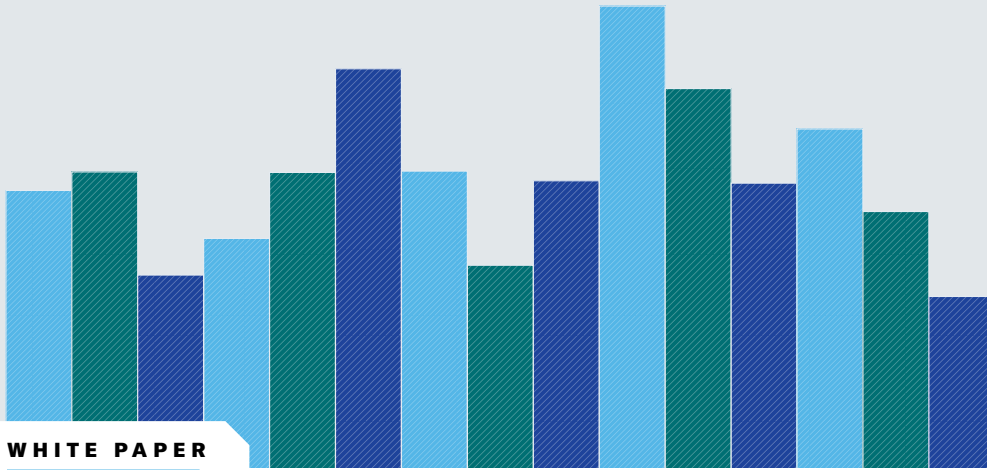




**Harvard
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ANALYTIC SERVICES



WHITE PAPER

Maintaining Momentum on Digital Transformation:

CIOs Share Strategies to Sustain Speed



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During the past two years, many chief information officers (CIOs) seized the opportunity the pandemic gave them to accelerate digital innovation—at a pace that was previously unthinkable. Those who did so sped through barriers that once blocked their path and shortened their transformation timelines by a factor of years. We now find ourselves emerging from this time completely changed organizations and leaders, and one truth is beginning to sink in: This car needs brakes. Those leaders in the driver's seat now have a new opportunity to seize: We need to build a vehicle around us that can sustain this pace for the long haul.

With the open road ahead, there is no limit to the technological advancements CIOs can achieve as automation, artificial intelligence, hybrid cloud services, and other innovations transform how businesses deliver value in the digital future. But maintaining the pace of transformation is daunting from a people management perspective. The past two years have taken a toll on employees. As video fatigue increased, so, too, did the outside stressors on individuals. In some cases, work relationships and bonds suffered as teams went virtual. As businesses begin to reopen physical offices and explore what hybrid work means for them, neglecting the employee experience is a mistake that could have a critical impact on their ability to keep pace with competitors—and retain scarce talent.

CIOs who are addressing these challenges head-on, like those interviewed in this report from Harvard Business Review Analytic Services, demonstrate the powerful role IT can play in rethinking the nature of work, enabling hybrid teams to thrive, and setting a new precedent for digital innovation across their organizations. They are not planning a return to what was normal before the pandemic; rather, they are building something much better for their organizations, customers, partners, and employees.


CIOs interviewed for this report are operating under the idea that digital acceleration is now a permanent fixture in the business landscape. They are radically rethinking the employee experience to fight burnout, make jobs more sustainable and fulfilling, and shift to a hybrid work structure—both in-person and remote—that prioritizes human connection. And they are building digital acumen beyond the walls of IT so that all employees—from diverse roles and backgrounds—see their place in the organization's future.

This research includes candid insights and practical ideas from leaders who have embraced this unusual opportunity to shape the future of their organizations. I encourage readers to use this report, sponsored by Red Hat as part of The Enterprisers Project, as an inspirational guide to leading transformation at a sustainable pace and building a future of work that works for everyone. We plan to continue to explore how CIOs are maintaining the pace of digital transformation while leading with empathy in The Enterprisers Project, Red Hat's CIO community and publication. We invite you to join us there to continue the conversation.



Mike Kelly
Chief Information Officer
Red Hat

Maintaining Momentum on Digital Transformation: CIOs Share Strategies to Sustain Speed



Digital transformation across all industries accelerated at an unprecedented pace throughout the coronavirus pandemic. Often within days after shutting down, organizations put in place state-of-the-art technology that enabled legions of employees to work securely and productively from home. Companies sped up the creation and delivery of digital products and services, evolving entirely new operating models.

At Dow, a \$39 billion materials science company headquartered in Midland, Mich.—which, among other things, revved up the delivery of digital tools to advance product development—the corporate vice president, chief information officer (CIO), and chief digital officer, Melanie Kalmar, estimates the pandemic helped drive a “200-times increase in innovation-focused digital engagement” since the beginning of 2020. “We were on a digital transformation path, but during the pandemic, we agreed to drive faster and accelerate what we were already working on,” she says.

Those transformation speed gains have created some big questions for CIOs: For starters, how much of that accelerated pace is sustainable over the long term?


In the beginning of the pandemic, digital acceleration was viewed largely as a way to enable remote work and ensure business continuity. Two years later, research indicates that organizations now see digital acceleration as a more permanent fixture in the business landscape. Eighty-six percent of 326 business executives across different functions surveyed by Harvard Business Review Analytic Services in April 2021 said their organization had accelerated its digital transformation during the pandemic. Of those respondents that rapidly transformed, 91% said they plan to maintain the faster speed—or possibly increase it—even after the pandemic ends.¹

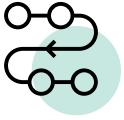
HIGHLIGHTS

Accelerating digital transformation **requires new digital skills, not just in IT**, but across all organizational functions.

One of the biggest challenges facing chief information officers (CIOs) is ensuring they can **capitalize on their organizations’ accelerated transformation progress and continue to create game-changing digital innovation** that translates to sustainable business value, without burning out talent.

CIOs should focus on **reimagining work** to fight change fatigue, **building digital acumen** across the enterprise, creating **more agile operating models** with alternate paths to operational resilience, and **deepening human connections** between colleagues and teams.





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One of the biggest challenges facing Kalmar and other CIOs is ensuring they can capitalize on their organizations' accelerated transformation progress and continue to create game-changing digital innovation that translates to sustainable business value, without burning out talent. Equally important is building greater agility and resilience throughout the enterprise as a way to ensure readiness for unknown disruptions in the future. One of CIOs' greatest lessons from the past two years is that an ability to pivot quickly is crucial in times of extraordinary uncertainty. Achieving that capability has less to do with technology than with reshuffling enterprise priorities, adopting new work strategies, and leveraging leadership skills that clearly focus on people and culture, all of which are top priorities for CIOs going forward.

The organizations best positioned to maintain their transformation momentum are those focused on "a truly different way of working" going forward, says Melissa Swift, U.S. transformation leader at Mercer, a New York-based management consulting firm. "Right now, one of the biggest obstacles to [ongoing digital progress] is all of the rhetoric about the return to office," Swift says. "The more cutting-edge organizations are working toward pushing the envelope beyond hybrid working arrangements to making work itself more sustainable."

Sustainability for the long term includes factors like automating work that is physically dangerous, boring, or repetitive and empowering frontline workers to make decisions based on new digitized information systems. Automation also removes monotony, letting workers focus on more meaningful or innovative tasks.

Re-creating what was normal before the pandemic should not be the organizational goal. If it is, the organization could fall behind competitors. Instead, CIOs should focus on

enabling even greater flexibility, resilience, and momentum by focusing on four key areas: reimagining work to fight change fatigue; building digital acumen across the enterprise; creating more agile operating models with alternate paths to operational resilience; and deepening human connections between colleagues, teams, and customers.

The CIO's New Task: Fighting Worker Burnout

The rise in remote work brought on by the pandemic has been both a blessing and a curse. On the upside, organizations discovered that when equipped with the right technology, employees working from home actually increased their productivity.² On the downside, with workers having little to no separation between work life and home life, worker burnout has skyrocketed. Over half (52%) of workers responding to a March 2021 survey by Indeed, the job aggregator website, said they were experiencing burnout in 2021—up from the 43% who reported experiencing burnout in Indeed's pre-Covid-19 survey. Sixty-seven percent of workers reported that burnout has worsened during the pandemic.

Worker burnout, coupled with high, pandemic-induced stress levels, prompted an increase in employee resignations, further squeezing an already tight labor market. In August 2021, more than four million people across industries quit their jobs, the highest level of resignations since the Bureau of Labor Statistics started tracking such data in 2000.³

One big upside of the "Great Resignation," as it's been called, is that organizations are beginning to dig into the kinds of work that wear people down. Several CIOs reported working more closely with their company's human resources department to identify work that is repetitive, dangerous, or otherwise stressful and that might be done by technology rather than human workers. As Dow's Kalmar sees it, the CIO's role is expanding beyond just putting technology out there to help with the work. "It's about evolving the work," she explains.

Dow, for example, is investing heavily in sensor technology, robotics, and artificial intelligence to eliminate the need for humans to perform dangerous jobs, such as inspecting chemical tanks, a task now performed by special robots. In manufacturing plants, workers once equipped with two-way radios are gaining access to real-time data, enabling them to prioritize the most pressing supply and demand issues and be more proactive with customers.

Working more safely and more efficiently and innovating faster for customers necessitate a near full turnaround in the way IT has traditionally operated, Kalmar notes. "In the past, IT worked on creating new capabilities, then looked at how to get users to adopt," she says. "Today, we have to focus on change management first and paint the picture of what the future looks like."



“In the past, IT worked on creating new capabilities, then looked at how to get users to adopt. Today, we have to focus on change management first and paint the picture of what the future looks like,” says Melanie Kalmar, corporate vice president, CIO, and chief digital officer at Dow.

This transformational process at Dow began with IT studying a group of workers or a particular job role to deeply understand their pain points, keeping an especially close eye on employees’ workload. Engaging a broad population of employees up front in the process works to help identify change agents in the workforce, plus ensure that every employee is part of digital transformation. “If you do this right, everyone will see their job differently,” Kalmar says.

Improving Dow’s employee experience and customer experience by implementing digital technologies and solutions is also a highly dynamic process. “It’s not a one-and-done exercise,” Kalmar says. “We have to continually evolve. We also can’t do all of this digital transformation at once. It’s important to focus on and prioritize critical areas that drive desirable business outcomes.” Dow’s executive leadership meets monthly to “review digital programs in motion, anticipate value, review resource needs, and adjust priorities as needed,” Kalmar notes.

A key part of making work more sustainable and less stressful is “taking things off people’s plates,” says San Jose, Calif.-based Adobe Inc. senior vice president and CIO, Cynthia Stoddard. This goal is one of the key functions of the company’s “Center of Excellence for Robotic Process Automation,” which identifies tasks to be automated and develops the processes and technology to do so. Established before the pandemic started, the center of excellence has become increasingly important, especially as the company more fully embraces hybrid work, Stoddard says.

Adobe’s “Lab82,” the company’s internal simulation and testing space for workplace technologies, is focusing on enhancing employee experience in a changing work environment. One particular area of interest is collaborative technologies that work to make remote workers feel they have a voice on projects that is equal to that of their on-site counterparts. For example, Adobe has leveraged Lab82 to test virtual whiteboarding tools to facilitate effective brainstorming, as well as new videoconferencing setups to ensure effective collaboration and equality between on-site and virtual team members. “We want to make sure we’re testing these [digital] tools in a lab setting before rolling [them] out broadly,” Stoddard says. The company aims to provide employees with

top-of-the-line tools “to ensure they can remain productive and collaborative no matter their location. We need to figure out how to create a good employee experience in a hybrid world and not lose any of what we gained during Covid,” she explains.

At Clario, a Philadelphia-based clinical trials company, CIO Jay Ferro says his organization is focused on automation as a means of enhancing employee experience as well as streamlining operations. One example is automating reporting and analytics. “It’s the difference between a customer care rep having to get into six or 10 different systems to get information a customer needs versus creating a simple portal to query,” Ferro says. This scenario obviates the need to “go on an archeological expedition to find answers to questions. Speed and quality are automation’s two big drivers,” he adds. “Anything we can do to trim off time and make decisions faster helps us.”

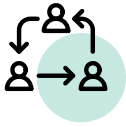
The Key to Success: Scaling Digital Acumen

Accelerating digital transformation requires new digital skills, not just in IT, but across all organizational functions. Consider a corporate public relations specialist charged with developing content across multiple digital platforms and using data mining tools to discover new sources of information. Another example: a plant worker making production decisions based on real-time supply and demand data. Both roles now require greater digital understanding and skills, which are essential to maintaining digital transformation momentum.

Additionally, IT needs open lines of communication from digitally empowered frontline workers so that suggestions and feedback on what is most important and impactful can be prioritized.

Increasing digital acumen also ensures companies have greater flexibility when future disruptions occur. In Deloitte’s 2021 “Global Human Capital Trends” survey, 72% of respondents identified the ability of “people to adapt, reskill, and assume new roles” as one of the most important factors to navigate future disruptions.

“Building digital acumen accelerates our ability to advance human health,” says Jim Swanson, CIO at New Brunswick, N.J.-based Johnson & Johnson (J&J). Swanson has used artificial



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intelligence to assess digital skills within the 4,300-person technology organization, data which is made more robust by employee and manager assessments of those skills. Once skill gaps are identified, employees can tap into a dedicated technology learning curriculum, plus they can gain real-world experience and practice new technology skills by opting for different project assignments.

As J&J’s business and technology strategies become indistinguishable, “our strategy is to create an environment to grow talent organically [from within],” says Swanson. This opportunity to learn new digital skills is important as the company incorporates more data science and analytics into functions outside of IT.

“The idea is that employees are always future-ready and are always marketable,” says Swanson. “We want to create future-ready employees who want to come here, stay here, and do great things.”

Don Anderson, senior vice president, transformation executive of the Federal Reserve System in Boston, is working to build deeper digital skills among IT employees via a program of job shadowing and mentorships. The two practices began as part of the onboarding process for new employees during the height of Covid-19 when the central bank was in the midst of a massive technology modernization project. The Federal Reserve migrated 40 highly customized legacy applications to a cloud platform. Peer partnership was absolutely key to the project’s success, Anderson says, adding that the creativity, skills, ideas, and support coworkers freely shared also worked to speed decision making as well as increase overall flexibility.

As Kalmar sees it, CIOs also have a key role to play in finding valuable new talent across the enterprise. “It’s really important to be out there as a leader and to be curious about the talent that’s in the company,” says Kalmar. “It’s also important to help colleagues understand how the company works and what drives our growth, because it works to connect people to the tools that create value.”

Companies will, of course, continue to recruit digital skills from outside, with an emphasis on expanding their reach and the tools they use to recruit. Malvern, Pa.-based mutual funds company Vanguard, for example, is focused on recruiting new talent via organizations like Handshake, an app that connects students on college campuses with hundreds of thousands of employers. Another talent source is LaunchCode, a nonprofit

organization that offers free tech education and job placement opportunities to bring new people from all backgrounds into the technology field.

“We now have talent that has been retooled [from other careers] at an amazing speed,” says John Marcante, recently retired global CIO at Vanguard. “We’re getting a more diverse organization as a result, and diversity matters,” he says. “Diversity, recently equity, and inclusion are all things that matter a lot to people and what makes them want to stay with an organization.”

Creating Agile Models, Ensuring Resilience

The urgency of the pandemic propelled IT organizations to quickly create new ways for their companies to connect with customers and suppliers and for employees to work remotely. Vanguard, for one, shifted thousands of call center workers to working remotely in a matter of days. Johnson & Johnson doubled down on data science and analytics in a practice known as “digital twinning” to simulate alternate sources and routes for raw materials and different production parameters in vaccine manufacturing. Digital twins involve the creation of a computer program and the use of real-world data to create simulations that can predict how a product or process will perform.

“The goal is to accelerate outcomes,” J&J’s Swanson says, adding that going forward, the company is relying heavily on data science to continually improve operating models and ensure operational resilience. “You can do any number of things in silico simulations (scientific experiments performed via computer simulation). They accelerate your ability to find issues and opportunities and to improve processes,” he says.

What’s happening in IT at J&J illustrates how “the role of IT and the CIO has acquired an immediacy” that it lacked before the pandemic, says Mercer’s Swift. “Before, IT meant long projects and multiyear implementations. Now, IT is definitely more strategically plugged into the business day by day. It’s not all about [projects] five years down the road.”

Swanson wholly agrees that technology organizations are becoming more deeply involved and taking a leading role in devising overall business strategy. “IT is shaping thinking, not just waiting for business partners [to set forth

requirements],” he says. “We’re leading in how technology can enable procurement, chain of custody, and other processes, creating new digital tools and assets.”

This cutting-edge technology work is being accomplished with high-performance, cross-functional teams that are aligned with very specific and well-understood outcomes. They also use agile methods and have autonomy in decision making. “The idea is to create end-to-end alignment on a goal with technology at the core. This is what builds speed and resilience,” says Swanson.

Breaking down any remaining organizational and/or information silos is also a top priority to ensure operational resilience and maintain digital transformation momentum, according to Kalmar. To accomplish this goal, a technology infrastructure that enables collaboration is essential. Dow had a distinct advantage from the beginning of the pandemic in that it had started its migration to the cloud five years earlier and was already making extensive use of digital collaboration tools, Kalmar says. In the past two years, “the partnerships between IT and our businesses really blossomed and are now super strong because we became very attuned to what the business needed and what they could handle,” she says.

Prioritizing the Employee Experience

Workplace culture typically takes years to evolve, but the pandemic has brought abrupt change to the way companies work. Remote work is a prime example, with home and work life now being blended for many workers. Many employees are working at all hours rather than the typical eight-hour day of the past. And, concerned about their health and safety, workers have canceled vacations. Therefore, at many organizations, employees’ paid time off has remained largely unused.

Coworkers who previously socialized daily at work in many cases haven’t seen one another—except on video—in two years. As impromptu hallway chats vanished, new team chat tools and deliberate video meetings took their place. For some organizations, this style of working may produce a higher rate of employee burnout and weaker human connections, two big factors that cripple both organizational resiliency and the ability to attract and retain talent. Many CIOs understandably now view rebuilding a positive workplace culture as a top leadership priority.

“We can’t keep working the way we have been working or everyone will eventually quit and find other work,” says Anderson at the Federal Reserve.

When the pandemic started, the bank had a timeline and budget for its digital modernization project, but in the first few weeks, some colleagues from vendor organizations that were partnering with the bank had people who got seriously



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ill and even died. “You quickly saw that this [project] isn’t all that matters,” he recalls. “People had child care issues and responsibilities around homeschooling. There was no one answer. We had to make sure everyone had the flexibility they needed,” he says.


Going forward, Anderson’s priority is creating an IT workplace culture that continues to emphasize flexibility, which workers can tailor to their own unique situations. “If you have a talented group of individuals, let them make decisions as to what works best for them,” he says, noting that the bank’s plans, as of late 2021, called for reopening its offices in January 2022, but that workers will have the option to work wherever they will be most effective. Employee performance will be evaluated in terms of business impact, not where or when work was performed.

At Dow, Kalmar says one of the most important things for CIOs going forward is connecting with people and investing time in getting to know them better. “Know what inspires them, what they want to try next—and not just people in your direct organization but people from all corners of the company,” she says. “You may end up with someone in manufacturing or engineering with a bent toward technology. It’s important to keep your eyes open for great talent to drive digital transformation.”

Vanguard’s Marcante suggests that CIOs engage their teams in regular dialogue about human issues, such as diversity, burnout, vulnerability, and what true teamwork looks like. “Make sure people know it’s OK to raise their hand when they need help,” he says. “As we return to work in a hybrid mode, these are the conversations we’re having.”

The hybrid dynamic will be more challenging than one in which all staff are remote, because in-office and remote employees have very different workplace experiences.

At Clario, which has begun reopening its offices in several cities, Ferro says “you have to be very intentional about making [remote workers] feel included.” Something as simple



“The more cutting-edge organizations are working toward pushing the envelope beyond hybrid working arrangements to making work itself more sustainable.”

Melissa Swift, U.S. transformation leader, Mercer



“We also have to find ways to recognize remote employees and go above and beyond in making them feel connected—maybe an outreach by the CIO or a care package,” says Jay Ferro, CIO at Clario.

as arranging a conference room so that people attending a meeting via video can see everyone in the room is important, he notes. “We also have to find ways to recognize remote employees and go above and beyond in making them feel connected—maybe an outreach by the CIO or a care package,” he suggests.

A February 2021 Harvard Business Review Analytic Services survey of 522 executives bears out the importance of connection and collaboration.⁴ The survey found that among leader organizations—categorized by the survey as companies that said their transformation initiatives were successful prior to Covid-19 and have remained highly effective since—73% said they are focusing on collaboration to enable digital transformation at their company. **FIGURE 1** Adaptability followed as the second most-cited characteristic (56% of leaders).

It’s important that all employees share a sense of belonging and camaraderie wherever they’re based. “You shouldn’t consider your off-site and on-site employees in two different buckets, but rather parts of one whole,” advise researchers at the University of California, Berkeley, Haas School of Business.⁵

The bottom line, says Adobe’s Stoddard, is “staying close to employees. Stay close to their experiences, and make sure you keep that a top priority.”

Sustainable Speed Needs Leadership

Rather than a temporary, pandemic-related state of affairs, digital acceleration is emerging as a permanent condition of the business environment. “Being able to flip on a dime to remote work provided the insight that if we can do this internally, we can do this with customers,” explains Swanson. “Before, we were dealing with customers more face-to-face, but now we know we can reach a broader audience more quickly with new technologies.”

Technology strategy has become and will continue to be ever more entwined with business strategy. Increasingly, the two are becoming indistinguishable, affording CIOs an unprecedented leadership role in shaping the future of their organizations. Successful CIOs are prioritizing the design and implementation of more sustainable work in an increasingly hybrid work world. Building digital acumen throughout their organizations and designing and building more flexible operational models are key priorities for technology leaders. Accomplishing these goals will require heavily leaning on

leadership skills, notably empathy, which several CIOs rank as the most important leadership skill they’ll need going forward.

“The biggest challenge is going to be people. It will take time to adapt to a hybrid environment,” says Stoddard. “People have geared their working schedules around taking care of parents, school pickups, and time zones. We’ll need to think about all of this and how we let people define flexibility. We

FIGURE 1

Collaboration Is Key to Transformation

Adaptability and inclusivity are also important to digital transformation efforts

Collaboration: There is support for sharing work, initiating projects in group settings, and effectively connecting with additional project groups to form cross-functional teams.

73%

Adaptability: Information flows freely, and individuals are able to make decisions and respond to changing conditions; experimentation and learning are encouraged.

56

Inclusivity: There are established channels for providing feedback or learning about projects and activities; leaders and project teams actively solicit diverse perspectives; there are processes for collective or collaborative decision making.

53

Transparency: Individuals and teams regularly disclose their plans, products, or processes to multiple stakeholders; decision makers share data and resources.

46

Community: Shared values guide decision making, so rather than relying solely on top-down directives, organizations mobilize expertise from people closest to challenges or opportunities to promote agility, quicker decisions, and better ideas.

42

Note: Responses are from respondents categorized by the survey as digital transformation “leaders.”

Source: Harvard Business Review Analytic Services survey, February 2021



“It’s all about building relationships and listening to people inside and outside of IT to create cross-functional alignment around a singular goal with technology at the core,” says Jim Swanson, CIO at Johnson & Johnson.

need to hear their issues and how they want to work. Empathy is the most important leadership quality of all.”

To demonstrate that empathy, CIOs can follow up by systematically removing barriers to flexibility that employees encounter in the process of performing work. In the past 20 months, technology leaders have witnessed unprecedented productivity and innovation gains from teams given the right technology tools and the latitude to decide how and when to work toward those goals.

Letting go of planning or managing digital transformation work to more keenly focus on business strategy, outcomes, and people will require both trust and flexibility on CIOs’ part, as well as a renewed focus on strengthening relationships.

“It’s all about building relationships and listening to people inside and outside of IT to create cross-functional alignment around a singular goal with technology at the core,” says Swanson. “IT really got on the map as a value-added partner during the pandemic. Sustaining these relationships is what it will take to continue in that role.”

Endnotes

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