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Realizing CEO-Led Digital Transformations



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Project Director:

Rudy Hernandez,
Senior Market Impact Consultant

Contributing Research:

Forrester's Application Development
& Delivery research group

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Unifying enterprise data along with AI and IoT on a common platform helps many to bring together disparate elements and begin to realize their digital transformation goals faster.

Executive Summary

Enterprise CEOs today are under urgent pressure to innovate faster, fend off competition, accelerate revenue growth, improve customer stickiness, and streamline operations. Digital transformation — creating an agile, unified technology infrastructure for insights and action — is essential for the survival of enterprises in this tumultuous yet opportunity-rich world. However, successful enterprise-scale digital transformations that generate recurring business value are elusive. Vision, commitment, and follow-through are elements that make or break these efforts. That's why CEOs must lead digital transformation.

Enterprises often falter moving from vision to execution because their IT teams keep making incremental integrations that rarely demonstrate tangible business value. The resulting IT complexity diminishes an organization's ability to innovate faster than disruptive upstarts with new technology such as AI and IoT in their DNA. Technology, the very enabler of digital transformation, becomes its worst enemy.

In November 2017, C3 IoT commissioned Forrester Consulting to examine the gap between the C-suite's vision for digital transformation and IT's struggle to execute, as well as the role a unified platform plays in accelerating the ability to integrate myriad technologies and data streams, bridge siloed functions and teams, provide a holistic view of an organization, and identify the actions needed to prosper in the digital economy. Forrester surveyed 263 decision makers in large enterprises worldwide undergoing a digital transformation and found that organizations using a common platform have bridged disparate technologies and siloed teams to realize digital transformation goals more quickly than those that take a piecemeal approach.

KEY FINDINGS

- › **The C-suite best understands the urgency and necessity of digital transformation.** C-level executives think holistically about their businesses and feel pressure to be competitive in a rapidly disrupting market. They understand technology trends affect their business processes and operations, and are in position to set and drive high-level priorities for digital transformation efforts.
- › **Nearly half of lower-level decision makers struggle to use data and analytics to meet digital transformation objectives.** Although C-level executives value the role of technology in digital transformation and are bullish on its adoption, they are less sensitive to the challenges their teams face when trying to use these technologies to execute on the digital transformation vision.
- › **Unifying enterprise data with AI and IoT on a common platform helps organizations realize their digital transformation goals faster.** Those unifying enterprise data, AI, and IoT on a common platform report high levels of collaboration and agility. They are also more likely to report staying ahead of competitors and meeting the rising expectations of their empowered customers than those taking different technology approaches.

C-Suite Executives Take The Lead

Digital transformation changes everything about how products are designed, manufactured, sold, delivered, and serviced. It is ultimately about agility – the ability of organizations to rapidly meet the changing expectations of customers, outmaneuver competitors and upstarts, and scale for growth through operational efficiency and automation. Every business process, every customer interaction, every employee, and all of an organization’s technology must be aligned for successful digital transformations. That’s why leaders must and do drive digital transformation efforts with vision, strategy, and prioritization. This study of 263 decision makers working to digitally transform their firms found that C-level executives:

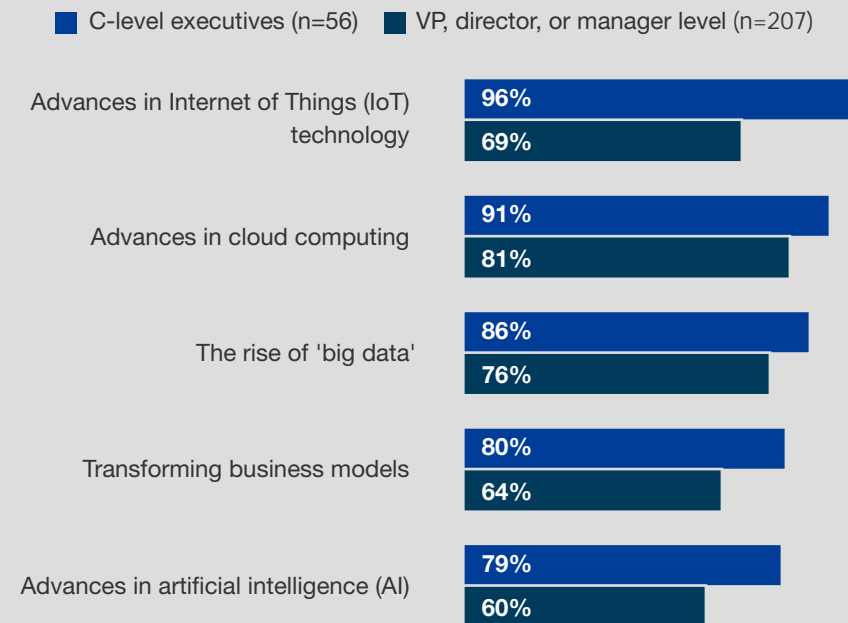


- › **Understand more than other leaders that digital technology trends have forced all businesses to re-evaluate their overall priorities.** C-level executives are more likely than the leaders below them by 10 percentage points or more to recognize the large impact new technologies such as IoT, cloud computing, big data, and AI have on business priorities (see Figure 1).

Figure 1

“To what extent have the following trends influenced your organization’s current set of overall business priorities?”

(Showing those selecting “very” or “extremely influential”)



Base: Decision makers involved in digital transformation related efforts and technology in firms with 500 employees or more worldwide.

Source: A commissioned study conducted by Forrester Consulting on behalf of C3 IoT, November 2017

The C-suite is hyper-sensitive to the effect of digital tech trends on business priorities.

› **Are more focused on using digital transformation efforts to help the business win, serve, and retain customers.** Compared to VP, director, and manager-level leaders, C-level executives are more likely to prioritize digital transformation efforts on high-level business goals, such as meeting customer expectations (86%), using digital to stay ahead of competitors (82%), and achieving greater cash flow and profitability (84%) (see Figure 2).

Figure 2

“You mentioned that your organization has implemented or is planning to implement a digital transformation strategy. To what extent are you prioritizing the following goals as the outcome of this strategy?”
 (Showing those selecting “high” or “critical priority”)



Base: Decision makers involved in digital transformation related efforts and technology in firms with 500 employees or more worldwide.
 Source: A commissioned study conducted by Forrester Consulting on behalf of C3 IoT, November 2017

Legacy Technologies, Applications, And Architecture Impede Digital Transformation Implementations



Technology, unsurprisingly, is a core enabling component of digital transformation efforts. It also happens to be a key limiting factor because legacy technologies and applications are integrated into complex architectures that are not conducive to onboarding new digital transformation technologies such as IoT, artificial intelligence, machine learning, fast-data analytics, and cloud computing—to name a few. Well-intentioned implementation teams add even more complexity in attempting to make everything work.

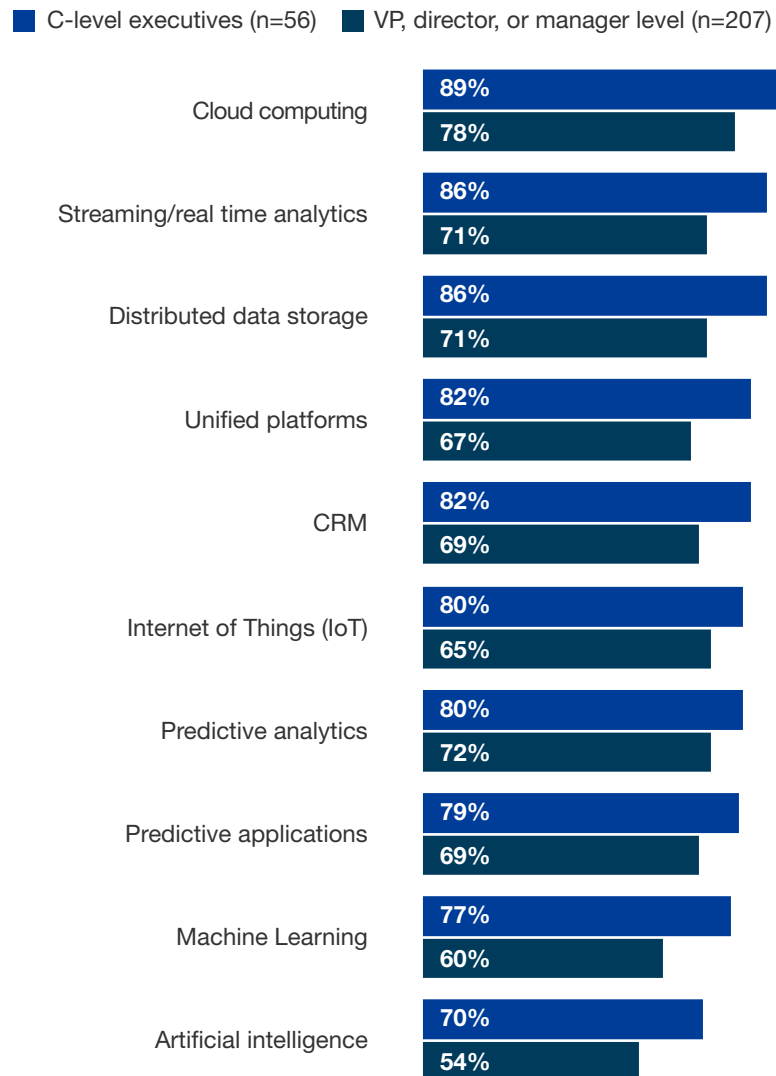
This escalating complexity creates tension between the C-suite's overall vision for their organization's digital transformation efforts and the teams in charge of overcoming complexity to execute on that vision. The results of this study confirm that:

- › **The C-suite knows that advanced technology is at the heart of digital transformation efforts.** Likely because they have a greater sense of awareness of how advanced technology trends will alter their organization's business priorities (see Figure 1), it stands to reason that C-level executives are more likely to see their value in driving digital transformation efforts than the decision makers below them (see Figure 3).
- › **Firms adopt numerous technologies to execute on their digital transformation vision.** Although current adoption is low for newer technologies such as artificial intelligence, nearly all firms plan to adopt them as part of their digital transformation strategy. Firms recognize the value of a wide technology array and are attempting to adopt and implement them all at some point (see Figure 4).
- › **Deployment methods for these technologies are scattered, with most organizations preferring to shift their multiple technologies to a single platform.** These many technologies are deployed numerous ways—either as multiple point solutions, with two or more technologies on single platforms, or as custom-built solutions. With such a scattered technology landscape, it should not be surprising that more decision makers at firms wish they had these technologies on a single, unified platform (54%) than through any other deployment method (see Figure 5).

Figure 3

“How important are the following technologies in driving a successful digital transformation strategy? Please rate even if your organization has not currently adopted the technology.”

(Showing those selecting “very” or “critically important”)

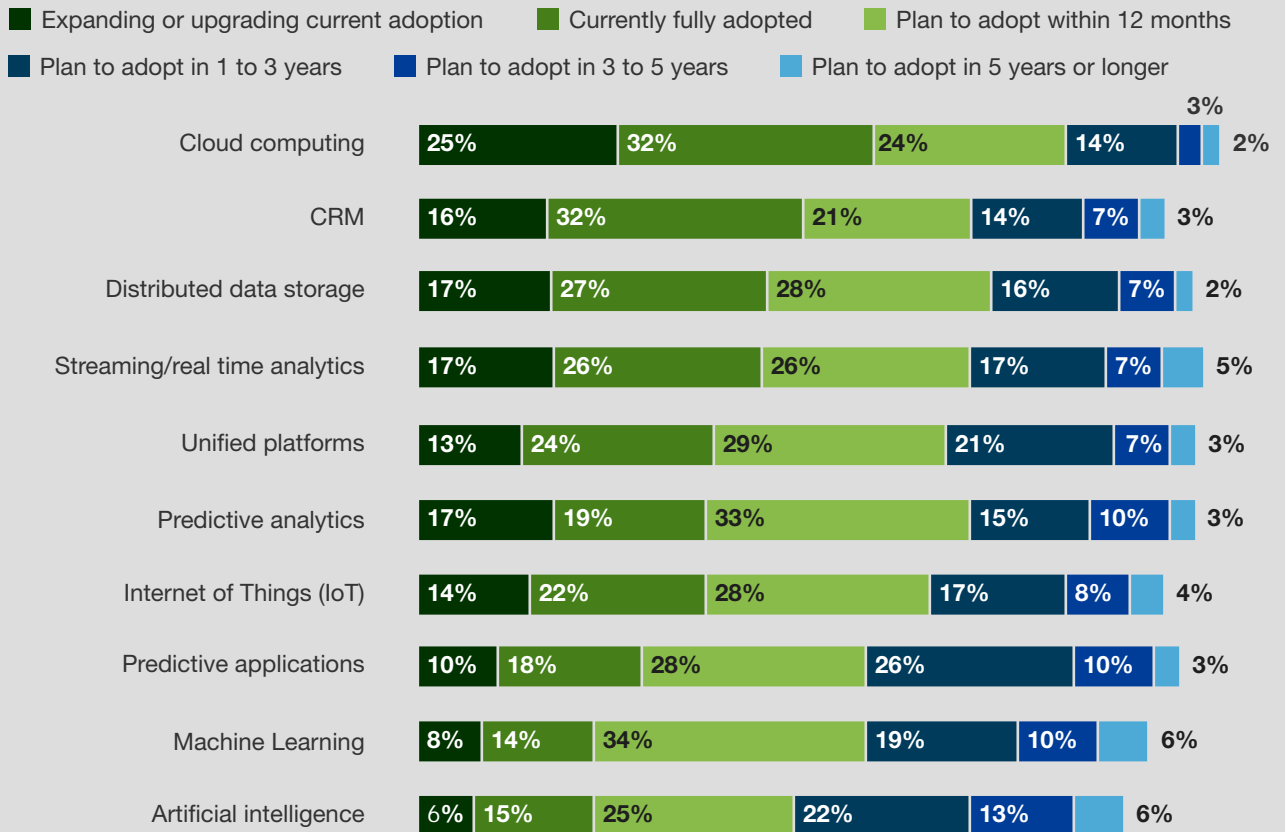


Base: Decision makers involved in digital transformation related efforts and technology in firms with 500 employees or more worldwide.

Source: A commissioned study conducted by Forrester Consulting on behalf of C3 IoT, November 2017

Figure 4

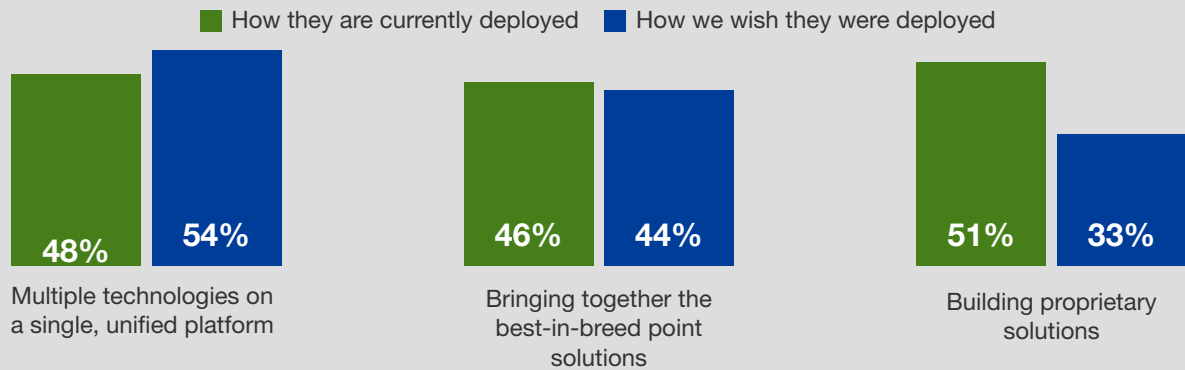
“What best describes your organization’s plans to adopt the following technologies as part of its digital transformation strategy?”



Base: 263 decision makers involved in digital transformation related efforts and technology in firms with 500 employees or more worldwide. Source: A commissioned study conducted by Forrester Consulting on behalf of C3 IoT, November 2017

Figure 5

“Thinking about the technologies that you plan to adopt or have already adopted as part of your organization’s digital transformation strategy, what best describes how they are currently deployed? How do you wish they were deployed?” Select all that apply

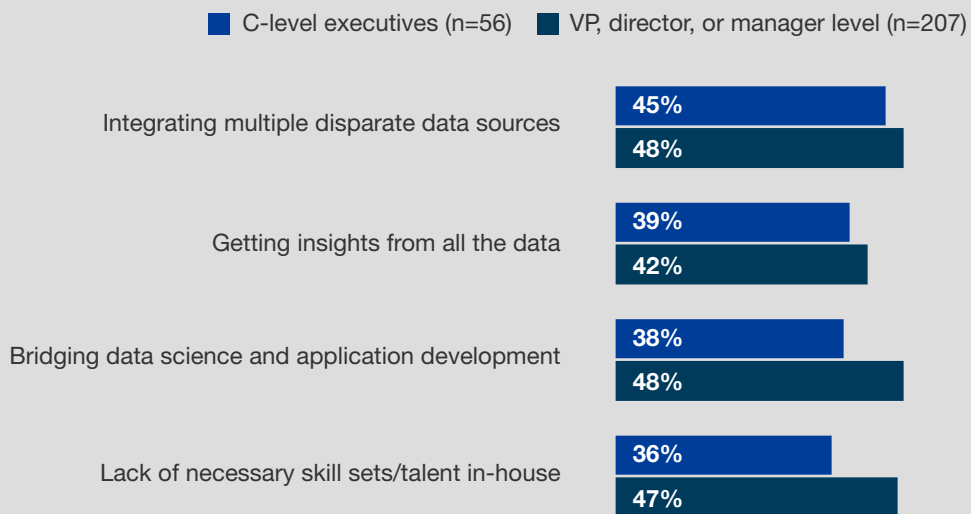


Base: 263 decision makers involved in digital transformation related efforts and technology in firms with 500 employees or more worldwide. Source: A commissioned study conducted by Forrester Consulting on behalf of C3 IoT, November 2017

› **The challenges in creating the digital transformation foundation of a unified and usable view of enterprise data exposes a disconnect between the C-level vision and lower-level execution.** As VPs, directors, and managers attempt to make the C-level vision a reality by working with the many technologies that the C-level know must be brought onboard, they struggle to tie it all together. Nearly half of those below the C-suite lament the challenge in trying to integrate the disparate data sources from all of these technology types—48% struggle with integrating multiple data sources and 41% face challenges garnering insights from the data they have. Forty-four percent cite lacking in-house talent as a significant challenge. And while they try to bring the data and technology pieces together, they struggle to unite different teams working on the same problems. The study indicates 46% report difficulties in bringing together the data science teams—who need to turn the data generated from these technologies into insights—with the application development teams—who are using the technology to deliver those insights to business leaders via apps and workflows. And while C-level executives also acknowledge these problems, it is those below them that feel the pain more acutely and are quicker to acknowledge the breakdown in the set vision (see Figure 6).

Figure 6

“How much of a challenge have the following technology barriers been to your organization’s overall digital transformation strategy?” (Showing those selecting “very” or “extremely challenging”)



Base: Decision makers involved in digital transformation related efforts and technology in firms with 500 employees or more worldwide. Source: A commissioned study conducted by Forrester Consulting on behalf of C3 IoT, November 2017

Unified Platforms Can Accelerate Digital Transformation

Integration is folly. It can sometimes work eventually, but it leads to brittle architectures that are slow to adapt. Success is not guaranteed, and typically this integration effort comes with immense cost and time investments. Many organizations are failing in their data integration efforts.

That's the exact opposite of the digital transformation goal – agility. It's a vicious cycle that can only be broken using a unified software platform that is 1) pre-integrated with legacy technologies and architectures, 2) is capable of scaling to handle immense volumes of data in a unified data image that is kept current in real- or near-real time, and 3) provides both AI and IoT tools and technologies that are the engines of digital transformations. Pre-integrated legacy technology connections protect implementation teams from complex architectures while still leveraging all of the historical data stores and real-time data generated by hundreds of enterprise applications and millions of sensors and devices. A software platform that integrates AI and IoT tools and technologies lets implementation teams focus on infusing applications with AI smarts and predictive analytics capabilities.

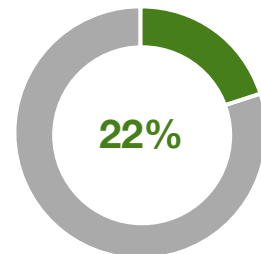
As indicated by the technology deployment preference of most decision makers in this study, the key is to bring the technologies together on a common platform. The important factor for which they must account, however, is ensuring that AI/IoT technologies and tools are a foundational part of this platform. By using a common platform with integrated AI/IoT technology, companies can enable collaboration across business users, data scientists, application developers, and traditional IT, bridging organizational siloes to capture value from all of the data across their value chains. This holistic approach with a comprehensive, unified platform allows companies to leverage existing enterprise and new extraprise data so they can rapidly develop and deploy the new applications and services that will allow them to prosper in the digital economy.

This study indicates that those firms using a unified platform for digital transformation are already receiving dividends. Of the nearly one-quarter of organizations undergoing a digital transformation that have AI or IoT on a single platform with other technologies (see Figure 7), they:

- › **Are more likely to experience seamless collaboration across teams.** The siloes between teams (such as the application development and data science teams) hinder digital transformation efforts by preventing the establishment of a single source of truth. The single source of truth comes from being able to work against the same, integrated data image that captures all enterprise and extraprise data sources and enables teams to use the same languages and tools they use today, push applications and algorithms live easily/quickly, and unify AI and IoT on a common platform. Firms that have a common platform approach are more than twice as likely to report that there is seamless collaboration between their teams responsible for digital transformation efforts than firms who do not (see Figure 8).

Figure 7

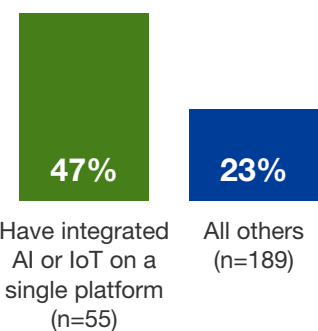
- Have integrated AI or IoT on a single platform
- All others



Base: 263 decision makers involved in digital transformation related efforts and technology in firms with 500 employees or more worldwide.
Source: A commissioned study conducted by Forrester Consulting on behalf of C3 IoT, November 2017

Figure 8

“How well do the different teams/individuals collaborate to execute your organization’s digital transformation strategy?”
(Showing those selecting “Seam-less team collaboration”)



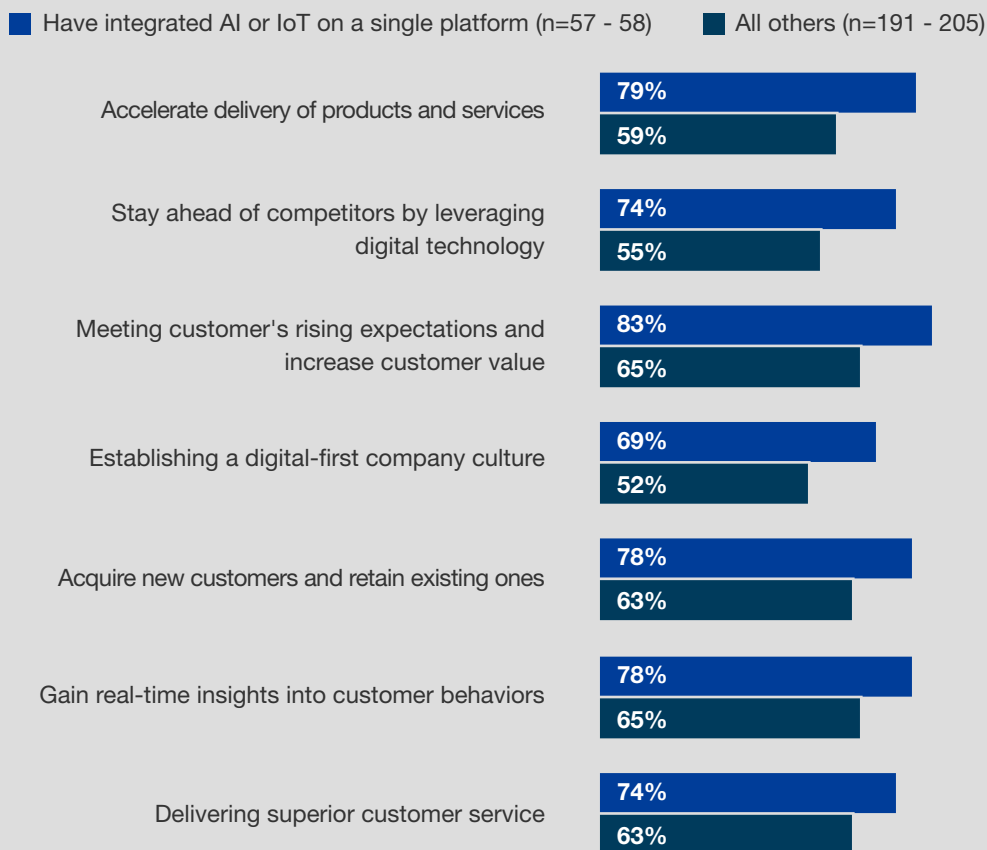
Base: 263 decision makers involved in digital transformation related efforts and technology in firms with 500 employees or more worldwide.
Source: A commissioned study conducted by Forrester Consulting on behalf of C3 IoT, November 2017

› **Credit their unified technology set-up with helping them achieve their digital transformation goals.** Better collaboration and the creation of a single source of truth reduces much of the friction that prevents firms from realizing their digital transformation vision of insights and agility. Firms unifying enterprise data, AI, and IoT on a common platform acknowledge that this has been effective in accelerating delivery of their goods/services, as well as helping them gain customer insights from data. As such, they are also more likely to report that a common platform has helped them establish a digital-first culture that can stay ahead of competitors and meet the expectations of the empowered customer (see Figure 9).

Figure 9

“Consider all of the technology you have currently adopted as part of your organization’s digital transformation strategy. How effective have they been in helping you achieve your digital transformation goals?”

(Showing those selecting “very” or “extremely effective”)

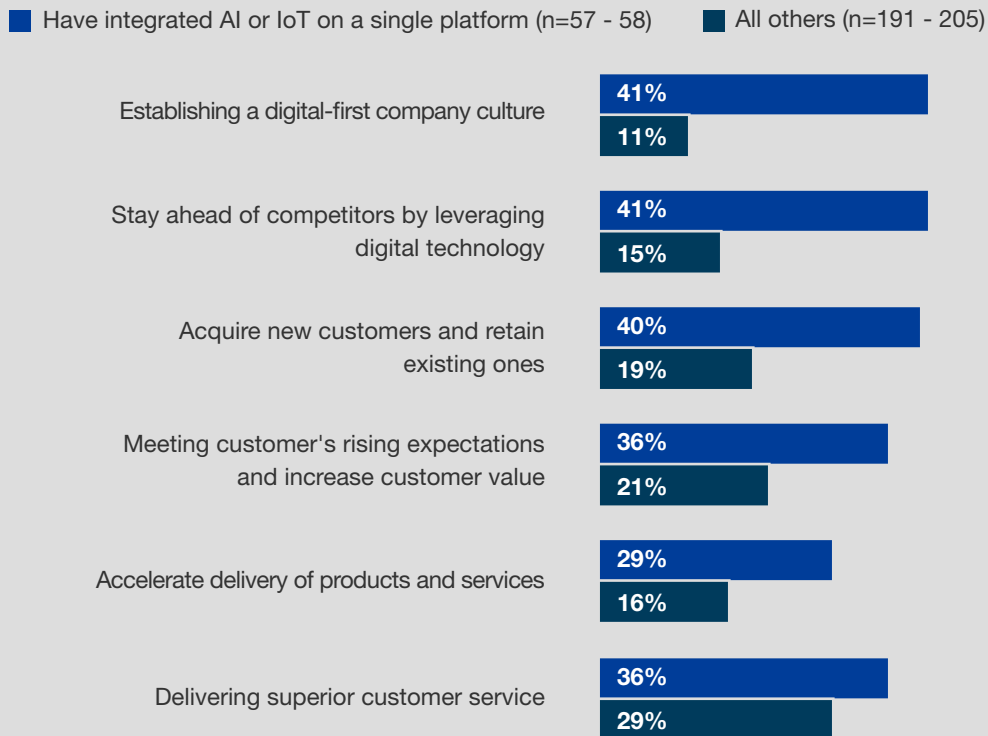


Base: Decision makers involved in digital transformation related efforts and technology in firms with 500 employees or more worldwide.
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› ... and are more likely to have already achieved those goals. Getting past the problem of breaking down siloes and bringing together disparate data sources lets firms focus on building insights and achieving their goals. As such, they can achieve those goals more quickly. Indeed, firms unifying AI and IoT on a common platform are more likely to report that they have already achieved big digital transformation end goals such as staying ahead of competitors, improving services, meeting customer expectations, and acquiring new customers while retaining existing ones to a far greater extent than those who have not taken this approach (see Figure 10).

Figure 10

“When do you expect to achieve the goals you have prioritized for your digital transformation strategy?”
(Showing those selecting “currently achieved”)



Base: Decision makers involved in digital transformation related efforts and technology in firms with 500 employees or more worldwide.
Source: A commissioned study conducted by Forrester Consulting on behalf of C3 IoT, November 2017

Key Recommendations

ELIMINATE COMPLEXITY TO FOCUS YOUR DIGITAL TRANSFORMATION EFFORTS ON AI AND IOT

Digital transformations are profound organizational and technological phase changes. Once “transformed,” an organization can innovate, serve customers, and respond to make changes at the speed of digital. The speed of real-time customer requests. The speed of predicting equipment malfunction before it occurs. The speed of dynamic supply chain changes. The speed of a transaction. The speed of competitors. This doesn’t mean it is one-and-done. It does, however, mean that complex architectures must eventually be subsumed within a unified digital platform that underpins your firm’s ability to be agile. Successful firms will abstract the complexity of legacy architectures in order to focus on high-value digital technologies, AI and IoT. To take stock of your current digital transformation efforts and set an appropriate plan in place:



Take a unified platform approach for data, AI, and IoT. Machine learning algorithms get all the press, but it is enterprise data from applications, devices, and external sources that are the fuel for AI-powered digital transformations. Instead of evolving your existing architecture to accommodate AI, IoT, and other digital transformation technologies, have your implementation teams abstract away that complexity down to two simple two-way pipelines: data and control. Facilitate data ingestion to and from legacy architecture to a unified platform for digital transformation. Control commands to and from legacy applications to applications for digital transformation.

Does your team understand the value of a single, unified platform for digital transformation?



Reassess your IT evolution approach to get unstuck. Implementation teams are experts at explaining implementation setbacks and missed deadlines. Most are valid—based on the conventional integrate-and-evolve approach to digital transformation projects. Take a step back and ask your teams to explain their IT evolution approach. Most of their efforts should be spent on new digital transformation technologies such as AI and IoT, not just preparing for that in the future.

Is your team taking an incremental integrate-and-evolve approach or are they moving to establish a common framework that will enable teams across the organization to collaborate and achieve digital transformation?



Consider how best to integrate and support AI and IoT efforts.

While ingesting IoT data sources is an important element in creating a digital transformation platform, and technologies to do so have advanced quickly in recent years, addressing the necessary skills to support this data is vital. Equally important—and scarce—is the data science skill set needed to tackle AI-based data analysis. Many organizations look outside for assistance in jumpstarting their AI and IoT projects, with an eye to training internal teams to take over projects once initial phases are complete.

Does your team have the right skill set to build predictive analytic insights?

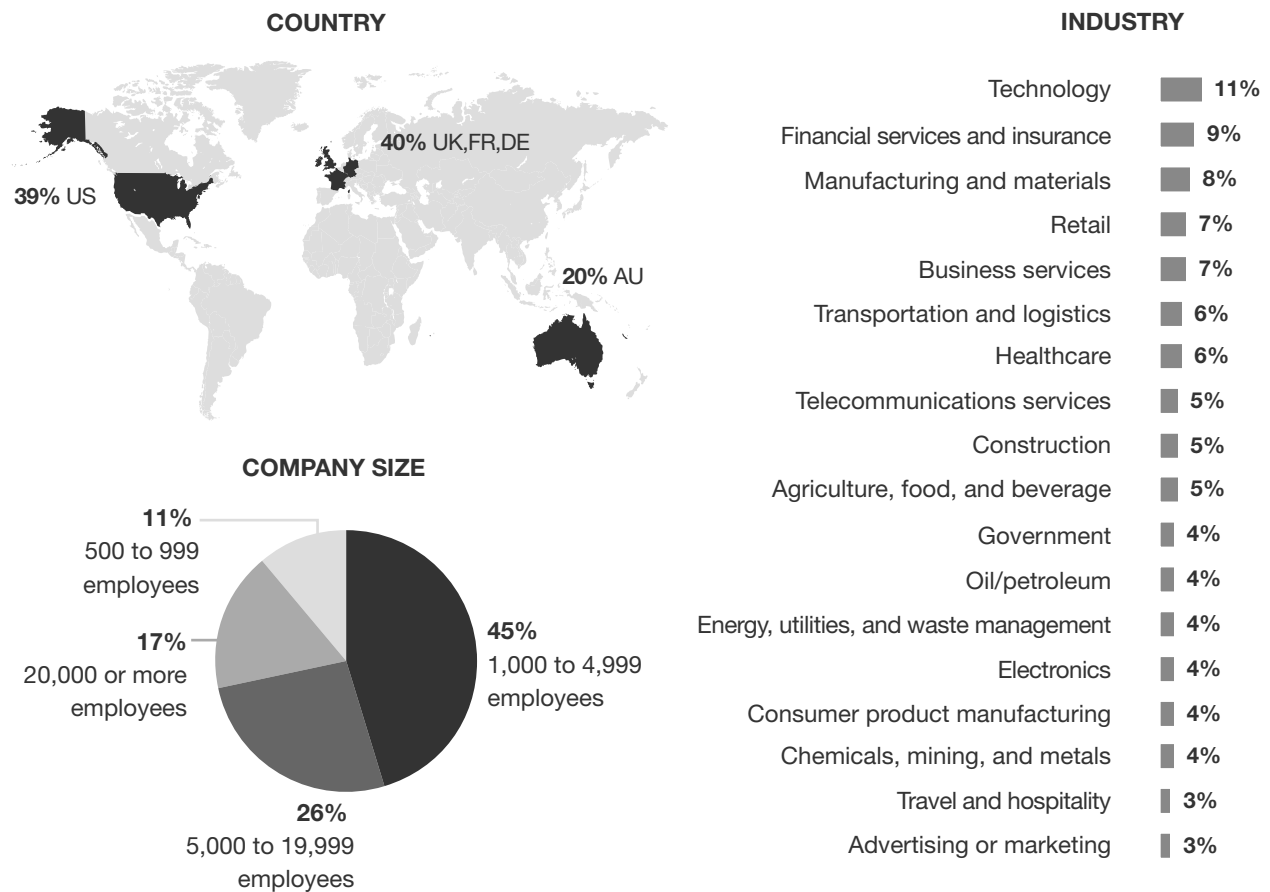
Align the C-suite and IT around a digital transformation journey. Benchmark peers and identify potential sources of disruption. Agree on what business problems/opportunities are most vital to address. Consider a wide-ranging enterprise-spanning Center of Excellence approach to digital transformation.

Does your team feel the urgency to mobilize around digital transformation?

Appendix A: Methodology

In this study, Forrester conducted an online survey of 263 enterprise-level organizations in the US, the UK, France, Germany, and Australia to evaluate their digital transformation efforts—their goals, challenges they are experiencing, and the technologies they are using. Survey participants included decision-makers who either influence or make final decisions on their organization’s digital transformation efforts. The study began and was completed in November 2017.

Appendix B: Demographics



Base: 263 decision makers involved in digital transformation related efforts and technology in firms with 500 employees or more worldwide. Source: A commissioned study conducted by Forrester Consulting on behalf of C3 IoT, November 2017