Unleashing Digital Value

A playbook for business leaders
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Unleashing digital value

The challenges are great; the opportunities greater

LETTER FROM THE GUEST EDITOR
NICK TZITZON

We live in uncertain times, marked by economic turmoil, geopolitical strife, and ecological peril. But the flip side of every challenge is an opportunity—a chance to think differently, do better, and make a difference. Organizations that embrace a culture of innovation will have the best chance to thrive.

To understand how digital leaders are creating value for their stakeholders in this tumultuous environment, ServiceNow and ThoughtLab conducted a survey of 1,000 C-level executives in five industry sectors across 13 countries. Annual revenues of their companies ranged from $350 million to more than $5 billion.

We categorized respondents as beginners, intermediates, or leaders, based on their levels of innovation across people, processes, and technology. This helped us identify the best practices of innovation leaders, as well as the benefits to be gained by moving to the next stage of maturity.

More than half of all respondents said fostering a culture of innovation drives revenue growth. What’s more, companies on the cutting edge were much more likely to unlock a wide range of benefits, such as better customer service and more satisfied customers, along with new products and business models.

Technology alone can’t solve the challenges facing businesses and the world. The human element is just as important. On this front, many organizations still have work to do. Currently, only 10% of companies involve customers in decision-making around innovation, and only 5% involve their own employees.

We packed this issue of Workflow Quarterly with stories that highlight the strategic benefits of digital innovation. On the next page, we share research findings on how successful companies build innovation into their cultural DNA. On page 10, Janet Rae-Dupree reports on how continuous learning makes knowledge workers more productive. On page 18, Evan Ramziopoulos shows how innovation leaders build the future by listening to their customers and employees. And on page 24, we feature an excerpt from Future Ready, a new book that offers a playbook for capturing value from digital business models.

The challenges we face are big. This issue of Workflow Quarterly demonstrates that digital innovation can help people and organizations thrive no matter what the future may bring.

Thanks for reading.

NICK TZITZON
CHIEF STRATEGY AND CORPORATE AFFAIRS OFFICER, SERVICENOW

Just one in 10 businesses involves customers in decision-making around innovation, while one in 20 talks to its own employees.
Innovation leaders post higher revenues and produce better products at lower cost, according to a recent ServiceNow and ThoughtLab survey.*

As any experienced surfer knows, you need to watch and understand ocean conditions before riding the waves. The same applies to leading an organization through change. What separates innovation leaders from the rest is their sharp focus on customer needs and wants. One-third of leaders said they "put customers at the center of innovation strategies" versus only 6% of nonleaders. Leaders never stop improving, either: 44% report making significant progress on continual process improvement versus 22% of others.

Better tech and processes distinguish innovation leaders from the rest of the pack

Listening to customers as part of innovation planning

Innovation leaders by industry

PERCENTAGE OF INNOVATION LEADERS IN FIVE MAJOR INDUSTRIES

- PUBLIC SECTOR: 18%
- TELECOM: 21%
- HEALTHCARE: 23%
- MANUFACTURING: 23%
- FINANCIAL SERVICES: 25%

Meet your AI work buddy

Researcher Nicolas Chapados explains how recent AI breakthroughs could change organizations forever

BY STUART LUMAN

From their base in Montreal, ServiceNow’s VP of research Nicolas Chapados and his team are developing new applications for AI in the enterprise. Many of these applications sit in the earlier stages of the so-called AI value chain, where basic AI components scale up and help construct more complex solutions. In a recent conversation with Workflow Quarterly, Chapados shared his team’s latest work on AI-authored workflows, cognitive buddies, and humans in the loop.

AI-authored workflows: Our group recently prototyped a “text-to-workflow” solution. We can state in plain English a business problem that we want solved, and the model outputs a workflow that solves the problem we’ve described. What we want is to be able to state in a couple of sentences the job that needs to be done and to have that converted into a sequence of actions that incorporate relevant best practices, error checking, and other checks to make sure the workflow operates successfully and can be deployed robustly.

Your cognitive buddy: Today we’re still using the classical, mouse-based user experience that we’ve had for four decades. Imagine that in addition you can have a conversation with the system. Imagine you want to do a scenario analysis. You can just ask the system, “Hey, what if that variable becomes this? What are the consequences?” And boom—you get the equivalent of 100 clicks in one verbal request. Conversation becomes an additional modality to interact with the software.

Or imagine you have different bots that are all part of this conversation. One is specialized in financial planning and analysis, another in customer experience, and so on. These AI partners could propose next best actions given a current situation. You can ask your AI buddy, who is constantly looking over your shoulder, “What do you suggest I do here?” It’s still the very early days for these kinds of interaction paradigms, but I think they could be quite powerful.

Human in the loop: I’m a big believer in the potential for AI to amplify human thought rather than substituting for it. To get the most satisfaction out of these models, I think a human operator should train the system. Starting small and not trying to do too much initially. We’re seeing early examples, such as GitHub’s Copilot, which takes natural language text and turns it into usable code. If you don’t like the suggestion, you just get rid of it. These kinds of interactions are very productive. But we still need to figure out which user experience patterns are most successful when humans and machines work together on tasks. ServiceNow is partnering with the company Hugging Face on the BigCode project, which seeks to responsibly develop large language models that will serve as the basis for future code-generation applications. The ability for the user to get quick feedback from the machine and the machine to learn from the human in real time will be key for the success of such systems.

Securing the digital value chain

New business models often create new vulnerabilities

BY EVAN RAMZIPOOR

At the start of the pandemic, supply, vendor, and personnel shortages forced companies to adopt new ways of working—quickly. These rapid pivots helped many firms survive. They also created serious security risks.

COVID-19 forced changes to how companies worldwide produced and delivered products and services—their value chains. Often, these value chains evolved faster than organizations’ cybersecurity capabilities.

As a result, hackers carried out devastating assaults. Notably, the 2020 SolarWinds attack affected up to 18,000 SolarWinds customers, including the Pentagon and U.S. Department of State. Since then, there have been near-constant attacks on SolarWinds’ vendors and suppliers, says Larry Clinton, president of the Internet Security Alliance (ISA) and also cybersecurity, he says. “We’re making the same mistakes with AI and other technologies that we did with the internet,” he says. “We’re waiting until we use them everywhere before we wake up to the fact that they aren’t secure.”

More vendors, more risk

In a recent ServiceNow/ThoughtLab survey on innovation, more than half of respondents reported significant progress modernizing IT systems. A quarter made similar progress automating workflows, improving processes, and harnessing AI, the cloud, and the IoT.

However, our research on cyber risks shows that more than 40% of respondents fear their cybersecurity efforts are not keeping pace with their digital transformations. Two-thirds report that remote work has exacerbated risks. Almost half say an increase in vendors and suppliers has created new vulnerabilities.

In its list of best practices for managing supply chain risks, the National Institute of Standards and Technology emphasizes that every department, from product marketing to engineering to human resources, should run their own risk assessments and security tests on vendors and partners. Due to a severe shortage of tech talent, most companies don’t have enough security professionals to do this work.

To augment these understaffed teams, organizations need an integrated system that facilitates collaboration with vendors, triages vulnerabilities, and uses AI to anticipate threats. One such system is from MITRE, a nonprofit research firm that works with the U.S. federal government. The company developed a predictive tool that can identify bad actors across the internet. Such tools can replace human security analysts, or be used to help security teams identify threats.

To secure their value chains, companies must rethink and prioritize their approaches to security, says Karl Klassen, director of product marketing for cybersecurity solutions at ServiceNow. “In the 21st century, no corporate board should make a serious decision without discussing it with legal, finance, and also cybersecurity,” he says.
Rethinking retail
All businesses are complex ecosystems—retail more than most

BY SHUCHI RANA

To the average customer, the retail industry appears deceptively simple. Walk into a store, try something on, love it, and buy it—or hate it and put it back on the rack. Or go online, find an item that catches your eye, click “Buy Now,” and wait for a package to arrive.

Behind these straightforward experiences lurks a complex web of interconnected processes. The pandemic underscored the need for all parts of the retail value chain to work in harmony, including design, production, procurement, logistics, supply chain, in-store and e-commerce operations, sales, and marketing. Yet these functions are too often siloed, making it hard to predict or prepare for the unknown. COVID-19 only highlighted long-standing inefficiencies that are now visible to all.

E-commerce grew enormously during the pandemic. Consumers spent roughly $870 billion online with U.S. merchants in 2021, up from $762 billion in 2020. Although that pace slowed in the first half of 2022, retailers must still meet consumers where they are. To succeed, they need to deliver integrated, cohesive experiences across all channels. Younger generations, especially Gen Z, feel more comfortable shopping online. To reach them, retailers need to form partnerships and leverage new technologies, including creative ways to engage with consumers in virtual worlds. This will unlock new business opportunities and new ways to engage with consumers in virtual worlds.

In May 2021, for example, Gucci opened a two-week-only Gucci Garden experience in the virtual world of Roblox where online shoppers could try on and purchase digital items for their avatars. Gucci reported almost 20 million visits and hundreds of thousands of virtual gear purchases, according to CB Insights’ 2022 12 Tech Trends to Watch Closely report.

Omnichannel engagement: Retailers are in a never-ending race to stay ahead of the competition. They need to deliver integrated, cohesive experiences across all channels. To the average customer, the retail industry appears deceptively simple. In a never-ending race to stay ahead of the competition. They need to deliver integrated, cohesive experiences across all channels.

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Employee experience: Good retail employees are hard to find, expensive to hire, and even harder to retain. In recent years, employees have become increasingly picky about where they work.

This year, Gucci returned to Roblox to build a permanent town and shop. In the post-pandemic world, brands will have to figure out how best to reach consumers and what platforms—virtual or real—match best with their brand strategies.

Cloud sprawl: To run stores efficiently and support customers and employees effectively, retailers are embracing digital transformation. With that comes a focus on cloud computing, which brings with it heightened concerns about operational expenses, optimization, and ROI. As cloud-related expenses grow, retailers must figure out how to run cloud operations faster and cheaper, with better governance, security and control. To do so, companies will need a clear cloud strategy that provides a centralized view into their entire system, including tracking, monitoring, and managing usage, to bring full visibility and transparency to all IT operations. This will be a critical focus for companies as they move beyond the pandemic and into an uncertain macroeconomic phase.

Retailers live in a dog-eat-dog world, where competitors are consistently nipping at their heels and fickle consumers run after the latest trends and fashions. Only the most agile, human-centered organizations will survive.
Learning on the job

Knowledge workers need continuous learning to maximize their productivity

BY JANET KAE-DUPREE
More than five decades ago, management guru Peter Drucker coined the term “knowledge worker” to describe people who work primarily with their minds instead of their muscles. He argued that the information revolution would help knowledge workers drive productivity for organizations.

Drucker revisited this idea at the turn of the century, writing: “The most valuable asset of the 21st-century institution will be its knowledge workers and their productivity”. A key part of boosting that productivity, he noted, would be encouraging knowledge workers to learn continuously throughout their careers.

Most companies want to build organizational cultures that foster innovation, but that’s easier said than done, according to a recent ServiceNow/ThoughtLab survey of 1,000 executives worldwide. The study found innovation is as much about people as it is about technology, and that cultivating innovation requires organizations to foster new skills and new ways of thinking in the workforce.

There’s work to be done in this regard. More than one-third of respondents said their organizations struggle to provide sufficient training for workers. LinkedIn’s annual Workplace Learning Report found similar concerns: Almost half of executives polled said their employees don’t have the right skills to execute their business strategy, a figure that jumped nine points from 2021.

The good news: Companies that weave continual learning into every aspect of their organizational culture are inherently more adaptable and innovative. These companies adapt well to change because they tend to see change as an opportunity, and can navigate crises because the tools needed to evolve are already stitched into the organizational fabric.

Learning boosts business success
Companies with strong learning cultures consistently produce strong business results, outperforming in revenue growth, profitability, market share, and customer satisfaction, according to a 2016 study by the Association for Talent Development and the Institute for Corporate Productivity.

The study defined a culture of learning as one where “employees continuously seek, share, and apply new knowledge and skills” and where learning “permeates all aspects of organizational life.” While the research found that top-performing organizations are five times more likely to have a culture of continuous learning, only 31% of the 832 companies surveyed met the definition. The challenge for companies is to embed such continuous learning in their cultures.

“Everything must lend itself to creating a learning culture where more and more individuals are given the opportunity to upskill and reskill,” says Cat Lang, senior vice president for global education at ServiceNow. “But what’s really interesting is what we call ‘and-skilling’. It’s not ‘you used to do this and now you do that’. Instead, you’re learning new skills, growing your career, and immediately becoming much more valuable.”

Lang cites a ServiceNow customer that sought to staff a new center of excellence to support deployment of the Now Platform across their organization. Rather than hiring new workers, the company focused on “and-skilling” to bring in existing employees who already understood the company and had proved themselves in their current roles. Learning the Now Platform augmented their existing skills and benefited their careers while helping the company deploy the technology faster.

Beyond the classroom
Enterprise software provider Deltek encourages an environment that embraces continuous learning, says Jodi Atkinson, the company’s senior director of global learning. “We live and breathe a culture of learning,” she says, “[whether we’re] walking down the hall with a colleague or in a team meeting or intentionally during a learning circle focused on a particular area of expertise.”

Since 2018, when Deltek made learning and development a core value, its more than 3,400 employees have been asked to dedicate at least 40 hours of work time annually to learning in its myriad forms. The company has deployed a digital learning management system where employees can work with their managers to pursue personal development plans that advance both organizational objectives and personal aspirations. If an employee wants to learn a programming language, for example, they can study it independently and report their efforts. Or if they...
want to perfect their presentation skills, they can participate in Toastmasters as part of their annual 40-hour minimum. Anyone at Deltek can lead a learning circle session on a subject they want to share with colleagues. Some divisions mandate weekly or monthly learning sessions facilitated by experts who teach and invite conversation on a broad range of topics.

Other companies don’t mandate a set number of learning hours, but rather encourage and support learning in whatever way their employees find most useful. Leaders at LexisNexis Risk Solutions, for example, are encouraged to set aside specific days or times for learning throughout the 10,000-person company. One division has declared a monthly “no-meetings” day to free up employees to pursue professional development either independently or in groups at work. “You don’t have to seek permission or wait to be told to learn something,” says Shibani Gopal, vice president of talent development at LexisNexis Risk Solutions. “We are a culture that is based on inquisitiveness and curiosity. We try to develop offerings that will enhance that.”

If an employee wants to learn how to create Excel pivot tables, for example, they can seek out in-house experts or take a course on the company’s digital learning platform. Additionally, the company hosts conferences that surface customer insights, create networking opportunities, and encourage teams to share information.

A new digital mentoring platform has not only contributed to the company’s culture of learning, but also created previously unimagined connections. Using automated recommendations, mentees can set up formal six-month relationships with mentors from a different division or the opposite side of the globe—or both.

**Make learning a benefit**

In a job market where many companies struggle to find the right talent, a continuous learning culture can also be an attractive employee benefit. In Gallup’s 2021 American Upskilling Study of more than 15,000 U.S. workers, 57% said they wanted to update their skills, and 48% would switch jobs to do it.

In the Gallup study, 71% of workers said job training and development increased their job satisfaction. Another 61% said upskilling opportunities were an important reason to remain with their current employer. A separate Gallup/Amazon poll found that two-thirds of workers aged 18 to 24 ranked learning new skills as the third most important perk when considering a new job, behind only health insurance and disability benefits.

Deltek’s learning culture has made it “a destination employer because people want to work in an organization that invests so much in their development,” Atkinson says. She adds that it’s critical to allow employees flexibility in what and how they learn. “Let them articulate what they’re interested in and align those aspirations with where the company needs to grow so that they can see how they are part of the solution.”

That alignment occurs most effectively when companies assess each worker’s unique set of skills rather than focusing only on specific roles. Such efforts are most effective for organizations that maintain a skills database with a profile for every employee, according to a 2021 Accelerating Total Workforce Readiness study by the Institute for Corporate Productivity. According to this research, only 10% of organizations have developed such a tool.

Continuous learning cultures also tend to have more pathways for internal mobility, an important factor in retaining talent. According to the LinkedIn report, companies that excel at internal mobility retain employees twice as long as those that don’t. Part of the reason: Employees who believe their skills are not being put to good use are 10 times more likely to look for a new job.

When Drucker wrote that knowledge workers should be treated as an asset, many organizations still believed their employees were a cost that didn’t require investment. Drucker warned that the new generation of knowledge workers would have to update their skills in order to stay relevant and productive.

While many leading companies see the value in providing training, fewer understand the need for continuous learning and talent transformation. “Our human capital is our greatest asset,” Deltek’s Atkinson says. “We’ve got to invest in learning and development to optimize people.”

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How to build a learning culture

A conversation with ServiceNow’s Cat Lang

Skilled, committed humans are key to the success of any digital transformation, says Cat Lang, senior vice president for global education at ServiceNow. Lang is the guiding hand behind the company’s Now Learning site, a one-stop shop for ServiceNow training and certification. Workflow Quarterly sat down with her recently to talk about how companies can develop a learning culture among their employees.

What is a learning culture?
A learning culture at an organization means that its leaders are constantly thinking about talent development and not just training. They need to face the fact that if they’re planning their digital transformation, if they’re planning the types of solutions and outcomes they want to get, they also need to be thinking about their own workforce and the opportunities that they’re providing to individual employees within their company. That’s not just a one-off; it’s a whole cultural way of thinking.

How can companies build a learning culture while they pursue digital transformation?
First off, they need to ask themselves: How are we communicating with people whose jobs are changing? How can we support them through custom training or events that help them understand why it’s beneficial to them? This approach captures the hearts and minds of the people who actually do the work. That’s the talent transformation, when you get real buy-in from individuals who are using the new solutions.

Do you have advice on getting that buy-in?
Executives need to be very clear on what the opportunity is. It sounds basic, but most companies are very task-oriented in their job descriptions. Instead, they need to sell the career opportunity. Sure, there will be a period of mentoring and gaining experience in a new role. But if they’re already familiar with the business, newly trained workers can be productive in two months versus the six to nine months required for someone who’s completely new. Given the opportunity and given the support, people will take advantage of learning and development opportunities if they see the benefits.

BY JANET RAE-DUPREE
Listen up!

Companies that don’t pay attention to customers and employees are missing out

BY EVAN RAMZIPOOR
In 1968, 3M bosses asked a company chemist named Spencer Silver to create “bigger, stronger, tougher” adhesives. Instead, he created something that had none of those qualities: an adhesive that could temporarily stick to paper without damaging it.

Although Silver insisted his adhesive had value, 3M didn’t see it—until over a decade later, when his colleague Art Fry, who’d heard Silver extolling the virtues of his invention at a seminar, stuck the adhesive onto a piece of paper. Armed with this sticky-paper prototype, Fry and Silver asked the company to conduct consumer testing on their invention. As it turned out, people loved the Post-it note.

As innumerable business school case studies have noted, the Post-it note worked because people in power listened—eventually, in 3M’s case—to what their customers wanted and what their employees knew.

Similarly, during the height of the pandemic, companies that were tuned into their customers’ and employees’ evolving needs and demands quickly thought up new products and services to stay afloat.

Yet when it comes to making fundamental decisions around innovation and digital transformation—reworking the core processes and systems upon which they run—most companies do a terrible job listening to the needs of their customers and employees, according to new research from ThoughtLab and ServiceNow (the publisher of Workflow Quarterly).

A global survey of 1,000 C-level executives revealed that just 10% of companies put customers at the center of their decision-making around innovation. Only 5% take the time to consult their employees before launching a transformation project.

Nicole Chiala isn’t surprised. Chiala, a senior manager in ServiceNow’s Workflow Design Studio, has focused on user experience for more than a decade. She currently runs design-thinking workshops for ServiceNow customers who want to get the most value and impact from their technology investments.

Although analysts and research firms often tout the benefits of being customer-centric, business executives are more focused on internal priorities than their customers’ needs. The majority of Chiala’s clients have never actually talked to the end users of their systems, whether they be customers or employees. “Even people who are selling a product all day long don’t understand what it takes to develop something people want to use,” she says. “You have to talk to the end user.”

Marketing scholar Anna Cui agrees with Chiala’s assessment. “The question really is not whether companies should be customer-centric or not, but how to be customer-centric,” says Cui, an associate professor of marketing at the University of Illinois at Chicago who focuses on new product development.

Customer focus for the win

Customer-centric strategies deliver concrete benefits. Companies that innovate with the customer in mind dramatically outperform their competitors.

According to the 2020 Global State of XM from customer-experience-focused software company Qualtrics, customers are willing to pay more for products and services when they feel connected and engaged with a brand. If businesses can deliver a great experience, customers will accept price hikes up to 10%, according to PwC research.

Top challenges to creating innovation culture:

- High implementation costs
- Lack of data management systems
- Insufficient tech investment

SOURCE: THOUGHTLAB/SERVICENOW RESEARCH

You have to talk to the end user.”
Some businesses are getting it right. The manufacturing sector is outperforming other industries on customer experience, according to the ServiceNow/ThoughtLab survey, with just under half of firms incorporating customer feedback directly into product design.

The sector’s success is partially attributable to the slow pace at which it innovates, argues Forrest Morgeson, assistant professor of marketing at Michigan State University’s Broad College of Business. Software companies are expected to ship new products constantly, but customers don’t expect physical product manufacturers to innovate at the same breakneck pace. As a result, traditional manufacturers have more time to speak with customers and incorporate their input.

**Empathy first**

When customers come to the Workflow Design Studio for help, they usually believe they have a technology problem, Chiala says. If customers aren’t buying a new app or if teams aren’t submitting help tickets, executives often assume there must be something wrong with the app or the ticketing system. However, in most of these cases, the company actually has a people problem—as in people simply don’t want or need the new tech.

Chiala’s team uses design-thinking approaches to build empathy with end users. Design thinking provides a structured approach for companies to study the end users of a new product or service, and then design it with them in mind.

Jeremy LaCroix, principal UX design strategist at the Workflow Design Studio, leads regular design-thinking workshops with customers. “We ask the users questions,” says LaCroix. “What do you want to do? When you need help, who do you go to? What does your day look like? That’s building empathy.”

These workshops aim to help teams understand people as people, not as abstract personae. This is an important distinction, says Hayagreeva Rao, a professor of organizational behavior and human resources at Stanford University’s Graduate School of Business who writes and teaches about customer-centric innovation.

“We should never un-person a customer,” says Rao. “They’re not a segment. They’re not a profile or a persona. They’re a person.”

Although many companies have formal “voice of the customer” programs to capture feedback, they tend to be less interested in how customers actually live their lives, says Rao. Employees typically aren’t given the tools they need to empathize with the people they serve.

**Rao offers an example of an Indian supermarket chain that wanted to reach more customers by emulating American supermarket best practices, such as putting fruit into plastic packaging. But the Indian supermarket was innovating for the wrong market. “Unlike American customers, Indian customers want to actually touch the fruit,” he says. “If I want to help you, I need to understand your life, not someone else’s.”**

Part of the problem is that customers often struggle to communicate their own needs. Customer-led product creation can sometimes hamper innovation when the company doesn’t ask the right questions. “Companies need to be aware of customers’ limitations in recognizing and communicating their needs,” says UIC’s Cui. “They need to ensure innovation incorporates, but is not constrained by, customer insights.”

Nowadays, most companies can use AI to listen to customers in real time, says Van Over. AI can evaluate or even anticipate customers’ needs based on their behavior. Some companies are already starting to invest in these scalable solutions. About a third of businesses have adopted AI and related technologies to quickly innovate in response to customer preferences, according to the ServiceNow/ThoughtLab survey.

The telecommunications and financial services industries are leading the charge, according to the same research. The most successful businesses are investing in data storage solutions and leveraging AI and machine learning to extract meaning and value from that data.

Unlike surveys, focus groups, and similar market research tools, this AI-driven method for gathering feedback is also unobtrusive. While surveys require customers to take time and opt in, AI and machine learning can work in the background while a customer is using a product. Businesses don’t even need to mine all their customer data to see clear benefits.

Simply put, knowing beats guessing. Says Van Over: “Even if you look at 20% of the data from 20% of your customers, you can still get a better understanding of what customers want than if you try to imagine it yourself.”

**The discrepancy between reality and intent is a problem for executives who truly want to build a customer-centric business.”**
Inside Value Capture

A roadmap for maximizing digital value in modern organizations
In their new book, Future Ready: The Four Pathways to Capturing Digital Value, Stephanie L. Woerner, Peter Weill, and Ina M. Sebastian map out paths for firms to thrive in the new world of digital business. The authors, all researchers at the MIT Center for Information Systems Research, show how future-ready companies can operate more efficiently, face new challenges, and maximize digital value. Businesses that fail to become future ready, they argue, will soon find themselves fighting an array of more agile competitors, digitally adept startups, and ambitious entrants from other industries. Below is an excerpt from Future Ready, available this month from Harvard Business Review Press.

Transforming a firm to succeed in the digital economy requires a playbook to help firm leaders deliver on their vision, motivate employees, communicate with markets, and keep everyone focused on a common goal as they work to create new value in an increasingly digital world. The framework that we have developed starts with describing what it means to become a future-ready firm.

We define a firm undergoing a digitally enabled business transformation as having two simultaneous goals: (1) using digital technologies and practices to speed up and (2) wring out costs. We name firms that have learned to both improve productivity and practices to speed up and (2) wring out costs, creating new offers and services, using digital technologies and practices to accumulate and measure value, and many others. These future-ready firms are top performers, reporting estimated average revenue growth of 17.3 percentage points and a net margin of 14 percentage points above their industry average—a rewarding premium.

**Setting the context**

The two dimensions that firms improve on—operational efficiency and customer experience—create a 2 × 2 framework that describes four types of firms, with future-ready firms in the top right quadrant (see figure below). Using multiple metrics for each dimension, we placed 1,311 firms on the future-ready framework relative to their competitors. The average estimated annual revenue of these firms was $4.8 billion.

**Becoming future ready**

The framework that we have developed starts with describing what it means to become a future-ready firm. The authors, all researchers at the MIT Center for Information Systems Research, show how future-ready companies can operate more efficiently, face new challenges, and maximize digital value. Businesses that fail to become future ready, they argue, will soon find themselves fighting an array of more agile competitors, digitally adept startups, and ambitious entrants from other industries.

**Silos and spaghetti**

Most large firms, typically with an extensive catalog of products developed or acquired over many years, start in the bottom left quadrant with traditional customer experience and operations. That’s where 51% of firms sit. They have a number of silos (sets of systems in a subset of a firm that support a business unit, a product, a geography, or a customer type) that are incompatible, or not integrated, with other systems. They added new silos when they introduced new products, new geographies, new customer types, or new service offerings (or had to meet new regulations) and left them unconnected. These firms then created spaghetti when their point-to-point solutions involved making connections from many systems to many others—particularly when they needed to extract data. This results in a complex set of business processes, systems, and data supporting their products. The result is a fragmented, labor-intensive, and frustrating experience for both customers and employees. Frequently, the ability of such firms to provide an engaging customer experience depends heavily on heroics by employees. It shouldn’t be surprising that the revenue growth and net profit margins of firms in this quadrant were the weakest, averaging 10.5 percentage points and 6.5 percentage points below their industry average.

**Industrialized**

Industrialized firms (bottom right quadrant) focus their initial transformation efforts on applying best engineering practices for automation of their operations. They take the capabilities that made them great as a firm (their crown jewels) and turn them into modular and standardized digitized services. Firms in this group develop the best way of handling each key task (for example, processing an insurance claim, onboarding a customer, assessing risk) and strive to standardize it across the firm. They configure their internal and customer-facing digitized products/services into

---

**Silos and spaghetti**

- Most large firms typically have a catalog of products developed or acquired over many years.
- They start in the bottom left quadrant with traditional customer experience and operations.
- They have a number of silos that are incompatible or not integrated with other systems.
- When they introduced new products, new geographies, new customer types, or new service offerings, they added new silos and created spaghetti.
- The result is a fragmented, labor-intensive, and frustrating experience for both customers and employees.

**Industrialized**

- Industrialized firms focus on applying best engineering practices for automation of their operations.
- They configure their internal and customer-facing digitized products/services into

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**Operational Efficiency**

- Increasing automation, standardization, reuse, and productivity

---

**Future Ready**

- Simultaneously innovate and reduce costs
- Great customer experience
- Modular and agile
- Dynamic partnering
- Data as a strategic asset

---

**InTEGRATED EXPERIENCE**

- Customer gets an integrated experience (simulated despite complex operations)
- Strong design and UX
- Rich mobile experience, including purchasing products

---

**SILOS AND SPAGHETTI**

- Product driven
- Complex landscape of processes, systems, and data
- Perform via heroics

---

**INDUSTRIALIZED**

- Plug-and-play products/services
- Service-enabled crown jewels
- One best way to do each key task
- Single source of truth

---

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- One best way to do each key task
- Single source of truth
Future ready framework by industry

<table>
<thead>
<tr>
<th>INDUSTRY</th>
<th>SILOS AND SPAGHETTI</th>
<th>INTEGRATED EXPERIENCE</th>
<th>INDUSTRIALIZED</th>
<th>FUTURE READY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technology</td>
<td>35%</td>
<td>26%</td>
<td>2%</td>
<td>37%</td>
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<tr>
<td>IT Services</td>
<td>42%</td>
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<td>13%</td>
<td>7%</td>
<td>24%</td>
</tr>
<tr>
<td>Healthcare</td>
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<td>16%</td>
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<td>23%</td>
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<td>Heavy Industry</td>
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<td>19%</td>
<td>9%</td>
<td>22%</td>
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<tr>
<td>Manufacturing</td>
<td>48%</td>
<td>23%</td>
<td>6%</td>
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</tr>
<tr>
<td>Services</td>
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<td>39%</td>
<td>9%</td>
<td>20%</td>
</tr>
<tr>
<td>Telecom and Media</td>
<td>35%</td>
<td>31%</td>
<td>5%</td>
<td>13%</td>
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<tr>
<td>Consumer</td>
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<td>9%</td>
</tr>
<tr>
<td>Mining, Oil and Gas</td>
<td>48%</td>
<td>14%</td>
<td>9%</td>
<td>9%</td>
</tr>
<tr>
<td>Not-for-profit and Government</td>
<td>60%</td>
<td>33%</td>
<td>7%</td>
<td>5%</td>
</tr>
</tbody>
</table>


Photography: Luis Alvarez

Future ready

Future-ready firms engage and satisfy customers while at the same time reducing costs. Their goal is typically to meet customers’ needs rather than push products, and customers can expect to have a good experience no matter which service delivery channel they choose. On the operations side, the firm’s capabilities are modular and agile; data is a strategic asset that is shared and accessible to all in the firm who need it. These firms realize they can’t do all this alone and are organized to leverage partners to add more value to customers. We found that 22% of firms were future ready. These future-ready firms were top performers—with estimated average revenue growth of 17.3 percentage points and a net margin of 14 percentage points above their industry average. An example of a future-ready firm is DBS, considered by many as “the best bank in the world” with both leading customer experience and strong financial performance, which has transformed to become future ready over the last decade. We describe DBS’s journey (later in the book).
Automation for the people

Knowledge workers who use automation tend to appreciate its benefits

BY STUART LUMAN

Automation is frequently seen as a way to save money and increase productivity. It’s also seen as a threat to employees’ jobs. The truth is far more nuanced, according to a new ServiceNow-sponsored IDC survey.

Although more than 40% of employees said they were concerned about the impact of automation on their jobs, the wide-ranging survey revealed that almost all employees recognized benefits related to their own roles as well as their companies.

The survey polled 1,500 employees in 16 countries, seven industries, and 15 lines of business. It found that automating routine and repetitive tasks not only makes business processes and service delivery better and more effective, but also helps human employees feel more productive, deliver better service, and learn new skills.

“If you’re going to spend hours copying and pasting and moving things from one screen to another, you become alienated and ask, ‘What’s the point?’” says IDC research director Angela Salmeron, who leads the company’s European future of work practice and co-authored the report. “What we’re proposing is you can remove that through automation and let human traits come to the fore, which brings more meaning and engagement.”

The survey distinguished between tactical and strategic automation. While tactical automation is defined as one-off steps that are scattered throughout an organization, strategic automation relates to larger, enterprisewide automation strategies that empower employees, increase long-term firm value, and help companies respond to challenges more quickly.

Used in this way, automation can help address issues such as low productivity, high job attrition, and skill shortages. 

33% employees spend roughly a third of their time on routine and repetitive tasks, many of which could be automated.

This virtuous cycle of benefits includes:

- 64% believe their job is meaningful and fulfilling
- 66% believe their job is challenging and rewarding
- 37% cite productivity as a top impact of automation
- 63% believe their employer supports their career progression and training needs
- 68% believe their employer inspires them to give their best at their job
- 33% cite empowerment for business outcomes as a top impact of automation
- 68% believe they can make a positive business impact
- 37% in IT departments are involved in automating aspects of their own work
- 37% cite increased innovation as a top impact of automation

SOURCES: IDC EBOOK, SPONSORED BY SERVICENOW, FUTURE WORK INSIGHTS: WHY STRATEGIC AUTOMATION EMPOWERS EMPLOYEES, IDC#149378222, SEP 2022
This is jargon Jeopardy!
Test your tech buzzword proficiency

**CATEGORY**
**Digital Transformation**

The tech world is full of folks who use impenetrable jargon in an attempt to sound smart. What does it all mean? Workflow Quarterly has you covered with our tech-flavored take on Jeopardy. Test your knowledge by matching each term with the correct definition.

[Table with matching terms and definitions]

**A set of approaches that uses event logs to monitor and improve business processes**

**The overlay of text, graphics, audio, and other digital media on real-world objects via a device**

**An entity that quickly responds to market shifts by reorganizing and discarding components as necessary, unlike a more traditional organization, which is slow to evolve and difficult to change**

**A mirror image of a physical object, process, organization, person, or other abstraction that can accelerate product and process development, optimize performance, and enable predictive maintenance in the real world**

Total score: [ ]/15

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Let’s face it, it’s been a tough couple of years. The toughest. And yet, despite it all, amazing things are happening. Look around. Driverless cars. Vegan meat. Solar-powered skyscrapers. Vaccines in just over a year. Amazing. Things are actually working. The world is working.

Organizations of every size, in every industry, everywhere in the world, are looking to ServiceNow for better ways to work. Digitally transforming everything about the work they do—so it simply works better. Unlocking progress once blocked by barriers. Streamlining ideas once stymied by siloed systems. So your employees can be more engaged, unified, and focused on the work they love. Your customers can enjoy the intuitive, connected experiences they’ve come to expect. And we can all create the future we imagine. Not next year. Not next quarter. Now.

Every day, we’re helping organizations just like yours find smarter, faster, better ways to work. To be more connected, more innovative, and more agile. There are infinite applications of our solutions to help solve even your toughest business challenges. Because when the work flows, the world works.

That’s why over 80% of the Fortune 500 works with us. That’s why the world works with ServiceNow.

ServiceNow.com/WorldWorks

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