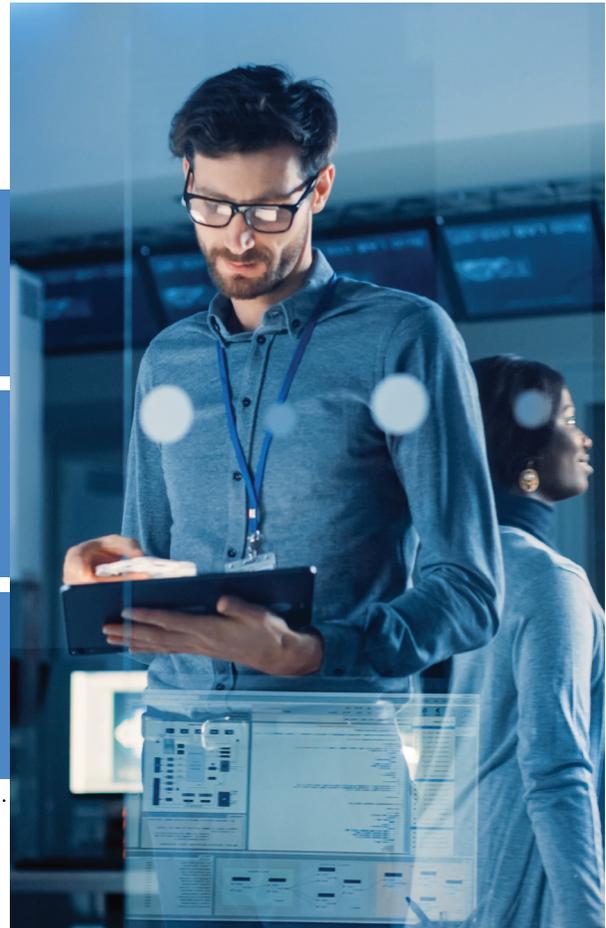
How can your organization understand emerging technology and its impact on the skills you need to succeed?

And how can you have a meaningful long-term technology strategy when disruption is all but certain?

The evolution of the workplace has always been inextricably linked to technology. From the printing press and telephones to industrial machines and personal computers, technological advancement has continually reshaped the way work gets done. Coupled with an accelerated need to improve employee experience and productivity with a post-pandemic hybrid workforce, the rapid proliferation of workplace technology presents extraordinary opportunities for the people in charge of managing it.

Today's CIO has the unending job of selecting, integrating, optimizing and securing a near-constant stream of new data sources, equipment, software and services to move the organization forward — a task that increasingly calls for applying a consumer-centric mindset to the workplace and partnering across the organization to drive the greatest success.

This paper explores likely scenarios for the future of the workplace and offers advice on how to better position your organization to take advantage of new and yet unforeseen opportunities.



Entering the era of automated and contextually aware IT

With the proliferation of smartphones, ubiquitous internet, ecommerce and big data analytics, technology has transformed the consumer experience to be highly personalized and incredibly convenient. Increasingly, employees expect to find those same intuitive, free-flowing user experiences in the technology they use at work. It's the job of IT to provide that workplace experience, and many companies have already made progress with tools like automated provisioning, self-serve portals and help desk chatbots.

The coming years will see IT take a more ambitious and customer-focused granular approach to optimizing the end-user experience. Instead of reactive and impersonal ticket resolution, IT has taken on the role of essential business partner — serving internal employees as customers while gathering strategic insights and securing information assets.



The next step will be for IT to become even more proactive in its delivery. In the same way that today's top digital marketers build immersive, technology-driven relationships with their clients, IT will need to understand and anticipate employees' individual behaviors and preferences. Analytics, automation and artificial intelligence (AI) will lead the way in providing contextually aware services, not only predicting user needs and tendencies but also engaging them at the right time, in the right place and in the right manner.

Establish a foundation

Although there is no one-size-fits all model for the perfect IT organization, a number of best practices have become common (although not yet ubiquitous) among sizeable enterprises looking to empower their employees through technology. These are the underpinnings of a modern, digitally enabled workplace, and they lay the foundation on which more compelling capabilities can be built over the next few years.

Device choice

Modern workers expect technology to be simple and streamlined, and one way progressive companies are meeting that demand is through bring your own device (BYOD) policies. Employees access work through the personal devices they know and love, and companies benefit by cutting their equipment costs. The challenge for IT comes in providing a high-quality, consistent and secure user experience across a huge assortment of employee-owned devices.

Modern device management

Quite simply, modern device management makes BYOD work. It provides a single, cloud-first platform that enables IT to manage any device remotely and still maintain a secure and productive environment. A single pane of glass through which to monitor and control every endpoint makes life much easier for IT practitioners, reducing help desk calls and freeing up resources to focus on more strategic initiatives. Beyond BYOD, modern device management solutions provide integrated lifecycle management. From onboarding to retirement, insightful analytics, proactive management and automated servicing create a frictionless and engaging digital workplace experience.

User analytics

In the digital era, the key to shifting workplace IT from reactive to predictive resides in your data. Data flows from every action we take, and a robust internal data analytics program enhanced by machine learning and AI algorithms can reveal valuable insights into which products and services employees use most, where they encounter bottlenecks and what personalized services would help them work more effectively. With real-time device performance insights, IT teams can perform faster root cause analysis and predict issues before they negatively impact business outcomes.

End-to-end automation

Automation — in its many forms — is an essential tool to enabling a future of intuitive, instantaneous workplace experiences through technology. By implementing robotic process automation and workflow automation you can minimize human intervention for many routine IT processes, such as employee onboarding or security patch updates, because companies can deliver services faster and redeploy valuable IT resources to more strategic work.

Look to the horizon

With a modernized workplace platform supported by a service-oriented IT culture, organizations have the tools and mindset they need to pursue loftier ambitions.

A host of exciting developments in the world of emerging technologies are on the cusp of mainstream workplace adoption. Over the next few years, leading companies will pounce on these opportunities to achieve a new level of employee empowerment and continue to challenge the idea of a typical day at the office.

Consumerization rules

The world's dominant providers of consumer-facing ecommerce and entertainment use a sophisticated blend of big data analytics, AI and machine learning to know their users and stay in touch with offers tailored to their individual interests. These capabilities, collectively known as martech (for marketing technology) have, to date, been far less common in companies' interactions with their own employees. But that will soon change. The IT organization can take the best practices of automated digital marketing and use them to proactively serve employees on a personal level by, for example, sending out targeted "ads" within enterprise apps and internal portals that help encourage user adoption. In practical terms, these types of experiences can increase productivity, drive engagement and compliance with corporate initiatives, and increase employee satisfaction.

Similarly, digital assistants are likely to find broader adoption in the workplace.

Today, we ask Amazon Alexa or Siri from Apple to tell us the weather and play our favorite songs; tomorrow, we may instruct our workplace assistant to reschedule a meeting, make travel arrangements or order lunch for the team.

The workplace will continue to mimic our consumer lifestyles in other ways, too. A relatively recent phenomenon, further fueled by the pandemic, is the "appification" of every service imaginable — from hailing a ride to depositing checks and shopping for groceries. Employees will come to expect this level of ease for routine tasks at work, such as filing an expense report or onboarding a new hire.

Any device, any time, every location

For workers in cities and suburbs, it's easy to forget there are still large sections of the world where high-speed internet access and cell service are unreliable or nonexistent. But those coverage gaps increasingly will be filled in as providers roll out expanded 5G networks or offer service via satellite, as with SpaceX's Starlink. The arrival of ubiquitous connectivity, coupled with the COVID-induced increase of work-from-home policies, could have significant impacts on the geographic distribution of the workforce as more employees choose to live in rural locations.



As workers become accustomed to internet everywhere, they'll also expect employers to deliver truly device-agnostic capabilities. In the next stage in the evolution of BYOD, employees will want to find everything they need for work on any device at any time. Just as you can easily watch Netflix on a smart TV, laptop, phone or tablet, tomorrow's workforce should be able to access critical applications and collaboration tools in the same effortless way. These capabilities will be largely driven by the continued growth of software as a service and operating systems in the cloud.

While achieving universal access to everything will certainly be viewed as progress, it will also present new challenges for the IT department. Security will be a chief concern and, as such, IT will need to move away from the lost cause of securing every device and instead focus on securing the data itself.

More power to the people

A recurring cycle occurs with every emerging technology: it starts with the developers themselves, then gains traction among technophile early adopters and finally, when it's made easy enough for non-technical users to understand and enjoy, it's embraced by the masses. Today, several such innovations are on the horizon that could make big waves in the workplace over the next few years.

First is the concept of the citizen data scientist, which implies that advanced analytics is moving beyond the esoteric realm of expert statisticians and into the hands of non-specialists. With more user-friendly software to guide them, previously untrained analysts can learn to spin up predictive and prescriptive algorithms that enhance business operations. As citizen data scientists become common, businesses are likely to make groundbreaking advancements in analytics.

Envision the future

Every CIO has a list of issues they want to address immediately, as well as plans to make more ambitious, proactive workplace improvements. But progressive executives should also occasionally don the cap of the futurist and take time to make some educated guesses about how technology might reshape their organizations over the next decade. While it would be premature to place big bets on unproven concepts, thinking beyond today's norms to imagine grander possibilities is the first requirement of visionary leadership. Here are a few themes CIOs should keep on their radar as they investigate the not-so-distant future.

Shift to hybrid models

The world of work has seen some dramatic changes over the past few months, but some things haven't changed much at all. For example, most knowledge workers still carry out the majority of tasks using a keyboard, mouse and monitor. However, that longstanding method of computing may become obsolete, thanks to a combination of technologies that will grow more powerful as they mature and work in concert.

The traditional screen may be largely replaced by wearable devices that enable workers to fully engage in work wherever they go.

And instead of mousing, people will manipulate programs in three dimensions through voice and hand gestures using virtual reality (VR) and augmented reality. Early examples of these capabilities can be found in VR headsets like Microsoft HoloLens and the upcoming Apple Glasses, but as they advance, these tools will likely move beyond the novelty phase and into everyday work applications.

Office space evolves

After the massive shift to remote working that occurred in 2020, radical advancements in personal computing technology will continue to fortify that trend. The next decade could certainly see a significant change in how companies manage commercial real estate and provide technology services to employees. In addition to equipping and managing technology for an army of remote workers, IT staff may find themselves overseeing hybrid physical and digital work environments that can be instantly repurposed to accommodate various user profiles, with a focus on collaboration space and ideation.

Robots are everywhere

While most digital intelligence exists in the ether, there is also a bright future for physical robots. Already common in manufacturing, warehousing and other industrial environments, robotics will play an increasingly prevalent role in a wider range of enterprises.

Equipped with powerful AI and machine learning, “co-bots” will work in collaboration with human employees to complete more complex and knowledge-oriented jobs in fields such as medicine, education, design and the arts. And, once again, each organization's IT department will be challenged to ask whether these machines fall under their purview of workplace technology — and if so, how they will be managed and maintained.



Sci-fi flirts with reality

Whether it's five years from now or 50, CIOs will eventually be confronted with workplace scenarios that seem almost laughable today. For example, over the last 10 years, privatized spaceflight has become a significant commercial enterprise, opening a near-limitless realm of possibilities for companies to expand their presence beyond earth's atmosphere. In the future, IT staff may find themselves supporting company personnel in orbit or interfacing with a remote base station on Mars.

Build a workplace roadmap for today and tomorrow

With new goalposts in sight, you can begin to take stock of where your organization stands today and where you want it to go tomorrow.

What to do now

If your IT department is still managing a huge inventory of company-owned devices, servicing legacy off-the-shelf applications or manually responding to every help desk request, it's time to start planning some upgrades, including:

- Rethinking conventional, long-established approaches to IT by placing more strategic value on workplace technologies and treating employees as valuable internal customers.
- Conducting an inventory of currently available technologies (such as automation, AI, machine learning, analytics and internet of things) and ideate to determine where they can add greater value and a more personalized experience.
- Working toward automating repetitive, manual IT operations, freeing your IT organization to become a true business partner who can drive exponential improvements in business productivity and enhanced employee and customer experiences.
- Investigate and invest in emerging collaboration technologies. Now that videoconferencing has been adopted worldwide, developers will continue to innovate on those platforms to offer more immersive experiences and practical tools that bring hybrid workers together.

Mid-range planning

With so many near-term opportunities to enhance the constantly evolving workplace, CIOs will be challenged by the expanding scope of IT and the new responsibilities to come. Here are NTT DATA's recommendations on focus areas for the next few years:

- Take a fresh look at the parameters and potential of workplace technology as it applies to your organization. Consult with other business leaders to understand how IT can best serve them in the near future, and how technology evolution could impact jobs (positively and negatively) throughout your company. Help train and upscale employees to support the needs of the future versus the manual repetitive tasks of today.
- Establish a unified digital workplace services team. Lack of coordination and competing agendas across various sub-groups (such as developers, help desk and security) can confuse end users and dampen business performance. Assembling a unified workplace team and/or going a step further to invest in bringing workplace, infrastructure, applications and security together to create a true digital operations management capability creates shared goals for technology projects and promotes agility as it removes layers of bureaucracy.
- Start working on a data intelligence fabric and platform to enable contextualized user experiences. Digital experience monitoring and workplace analytics tools can help provide greater visibility, identify trends and anomalies, and fix problems before users are affected.
- Carefully consider the issue of data gathering versus privacy as it relates to employee analytics. The consumer side of this issue is currently playing out on a public stage between companies like Facebook (pro-big data) and Apple (pro-privacy), but firms will need to find their own balance point as they increasingly track and study employees' digital footprints.
- Re-envision the workforce needs of tomorrow. Planning ahead for future workplace scenarios is a cross functional endeavor that requires expertise from business operations, human resources, finance and other functions. The CIO should unequivocally have a seat at the table (if not the head of the table), because technology is the common thread that ties everything together.

Playing the long game

Today's incredibly rapid pace of innovation makes it difficult to predict the specific needs of organizations a year in advance, let alone five to 10 years from now. But there are steps you can take to give your company the best chance of gaining an edge as fringe concepts begin to enter the mainstream, including:

- Systematically monitor the business and technology landscape for emerging trends that could present real-world opportunities. Consider establishing a center of excellence to explore use cases for promising new technologies and conducting experiments and small proof of concept studies.
- Build maximum flexibility into workplace infrastructure and applications. Prioritizing automation and transitioning to the cloud will help prepare your organization to pivot quickly, to either seize rapidly emerging opportunities or course correct when missteps occur.
- Ponder the potential applications of quantum computing in your organization, as early adopters may be able to capture significant competitive advantages.

Expect the unexpected

Just as technology continues to evolve, so does our understanding of workplace dynamics. Most organizations have, if only recently, come to acknowledge that progress comes from all the diverse ideas, skills and experiences people possess — while technology provides the tools to heighten their abilities and unleash their full potential.

In the years ahead, we'll see the working relationship between human and machine become ever-more natural and intertwined. Every CIO carries the responsibility to nurture those relationships to the benefit of employees and the organization as a whole. By thinking proactively, staying abreast of new developments and exploring opportunities for improvement, CIOs can maximize the impact of technology on their company's long-term success.

While it's prudent to plot a course to the future, keeping an open mind and maintaining flexibility must be tenets of any technology strategy. Because, if we've learned anything from the past, it's that disruption is always around the corner. As today's technologies build on one another exponentially, we can only imagine what profound advancements might transform the workplace yet again.



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