CLOSING THE GAP

Beyond Digitization to Business Transformation

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Enterprises across all industries are striving to speed time to value, improve agility, strengthen core capabilities, select the best modernization strategies, spark innovation, and power IT to meet today's digital business demands. Achieving these goals requires adopting new operating models, integrated services, and transformed processes alongside revitalized heritage systems.

This puts intense demands on today's business processes, applications, platforms, and infrastructure. New technologies and techniques make new products, services, and experiences possible, yet they also create complexity. Technology advances more quickly than companies can execute on the last innovation. More elastic, nimble applications and platforms can also increase vulnerabilities.

Thus, the IT organization today, essentially, finds itself at the core of these challenges.

On the one hand, it must reduce the ownership costs of heritage systems, operate more efficiently, free up resources for investment in modern IT, and be ready to support digital transformation by rationalizing and consolidating IT assets, streamlining processes with virtualization and automation, and aligning IT more closely to business objectives.

On the other hand, it must structure the technology backbone in a way that empowers it to remain current with and able to take advantage of future technology and business changes.

This calls for the development of an IT backbone that is simplified, modern, and secure that can support evolving business processes, applications, and infrastructure required by business to engage and deeply delight their customers.

Vijay Francis

Senior Director, Digital Systems and Technology

Cognizant

Today's enterprises are undergoing radical change due to the accelerated rise of new technologies, innovative business models, and changing customer preferences. Organizations across all industries are subjected to digital forces, but the pace at which organizations are embracing digital opportunities differs. A successful digital transformation requires a well-designed strategy and diligent execution. Cognizant has developed a three-pronged approach—Simplify, Modernize, and Secure—to help its clients understand their IT landscape and empower them to build a powerful digital-ready IT backbone.

Businesses must move fast to anticipate customer needs and deliver great experiences. The complexity of most IT organizations can obstruct these goals instead of supporting and enabling them. Through "Simplify IT," Cognizant helps clients achieve efficiency gains and unlock value from their existing IT systems.

Mastering digital business requires IT to provide next-generation services virtually on demand, connecting directly to internal and external customers. Achieving that goal requires unparalleled agility and speed that come from modernized infrastructure, new operating models, integrated services, and transformed processes alongside revitalized heritage systems. "Modernize IT" involves implementing newer technologies like cloud-enabled, service-based architectures and bringing in automation to improve productivity and agility.

As simplifying and modernizing drastically reshape the IT landscape, "Secure IT" becomes a critical factor in protecting data and building customer trust.

There is no one-size-fits-all approach to digital transformation: The potential sources of value vary between enterprises. Making the simplify, modernize, and secure approach effective means using the right combination of buy-in from top management, the right talent, and the governance mechanisms to track the transformation progress and robust change management.

CLOSING THE GAP
Beyond Digitization to Business Transformation

Digital transformation, it may seem, is in the eye of the beholder. The phrase is bandied about to refer to everything from an industrial manufacturer making itself over into a digital service provider to a retailer introducing new mobile capabilities for consumers. But while the latter does describe a digitization effort, it does not represent transformation—nor does it confer the potentially exponential benefits that more comprehensive efforts do.

Real digital transformation requires building an IT backbone that is simplified, modern, and secure. That technology infrastructure can serve as a platform for adopting new processes and tools and rethinking the way businesses have operated for decades. "What digital platforms do, in fact, is disrupt not just existing processes, but change the economics of how you design things, add value to things, sell and fix things," says Michael Schrage, research fellow at the MIT Sloan School of Management's Initiative on the Digital Economy. "Too many organizations are approaching digital with the idea that it means wrapping interfaces around existing services. But they haven't digitally transformed. They haven't changed data flows and processes. They haven't reviewed or revised the underlying economics of what they do."

Just 16% of companies are highly digital, with most operations and products dependent on digital technologies, according to a recent survey conducted by Harvard Business Review Analytic Services. The majority are hybrid organizations with some digital dependencies, and nearly one-quarter (23%) are not digital. FIGURE 1

True digital transformation uses the principles and potential of new digital technologies "to fundamentally rethink what's possible in the business from the ground up," says Dion Hinchcliffe, vice president and principal analyst with Constellation Research. It is built upon a technology infrastructure that is agile, intelligent, and resilient enough to accommodate a growing array of emerging tools and approaches that can enable new operational processes, ways of working, products, and experiences—even entirely different business models.

Digital transformation is more than just an IT project. One aspect of such change efforts does involve embracing digital technology wherever possible, says Nicolas Van Zeebroeck, professor of innovation and digital business at the Université Libre de Bruxelles' Solvay Brussels School of Economics and Management. "But the other side of digital transformation is more important. It is a change in paradigm— a change in the way you operate and formulate your value proposition. It's a

FEW ORGANIZATIONS ARE HIGHLY DIGITAL
How dependent is your organization on digital technologies?

23% NOT DIGITAL
16% DIGITAL
61% HYBRID
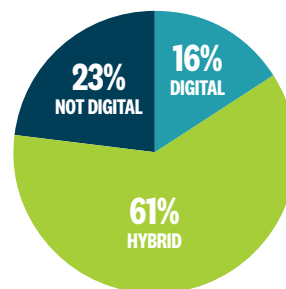
DIGITAL
Most products/operations depend on digital technologies

HYBRID
Some products/operations depend on digital technologies

NOT DIGITAL
Few (if any) products/operations depend on digital technologies

Companies will spend **$1.2 trillion on digital transformation** technologies this year, according to IDC, with that investment growing to **$2 trillion in 2020**.

transformation journey enabled by digital technology," Van Zee adds. By that definition, many digital transformation efforts are falling short.

Companies will spend $1.2 trillion on digital transformation technologies this year, according to IDC, with that investment growing to $2 trillion in 2020. To date, however, many organizations have struggled to make a significant impact with their digital dollars. FIGURE 2 "Digital transformation should turn your organization from a caterpillar into a butterfly," says George Westerman, principal research scientist with the MIT Sloan Initiative on the Digital Economy and co-author of *Leading Digital: Turning Technology Into Business Transformation*. "Too many business leaders are thinking

about becoming fast caterpillars when their job is to push the organization to become something better."

At a time when Amazon has evolved from a noun to a verb, companies across industries are falling behind— and incremental digital improvements alone will not enable them to catch up or achieve sustainable competitive advantage. "It's a very complex and comprehensive problem," says Maciej Kranz, vice president of corporate strategic innovation for Cisco and author of *Building the Internet of Things*. "It's not about simply implementing technology; it's about transforming the business, strategy, culture, and every aspect of operations."

To move forward, companies must both embrace new technology approaches and adopt significant shifts in mindsets. Digital transformation requires that companies have clarity and consensus around the business outcomes they want to achieve; strong ownership at the highest levels of the company; a digital-oriented culture both within the company and throughout its partner ecosystem; and a plan for the simplified, modernized, and secure technology foundation to fortify their futures.

It's not too late for organizations to reassess, realign, and relaunch their digital efforts to achieve greater value— but time is growing short. "The good news is that you no longer have to be an early adopter in digital transformation," says Kranz. "You can learn from peers who have gone ahead."
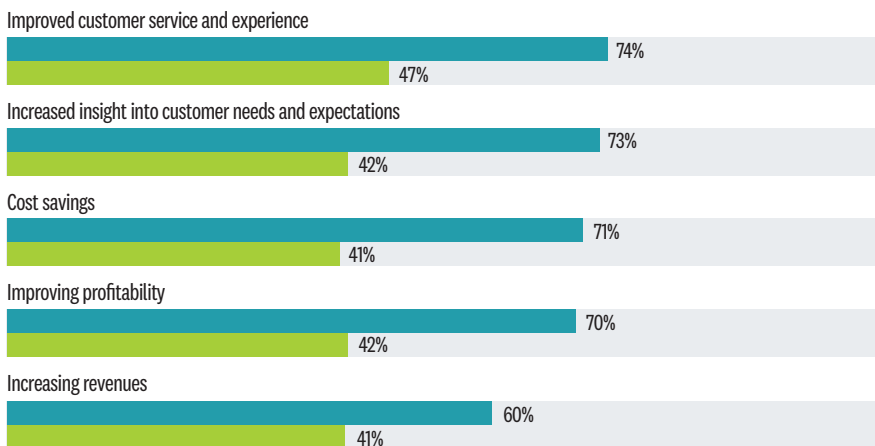
The Digital Behavior Gap
A digital wave has washed across enterprises and industries with the potential to transform all aspects of

FIGURE 2

OUTCOMES TRAIL OBJECTIVES

What are the desired and achieved benefits of your organization's investments in digital technologies?

● DESIRED BENEFIT ● BENEFIT ACHIEVED

Improved customer service and experience
74%
47%

Increased insight into customer needs and expectations
73%
42%

Cost savings
71%
41%

Improving profitability
70%
42%

Increasing revenues
60%
41%

SOURCE: HARVARD BUSINESS REVIEW ANALYTIC SERVICES SURVEY, JANUARY 2017

business everywhere. Initially, certain industries led the pack in digital business adoption—most notably the technology sector, followed by media, finance, and professional services, according to a 2015 McKinsey Global Institute (MGI) report. "Sectors closest to technology and highly competitive ones have tended to transform more quickly, as they usually have more resident experience and skills in using technology at the center of their business," says Hinchcliffe. "Sectors that have lagged have tended to be highly regulated ones and ones isolated in some way from digitization, though it's fair to say that all these industries are now in the process of being disrupted." Today, companies in manufacturing, energy, and other heavy industries are investing heavily in digitizing their physical assets and business processes. Transportation and retail companies have jumped on the digital train. While the level of digital maturity still varies even within industries, "the market has caught up to where pioneers were a few years ago," says Westerman. "It's now part of the conversation in every senior leadership team."

Business models that have been successful for decades are being disrupted by digital alternatives, and innovation will be responsible for a greater share of revenues and growth in the coming years. New business models only accounted for 1% to 5% of total revenues in 2015, but are expected to be responsible for 30% of total revenues by 2020, according to the World Economic Forum Digital Transformation Initiative 2017. While some companies are clearly riding this groundswell of opportunity to greater growth, others are at risk of being overtaken by it.

A lack of imagination may be to blame. Corporate leaders rise through the ranks with a keen understanding of what is possible and what is not, learning over time that it's safer not to pursue what's never been done. That's no longer the case. "In the digital world, things that used to be impossible are now possible," says Westerman. "It's time to rethink

your assumptions about how you do business."

Some business leaders have played it safe with digital capabilities. In many organizations, even where the customer facing front-end of the organization looks, feels, and functions differently than in the past, the middle- and back-office people, data, and processes remain largely untouched. They are disconnected, residing in silos, and operating as they always have. As a result, those companies have failed to become digital enterprises.

For some, simply putting a new digital front end on existing processes, systems, and business models is the simplest and least painful way to digitize. They go after the low-hanging fruit because they can. Those companies have yet to feel an existential threat and may not feel compelled to make more substantial changes.

Meanwhile, those that have been shaken up by digital competitors may have had to respond too quickly, piecing together digital capabilities with little thought to developing an overall strategy or digital transformation goals. "What we see over and over again is that many companies are trying to react to what is happing around them in the market, oftentimes under stress as their traditional business is being disrupted. As a consequence, they do not have the luxury to think about digital transformation holistically— from processes and systems in the back to the interface with their clients as well as smart products and digital business models," says Peter Vogel, professor at IMD Business School.

In reality, few companies are immune to the digital forces that are reshaping entire industries. Companies like Amazon, Google, and Facebook are optimized for continuous adaptability. They know if they miss the next economic, technology, or sociological shift, their performance could falter. Before long, that will be the situation in most industries. Enterprises will need to constantly reinvent their offerings to keep up with the rapidly evolving expectations of the digital

ENTERPRISES WILL NEED TO CONSTANTLY REINVENT THEIR OFFERINGS TO KEEP UP WITH THE RAPIDLY EVOLVING EXPECTATIONS OF THE DIGITAL MARKET.

74%

OF ORGANIZATIONS EXPECT DIGITAL TRANSFORMATION TO DELIVER IMPROVED CUSTOMER SERVICE AND EXPERIENCE.

market. "By now everyone, even the most conservative industries and players, have realized that they need to transform—if they haven't done so yet—and everyone is talking about it. Yet, when it comes to driving digital transformation, many companies still lack the necessary internal capabilities, which is why having an experienced CDO is of critical importance for every organization. In fact, moving forward, the CDO will the most important leader in the company, alongside the CEO." says Vogel.

While the overwhelming majority of companies say they are engaged in some form of digitization, just 16% indicated their companies are pursuing a bold transformation strategy at scale, according to a recent study by Van Zeebroeck and McKinsey & Company. FIGURE 3 At the same time, those researchers found that digital competition is eating away at the growth and market share of existing companies in the past few years— eliminating more than half of annual revenue growth and a third of earnings growth at those companies that have failed to respond appropriately to the new business environment. "The data is clear: simply optimizing what you already do may keep you afloat," says Van Zeebroeck, "but it will not enable you to lead the way and generate sustainable competitive advantage."

Overcoming Organizational Resistance

There's no way around it: digital transformation is hard. If it were easy, as they say, everyone would be doing it. It requires a new base of technology, processes, metrics, and incentives. But at the heart of it all is people: both company leaders and employees. Digital transformation demands a significant shift in thinking and behavior throughout the organization. "The top obstacles [to digital transformation] tend to involve the challenges revolving around the people who have to carry it out and sustain the transformation process— do they have the experience, skills, mindset, and inclination to truly rethink the business in digital terms?"

says Hinchcliffe. "There is a complex set of human changes that have to be carried out in concert with the technology changes."
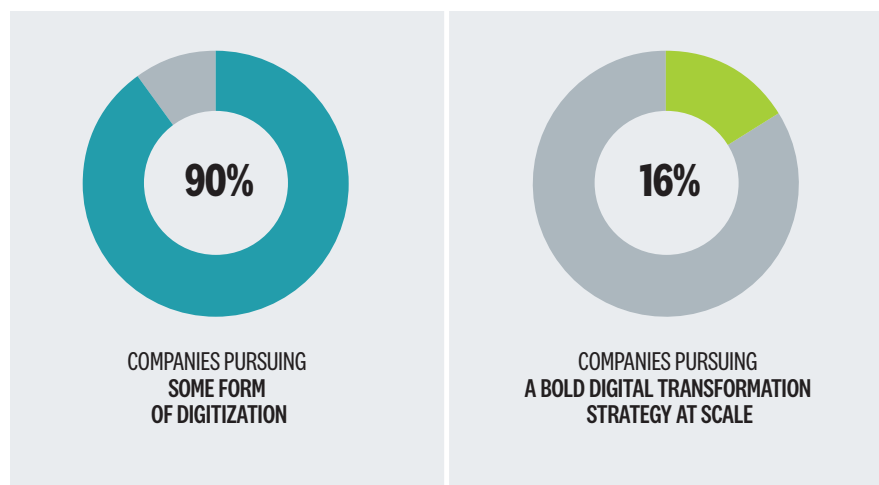
It requires that leaders and organizations revisit much of what got them to where they are today. "Digital transformation dissolves distinctions that the majority of organizations literally built themselves around," says Schrage. "People having to oversee the transformation are the very people who grew up with those distinctions. They're literally being asked to discard the systems and structures that define their jobs."

Executives and managers who spent their careers focusing on safe choices, reliable revenues, and improving products at the margins suddenly find themselves competing with new competitors that have a growth hacking mindset and make bold choices. "Digital transformation requires a significant departure from the tightly-structured, planned, stodgy approach to strategic investment in most companies," says Westerman. "It's much more emergent, allowing for failing fast and pivoting quickly as you learn."

FIGURE 3

A FEW BOLD TRANSFORMERS

Is your company engaged in digitization?

90%
COMPANIES PURSUING
**SOME FORM
OF DIGITIZATION**

16%
COMPANIES PURSUING
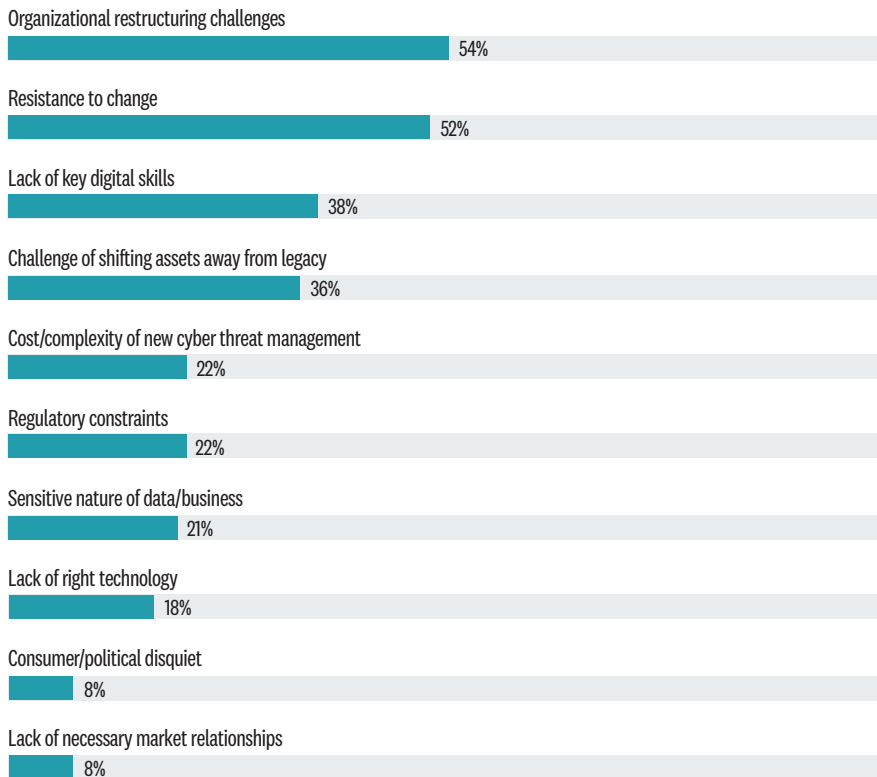**A BOLD DIGITAL TRANSFORMATION
STRATEGY AT SCALE**

SOURCE: MCKINSEY & COMPANY 2017

FIGURE 4

BARRIERS TO FUTURE TRANSFORMATION

What are your organization's greatest obstacles to achieving digital transformation?

Organizational restructuring challenges
54%

Resistance to change
52%

Lack of key digital skills
38%

Challenge of shifting assets away from legacy
36%

Cost/complexity of new cyber threat management
22%

Regulatory constraints
22%

Sensitive nature of data/business
21%

Lack of right technology
18%

Consumer/political disquiet
8%

Lack of necessary market relationships
8%

SOURCE: HARVARD BUSINESS REVIEW ANALYTIC SERVICES SURVEY, DECEMBER 2016

And while there are a number of naturally occurring hurdles on the road to digital nirvana, including a dearth of key digital skills and the burden of legacy systems and assets, the biggest challenges are restructuring the business—and getting people on board with the transformation. FIGURE 4 "Changing technology is hard," says Westerman, "but not as hard as changing the organization, changing its processes, and getting people to go along with those changes."

Change hurts. "There's a psychological resistance to changing the status quo," says Van Zeebroeck. "And that's why so many firms have a hard time with digital transformation." It's a human capital transformation as much as anything else, according to Kranz, requiring new ways of thinking and working. Digital transformation leaders

are investing more in their internal teams to help them become more knowledgeable, flexible, and adaptable. "It's no longer about performing the same job for 20 years," says Kranz. "It's about shifting to a mindset of continual learning, open communications, and virtual teaming. You have to take your workforce with you on this journey. Digital transformation will not be successful if you don't have people who embrace this transition with you."

In researching his book *Leading Digital: Turning Technology Into Business Transformation*, Westerman found no examples of successful digital transformation that occurred in a bottom-up fashion. Instead, the most successful companies had leaders who laid out the framework for transformation and engaged the rest of the organization in determining how to get there. "It all comes down to leadership," says Jeffery. "That is the biggest thing that's missing in most organizations—leaders that know how to motivate people to move in the right direction."

Creating a Vision for the Future

Leaders that want to digitally transform must be willing to look beyond simply improving upon what they currently do to consider what the business could become. "Many leaders are thinking too small," says Westerman. "They need to rethink the possibilities and ask themselves what constraints that they've lived with for decades may no longer be constraints."

It can be difficult for corporate leaders to move outside their comfort zones. Incredible amounts of time, money, and resources have been invested in establishing an organization's status quo—one that has been (and often remains) profitable for many. Specifically, business leaders may balk at spending millions of dollars on new IT infrastructure and systems, having already devoted millions to what we now refer to as legacy technology. "Companies have made significant investments that digital transformation effectively turns into 'sunk costs,'" says Schrage.

The problem with that kind of thinking is that it frames digital transformation in the context of the cost or capabilities of IT systems alone rather than their potential business benefits. "When you see firms that are struggling with digital transformation, you generally find that they approached it from a technology perspective," says Van Zeebroeck. "They began by focusing on what technology they want to use. But that's the wrong way to start."

Digital re-creation must instead begin with the exploration of what value might be created within a modern technology environment: what new problems the organization might solve, what new customer segments the company might the company reach, and what new markets or adjacent sectors might be entered, what pricing and service models might be possible. "It may sound like a cliché, but digital transformation is a journey, not a destination," says Schrage. "And it begins by deciding what are the most important ways you want to add value or change your business."

Those changes could be customer-facing innovation, operational transformation, or some combination of the two. In any case, by making desired business outcomes the guiding principle, companies open the door to digital transformation on a much larger scale.

Business-Led, IT-Driven

"The number one mistake people make with digital transformation is implementing technology in isolation from business processes," says Kranz. "They get infatuated with the concept of, for example, implementing business analytics on the plant floor. But you need to start with the business goals you're trying to accomplish and at least a theory about the ROI."

Digital transformation efforts may begin with the CIO. But because success requires significant organizational and process disruption, the effort must extend beyond—and rise above—the IT organization. It demands executive-level sponsorship and leadership, say experts. "If IT

alone owns digital transformation, it's doomed to fail," says Mark Jeffery, director of the Strategic IT Management Executive Program at Northwestern University's Kellogg School of Management. "The business has to help define the business case and lead the transformation."

However, IT can—and must—be a full partner in the effort. "Your best business-facing tech people have their finger on the pulse of technology trends, and they can help think through these changes in the context of the business," says Westerman. "It's critical to find IT people that can speak both the language of technology and the language of the business."

The right CIO can guide senior leaders through the digital conversation and help them uncover the transformational business power of digitization. "Once the rest of the business functions—and most importantly, the CEO—see digital as a strategic issue, that's the tipping point to make things happen," says Van Zeebroeck.

The Burdens of Legacy

While technology should not take the lead in transformation efforts, it is the beating heart that enables exponential business change. The drive to digital requires the integration of an array of technologies and approaches—including social, mobile, analytics, internet of things (IoT), and artificial intelligence systems, just to name a few. A company that sees opportunity in machine learning, internet-connected assets, or augmented
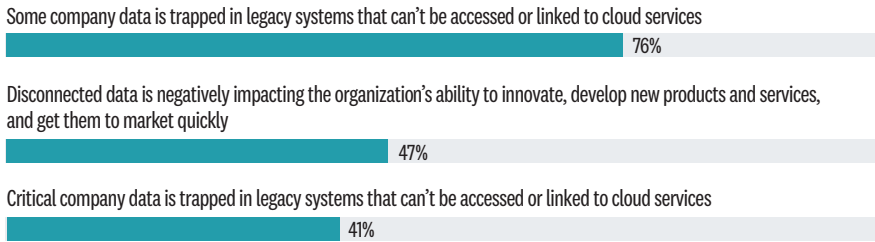
"IT'S CRITICAL TO FIND IT PEOPLE THAT CAN SPEAK BOTH THE LANGUAGE OF TECHNOLOGY AND THE LANGUAGE OF THE BUSINESS." GEORGE WESTERMAN, MIT SLOAN INITIATIVE ON THE DIGITAL ECONOMY

FIGURE 5

DATA TRAPPED IN OUTDATED, DISCONNECTED SYSTEMS

How is disconnected data impacting the organization?

Some company data is trapped in legacy systems that can't be accessed or linked to cloud services

76%

Disconnected data is negatively impacting the organization's ability to innovate, develop new products and services, and get them to market quickly

47%

Critical company data is trapped in legacy systems that can't be accessed or linked to cloud services
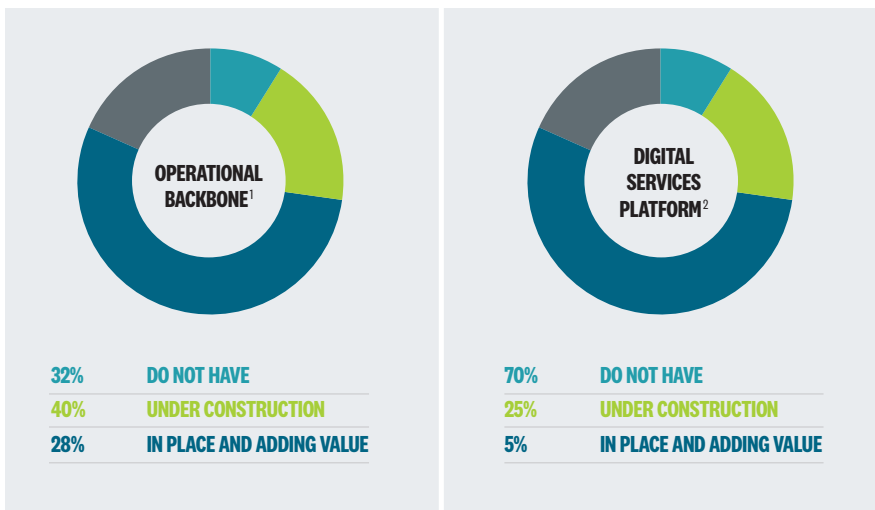
41%

SOURCE: VANSON BOURNE, JUNE 2017

FIGURE 6

COMPANIES LACK THE TECHNOLOGY ARCHITECTURE TO TRANSFORM

Does your organization have the technology features necessary to implement a digital strategy?

OPERATIONAL BACKBONE[1]

32%	DO NOT HAVE
40%	UNDER CONSTRUCTION
28%	IN PLACE AND ADDING VALUE

DIGITAL SERVICES PLATFORM[2]

70%	DO NOT HAVE
25%	UNDER CONSTRUCTION
5%	IN PLACE AND ADDING VALUE

[1] A set of enterprise systems, processes, and data that ensure the efficiency, scalability, reliability, quality, and predictability of core operations from which to launch digital services

[2] A platform to facilitate experimentation and provide reusable technology and digital services

SOURCE: MIT CISR DESIGNING DIGITAL ORGANIZATIONS SURVEY, FEBRUARY 2017

reality, for example, won't get very far if it has not put the right technology architecture in place to support those emerging capabilities.

For Samir Bagri, director of global finance business services for Delphi, a company transforming itself to focus on autonomous vehicle and fuel emissions innovation, the goal is "the seamless flow of work processes and information across humans and machine." In the same way that a commercial goal for Delphi is the self-driving car, the internal systems that support the organization should be self-driving as well. "The more seamless that workflow and user experience become," says Bagri, "the closer we are to digital transformation."

The premise of digital transformation relies on unencumbered access to data that can be analyzed to deliver business value, says Kranz. However, outdated systems and siloed data sets prevent many companies from taking advantage of new digital approaches. Nearly half of all executives said that disconnected data is negatively impacting their organization's ability to innovate, develop new products and services, and get them to market quickly, according to a 2017 survey conducted by market research firm Vanson Bourne, which estimated that the situation costs companies in the U.S. and UK $140 billion a year. FIGURE 5

"The bigger the company, the bigger the struggle," says Jeffery. "The average Fortune 500 company may spend as much as half of its capital expenses on IT, but it is not realizing dramatic performance gains from that investment because they have lots and lots of legacy systems that are not integrated and architecture that is not well defined." The majority of enterprises lack the standardized and reliable operational backbone of systems, processes, and data from which to launch new digital services, according to a 2017 report from the MIT Center for Information Systems Research (CISR), and only a handful have been able to create a value-adding digital services platform. FIGURE 6

NEARLY HALF OF ALL EXECUTIVES SAID THAT DISCONNECTED DATA IS NEGATIVELY IMPACTING THEIR ORGANIZATION'S ABILITY TO INNOVATE, DEVELOP NEW PRODUCTS AND SERVICES, AND GET THEM TO MARKET QUICKLY.

Companies that embrace newer, cloud-enabled architectures and a services-based architecture **find it easier, faster, and often cheaper** to test and **deploy new products, services, and experiences**.

The Platform for Innovation: Simplified, Modern, Secure

No matter whether the digital outcomes an organization is seeking are customer-facing or internal, the digital shift requires a fundamentally different IT approach.

The technology backbone must be flexible, intelligent, connected, and resilient enough to accommodate a growing selection of new tools that will enable business to rethink long-standing processes, workflows, talent acquisition and retention, products, and services. There is no end state to digital transformation—no finish line. It is a moving target and one cannot stand still as digital technology has transformed the world into a 24/7 mindset. Take, for example, the digital acceleration team at Nestlé, that observes Nestlé's reputation and visibility in social media and online channels around the clock. In the new world, you need to be able to react immediately, or the web will "eat you alive." At the same time, systems and technologies are renewing themselves at an unprecedented pace, so businesses need to be savvy about when to move to a new system or not. This requires new skills and time commitments. Thus the technology backbone must be conceived in a way that enables the company to keep pace with the rate of technology and business change, says Vogel.

Digital transformation requires that companies overhaul their IT operations in three ways:

1. Simplify

Companies that want to reap the benefits of the latest digital capabilities must first clean house, rationalizing their portfolio of systems and breaking down silos to increase agility. "It is a best practice to standardize infrastructure and systems and create one version of data that is the truth," says Jeffery. "Organizations that do that get phenomenal performance gains."

Migrating from proprietary or highly customized software to more open systems that can communicate with each other, integrate with emerging tools, and enable increased collaboration and data sharing with customers, partners, and suppliers is also critical, says Kranz. In addition, simplification increases efficiency and reduces operational costs, freeing up resources to focus on transformation efforts.

2. Modernize

Companies that embrace newer, cloud-enabled architectures and a services-based architecture find it easier, faster, and often cheaper to test and deploy new products, services, and experiences. "Cloud computing is a major driver in digital transformation," says Van Zeebroeck.

Connectivity and standardization are also key—both internally and with an ever-expanding ecosystem of digital partners. "The unit of digital value is data, and so you want it to be architecture agnostic," says Schrage. Companies that want to get the most value from digital efforts are "API-fying" their systems and pursuing a modular architectural approach.

3. Secure

Finally, as companies pursue the most flexible and open IT approaches, they must also invest in the cybersecurity to ensure the protection of the data flowing through their digital systems. An enterprise's digital operational advantages can become critical liabilities if mismanaged. "Security is probably the biggest obstacle, from a

technology perspective, in the adoption of digital transformation," says Kranz. "No one wants to be on the cover of the *Wall Street Journal* as the latest victim of a breach or cyber attack."

Data is likely to be safer in a rationalized portfolio of technology systems residing in the cloud. However, IT leaders must also fortify all access points to those systems and their data.

Unlocking the Full Value of Digital Transformation

There is no one-size-fits-all approach to digital transformation; the potential sources of value will be different for each company. "Talking to a media or publishing business about digital transformation is fundamentally different than talking about it with an engineering company," says Vogel.

However, analysis of the impact of digital maturity on performance reveals that, across industries, digital transformation has a significant impact on performance. FIGURE 7

What's more, "the downsides of not enabling comprehensive change are too great," says Hinchcliffe. "In addition, we've made important discoveries about how to tackle the scale and scope of digital transformation that weren't well-known only a couple of years ago. With these new methods plus the fresh urgency, organizations are wise to step back, improve the design of their transformation process, and adjust its scope, which can decrease their overall risk of comprehensive change while also adding agility and speed." Business leaders across industries can take advantage of the following accumulated wisdom about how to increase the likelihood of achieving such exponential benefits from digital transformation.
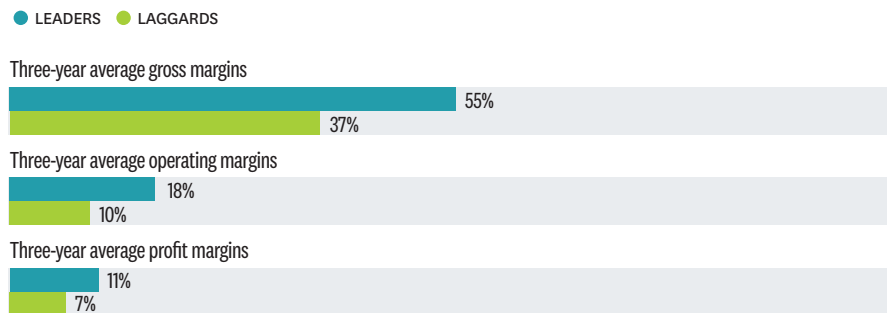
THINK BIG PICTURE
"Companies that are most successful at digital transformation aren't trying to do everything at once. But they do have specific business ideas or outcomes in mind. By articulating a digital strategy, business leaders can direct resources and focus attention more effectively.

DIGITAL LEADERS OUTPERFORM LAGGARDS

Percentage of digital leaders vs. laggards

● LEADERS ● LAGGARDS

Three-year average gross margins
- LEADERS: 55%
- LAGGARDS: 37%

Three-year average operating margins
- LEADERS: 18%
- LAGGARDS: 10%

Three-year average profit margins
- LEADERS: 11%
- LAGGARDS: 7%

SOURCE: ANALYSIS CONDUCTED BY HARVARD BUSINESS SCHOOL IN CONJUNCTION WITH KEYSTONE STRATEGY. 2016

With an overarching business goal in mind, business leaders can then take a holistic approach to enabling it," says Vogel, "making the necessary changes to processes, systems, and culture."

START SMALL
Incremental improvements won't yield exponential results. However, testing out and implementing digital transformation efforts in a specific geography, product line, or business unit can help prove the value of the changes and uncover potential problems and sticking points. Companies should "start some pilots and experiments to test what works," says Westerman. Some may set up innovation labs or digital units for this purpose. However, even at this stage, the strategy should be built with the eventual scale-out in mind.

HARNESS IT EXPERTISE
The best technology organizations will serve as think tanks for digital change—if business leaders give them latitude to do so. Digital transformation leaders should come to IT with business problems rather than digital solutions, letting IT illustrate what is possible, advises Jeffery. "Digital transformation should be led by the business, but driven by IT."

SIMPLIFY AND MODERNIZE SYSTEMS
Legacy IT systems should be rationalized and either replaced by or connected into more flexible and

DIGITAL TRANSFORMATION IS A MULTI-YEAR EFFORT, REQUIRING THAT SOMEONE OWN AND MANAGE THE EFFORT FOR THE LONG HAUL, SAYS WESTERMAN.

interoperable platforms that enable greater connectivity among systems, people, and partners. "It's less about building a specific IT systems road map than a portfolio of technology options," says Schrage. A simplified and modernized IT architecture will be able to accommodate new tools, processes, and approaches as they become available. Without such foundational capabilities, companies will be hamstrung in their efforts to enable digital services.

DESIGN FOR SECURITY
Increased connectivity requires companies to invest funds, skills, and capabilities to protect the lifeblood of digital transformation: data. While the cloud computing options that companies can take advantage of are likely more secure than legacy on-premises systems, the increased use of APIs and data sharing can create vulnerabilities. Companies seeking digital transformation must enlist their CSOs in building a comprehensive security architecture, says Kranz. A security-by-design approach ensures that new infrastructure and software choices are built with cyber risks in mind.

ESTABLISH GOVERNANCE
Digital transformation is a multi-year effort, requiring ownership and management of effort for the long haul, says Westerman. The digital transformation leadership should be responsible for harnessing innovation efforts and reining in those things headed in the wrong direction. "The goal is not to increase bureaucracy but to foster the right level of sharing and coordination," Westerman says. Good governance will foster the sharing of successful approaches across business units and geographies and sustain momentum.

EMBRACE AGILE APPROACHES
Annual or even quarterly cadences can thwart digital transformation. Agile development methods, design thinking approaches, and other iterative practices often go hand in hand with these efforts. "If you're halfway through your digital transformation journey, and you don't have a DevOps shop," says Schrage, "you don't have digital transformation."

INVEST IN DIGITAL TALENT
"Companies need new digital and managerial skills to survive in this new world," says Van Zeebroeck, "and that's where many companies hit the wall."

That requires recruiting the skills necessary to turn digital opportunities into business benefits—no small task as every company on earth is looking for this talent. It also necessitates a new managerial mindset—one that encourages and rewards experimentation and can stomach the frequent failures required of transformational efforts. "We talk a lot about technology with digital transformation," says Kranz, "but it's actually about people. You have to take your workforce with you."

RETHINK METRICS AND INCENTIVES
Even companies that make significant progress with digital transformation can run into trouble when it comes to how they measure and reward success. Organizations that continue to use traditional KPIs face difficulties in digital transformation, says Schrage.

If digital transformation doesn't fundamentally disrupt your firm's "traditional" KPI's, Schrage asserts, you're doing it wrong. Firms must change them or complement them with more appropriate metrics. They should also review bonus and compensation structures to make sure they are helping, not hampering, the change efforts.

Conclusion
There's little doubt that digital transformation is on the agenda across industries. While digital leaders are already reaping the benefits of their efforts, there is still time for the remaining majority of companies to take advantage of emerging best practices in digital transformation. "But you'd better get going," says Kranz. "Leading companies are creating new value propositions and implementing new business models. The next two to three years will be a critical time and those companies that fail to transform will start falling behind."