

UPDATED COVID EDITION

Under Pressure

In this research report update, we reveal how E&U organizations can advance their digital maturity: where investments are paying off, optimal next steps and how laggards can catch up to leaders, as well as the impact of COVID-19 on E&U digital endeavors, both in the short term and after the crisis subsides.

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ESITHOUGHTLAB

Cognizant[®]

E&U businesses recognize that emerging successfully from the COVID-19 crisis will be highly dependent on accelerating digital initiatives, according to our recent study. This e-book aims to provide insights for E&U organizations to move ahead.

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Introduction: The E&U Digital Imperative

Even before the pandemic in early 2020, energy and utilities organizations were feeling the pressure to accelerate their pace of moving into the digital economy. From the well-known E&U trilemma of affordability, sustainability and security, to renewables, distributed energy and the rise of the self-sufficient energy “prosumer,” E&U businesses need to rethink how they engage with customers, employees and suppliers.

In our February 2020 study (based on research conducted in late 2019), we found that E&U organizations lagged behind other industries in 12 of 13 key measures of digital maturity. The one area where they reported greater maturity than other respondents was in improving the customer and employee experience – and were already reaping the benefits.

Then the pandemic hit – and compressed the timetable even further. In our fall 2020 research, we saw that the health crisis only served to underscore the need to move to digital, with six out of 10 utilities making changes to their digital

approaches in the short term and over one-third planning to speed their shift to digital over the next two years.

While the crisis spurred financial concerns for half of utilities, most are striving to preserve their digital budgets, with less than one-third planning to cut their digital budgets, and the majority either increasing them or leaving them the same. Digital investment priorities – like cybersecurity, artificial intelligence (AI) and customer experience – have intensified. And there’s never been more of a focus on creating a culture of innovation.

What’s clear is E&U businesses’ recognition that emerging successfully from the COVID-19 crisis will be highly dependent on embracing digitally-enabled processes, applications and modernized IT infrastructure and data architectures. With increased competition from new market entrants and now the changed landscape from the pandemic – it’s never been more important for E&U stalwarts to increase the agility of their operating models so they can offer energy choice, enable consumer self-selection and develop new energy trading models.

This e-book blends findings from both of our studies. In our digital maturity study, we surveyed 2,491 business and technology leaders from multiple industries globally, including 191 E&U organizations, to assess what's working, how much businesses should be investing in digital, where investments are paying off, and what separates leaders from laggards.

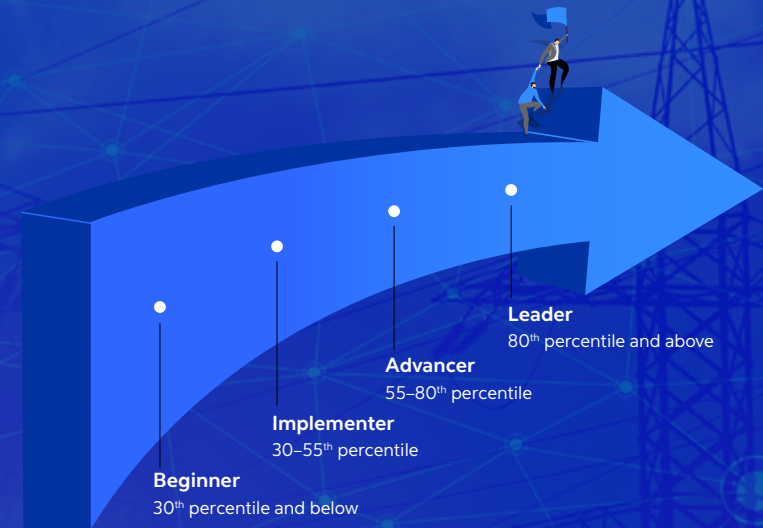
In our pandemic impact study, we surveyed 150 utilities to find out how COVID-19 had impacted their businesses and digital strategies, and whether these changes will endure after the crisis subsides. (For both study methodologies, see page 27.)

We invite you to read our e-book or visit us at cognizant.com/digital-transformation-report for the full cross-industry report.

Digital Maturity Curve

To better understand what a leader looks like, we devised a framework to calculate a maturity score. The score is based on three criteria:

- I Ranking on a digital transformation framework.** We scored companies across 13 key aspects of business and technology change (see Figure 1, next page, for the full list).
- I Ability to influence revenue through digital methods.** Drawing on self-reported data, we analyzed the level of revenue influenced directly or indirectly by digital channels.
- I Benefits generated from digital.** This included operational benefits, such as speed to market and improving cost efficiencies, and more strategic ones, such as greater



shareholder value and market share. We created a maturity score for each respondent and assigned each to one of four categories: “beginner,” “implementer,” “advancer” and “leader.” We then distilled our findings into easily digestible lessons that business and technology leaders can absorb and apply immediately.

The Pandemic as Digital Accelerant

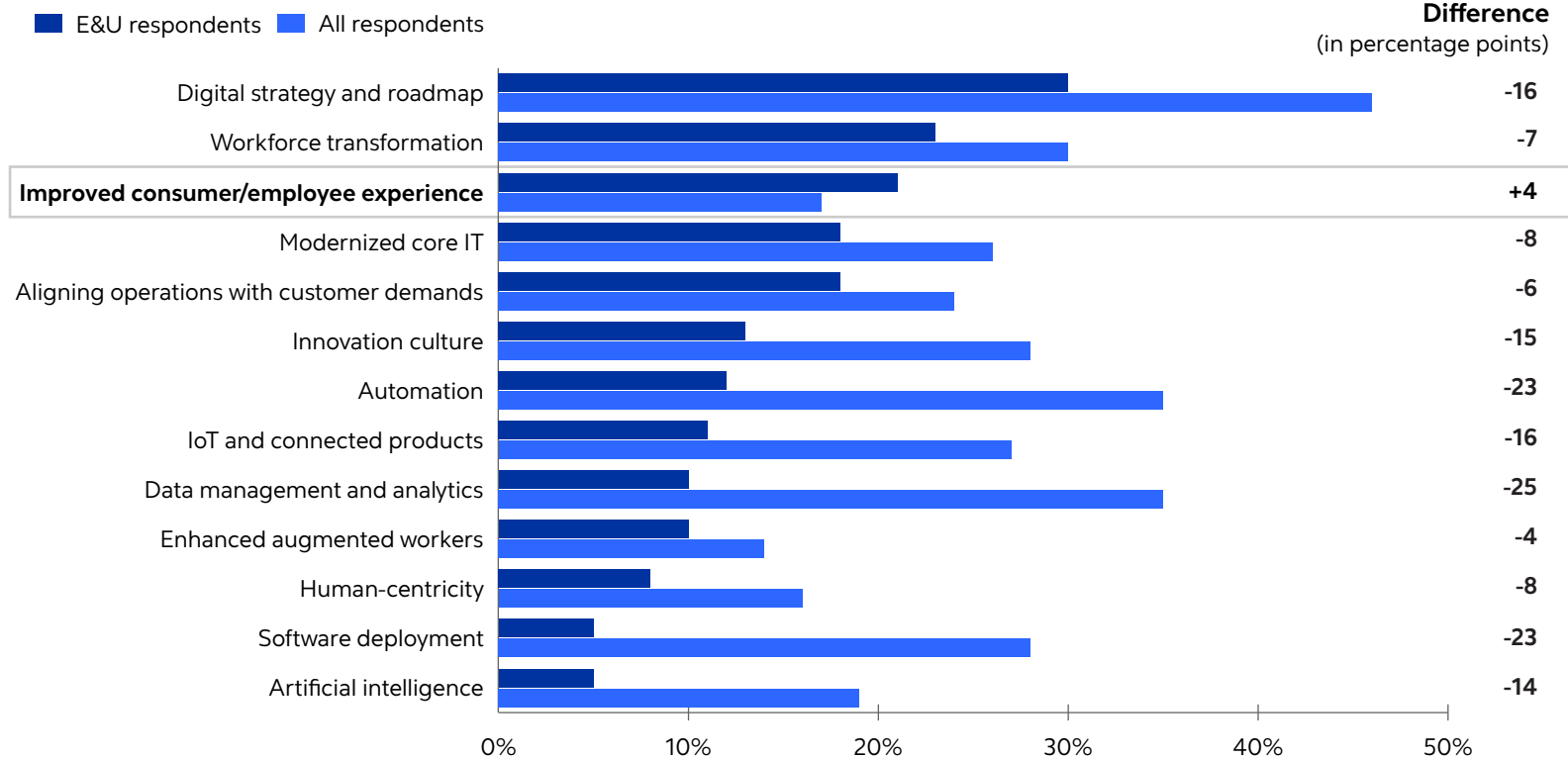


Pressure intensifies

No industry has escaped the urgency to rethink how they do business to thrive in both the Fourth Industrial Revolution and in the post-pandemic world, and that includes energy and utilities. Before the pandemic, however, E&U organizations lagged all other industries in nearly all of our key measures of digital maturity (see Figure 1). The one exception was in improving the consumer/employee experience.

Utilities lag in all measures of digital maturity but one

Respondents were asked to rate their maturity in each area of our digital maturity framework. (Percent of respondents in the maturing or advanced stage)



Total response base: 2,491
 E&U response base: 191
 Source: Cognizant/ESI ThoughtLab, 2019 study
 Figure 1

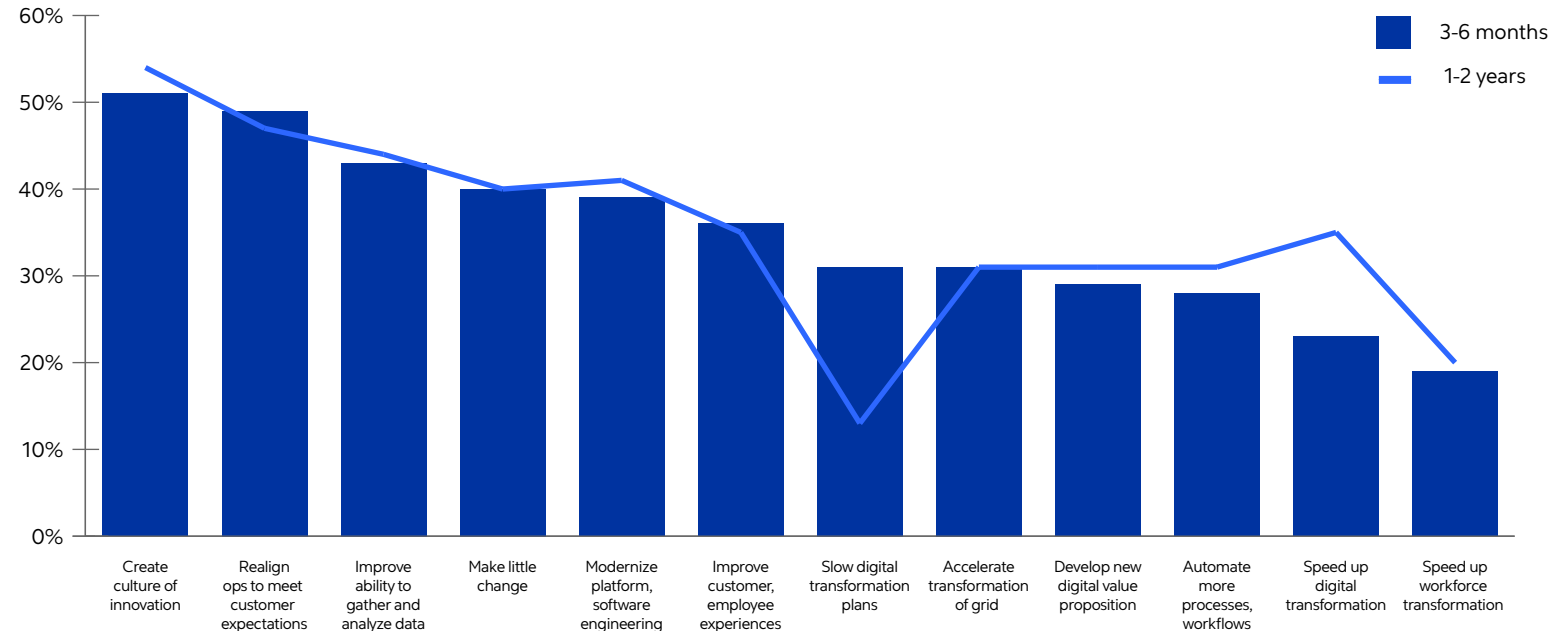
Spurred to up their digital game

Post-pandemic, E&U organizations seem determined to close that gap, however, with 60% of respondents in our 2020 study saying the crisis has spurred them to make changes to their digital approaches in the short term. The largest companies are leading the way – only 18% say they will make little or no change at all.

While the pandemic caused a short-term slowdown in digital endeavors, that won't last. Almost three times as many utilities said they will speed their digital efforts (35%) rather than slow them down (13%) (see Figure 2).

Speeding initiatives is a priority

Respondents were asked how COVID-19 would impact their short- and long-term strategies. (Percent of respondents saying they'd increase their focus)



E&U response base: 150
Source: Cognizant/ESI ThoughtLab, 2020 study
Figure 2

Targeting areas of weakness

As part of accelerating their digital endeavors, many will increase their focus in areas where they are behind: creating an innovation culture (54%), aligning operations with customer expectations (47%), improving their ability to use and analyze data (44%), modernizing IT systems (41%) and automating processes (31%) (see Figure 3). Importantly, these are all areas where only a handful of utilities reported advanced levels of maturity in our pre-pandemic study.

It's particularly heartening to see the strong intent on creating a culture of innovation. Having an innovation capability enables organizations to boost performance across all areas of digital endeavor.

The focus on data analytics is another good sign. Data is a hidden advantage that legacy companies have against digital-native competitors. Finding, mining, managing and using existing reams of market and customer data – in an ethical and transparent way – is paramount to success. It's also the foundation for strategies pertaining to predictive maintenance of energy assets and anticipating customer needs.

Post-pandemic strategies vs. pre-pandemic digital maturity

Respondents were asked to rate their digital maturity in each area (2019 study) and identify areas of higher focus in their longer term digital strategies (2020 study). (Percent of respondents assessing their maturity as high; percent saying they'd increase their focus)

Areas of digital transformation	Area of digital maturity in 2019*	Higher focus over next 1-2 years
Improved consumer/employee experience	21%	35%
Modernized core IT	18%	41%
Aligning operations with customer demands	18%	47%
Innovation culture	13%	54%
Automation	12%	31%
Data management and analytics	10%	44%
Enhanced/augmented workers	10%	31%

*Data from Cognizant/ESI ThoughtLab 2019 study; response base 191
E&U response base: 150
Source: Cognizant/ESI ThoughtLab, 2020 study
Figure 3

Addressing Pandemic Pain Points

The background of the slide is a night cityscape with numerous skyscrapers and buildings, some of which are illuminated. Overlaid on this cityscape are numerous vertical and horizontal lines of light, primarily in shades of blue and purple, creating a digital or data network aesthetic. The lines vary in thickness and brightness, some appearing as thin streaks and others as thicker, more prominent paths. The overall color palette is dominated by deep blues and purples, giving it a futuristic and technological feel.

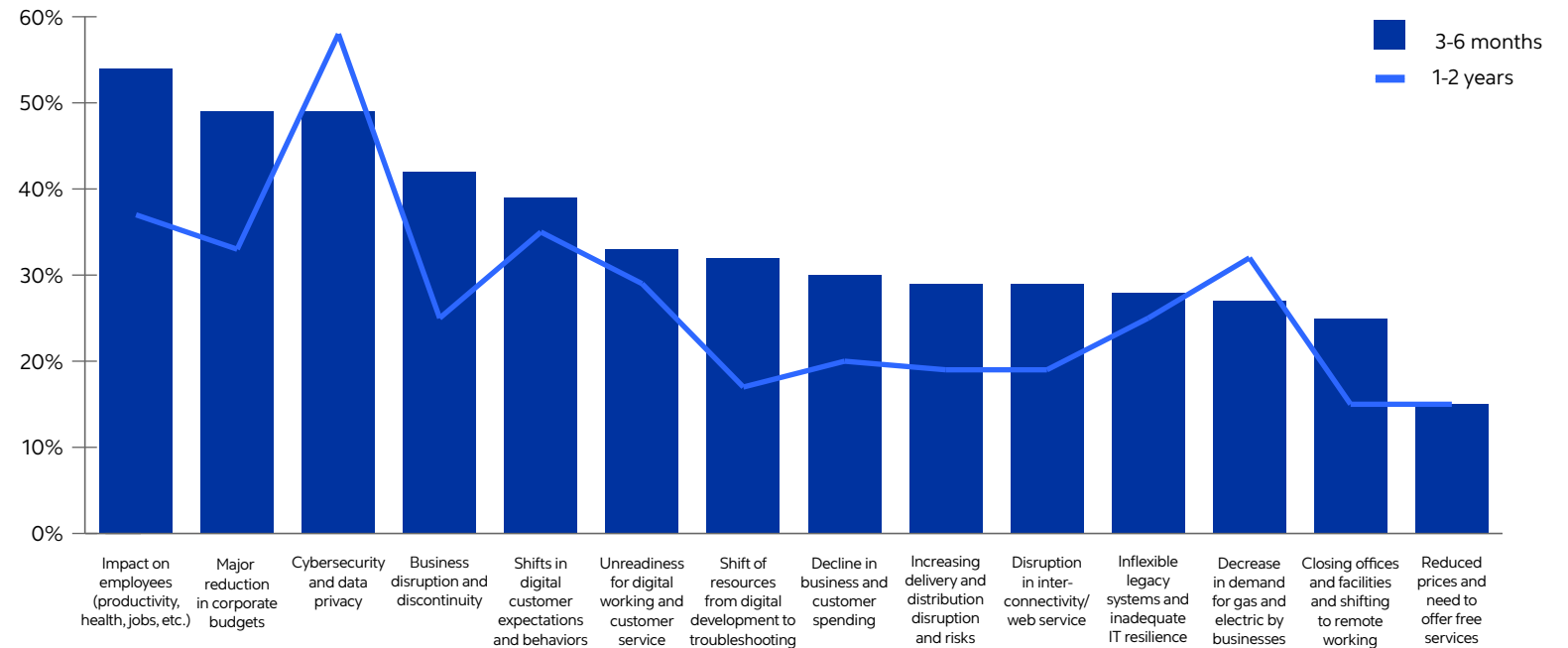
Short- vs. long-term concerns

Because of the pandemic, it's important to distinguish between short- and long-term concerns for utilities. In the short term, the biggest pain points of the crisis for E&U organizations unsurprisingly revolve around employees, budget cuts and cybersecurity, followed by business disruption and continuing to serve customers. While most of these will recede in the next year or so, the focus on cybersecurity will actually increase (from 49% of respondents to 58%) as remote work and accelerated digital adoption exposes businesses to greater cyber risks (see Figure 4).

Another sustained concern in the longer term includes decreased demand for energy (from 27% to 32% of respondents), in part due to office closures and a downturn in commercial real estate. Notably, the need to continue working to meet customer digital expectations remains a key concern (39%).

Pain points, now and later

Respondents were asked about the biggest short- and long-term pain points resulting from the pandemic. (Percent of respondents naming each as a high pain point)



E&U response base: 150
Source: Cognizant/ESI ThoughtLab, 2020 study
Figure 4

A new workplace emerges

A picture of the emerging workplace for utilities is beginning to take shape; however, the areas of focus for plants and business operations will differ (see Figure 5).

Plants are more likely to prioritize workplace health, hygiene and social distancing for location-based front-line employees. They're also more likely to develop new remote working policies for these workers. Headcount reductions are also more likely at plants than in offices, as utilities look to robots and automation.

Employee health and well-being, meanwhile, is a top focus area for business operations. The shift from physical to digital jobs is also pronounced in operations, as is the hiring of more digital talent and upskilling existing staff to work with digital tools.

Areas where plants and operations converge are in altering office and facilities design to support health and in greater adoption of automated workflows.

Changes in plants vs. operations

Respondents were asked how COVID-19 would affect staff and how they work in the next one to two years. (Percent of respondents saying high impact)

	Plants	Business ops
Where plants will lead change		
Greater focus on workplace health, hygiene and social distancing	56%	43%
Greater use of online training/onboarding tools	49%	33%
Headcount reductions	37%	23%
Development of new remote working policies and tools	33%	25%
More workers replaced by robots and automation	26%	21%
Where ops will lead change		
Greater emphasis on employee health and well-being	45%	59%
Shift from physical to digital jobs	37%	45%
Hiring new digital talent beyond plans	35%	47%
Reduced business travel and personal meetings	31%	51%
Faster digital upskilling and workforce transformation	16%	36%
Greater use of ecosystem of partners and contractors	15%	23%
Greater use of virtual collaborative platforms	14%	35%
Where trends will converge		
Change in office and facilities design and practices to support health	32%	31%
Greater emphasis on automated workflows	32%	29%
Recalibration in balance between facility shifts and personnel	33%	35%

E&U response base: 150
 Source: Cognizant/ESI ThoughtLab, 2020 study
 Figure 5

All Eyes on Customer Experience

A network diagram is overlaid on a blue background. It consists of several circular nodes, each containing a white person icon. These nodes are interconnected by thin white lines. Some nodes have numerical values associated with them: -1044.541, -491.427, -24042.266, and -17993.451. The nodes are arranged in a somewhat circular pattern, with some lines connecting them to form a larger structure.

Customer experience is a competitive advantage

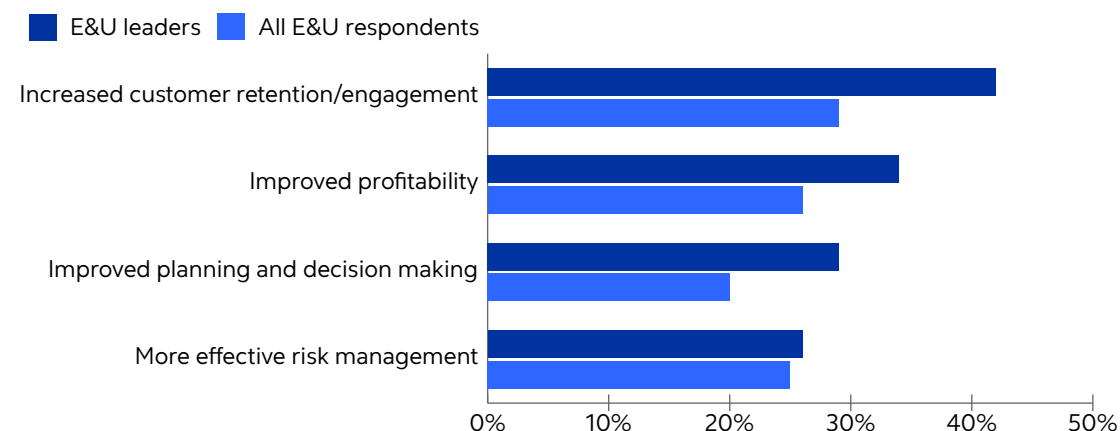
In our earlier report, E&U organizations gave themselves relatively high marks for improving the customer and employee experience. This finding aligns with where we see digital investments being made in the industry, as E&U players realize customer experience is a key differentiator in an increasingly competitive marketplace. The disparity with other industries would likely be even higher if utility suppliers (not just generators and distributors) were included in the study.

We consider the industry to be in a similar situation as telecom businesses were when smartphone popularity began precipitating high customer churn. With a changing landscape caused by the emergence of retail companies offering alternative energy distribution channels and proliferating renewables, E&U businesses need to enhance their brand recognition. Failure to invest in a better customer/employee experience increases the risk of losing customers to competitors that offer easier two-way engagement, more transparency and self-service options.

Considering customer/employee experience has been a focal point for E&U businesses thus far, it's not surprising to see "increased customer retention and engagement" arise as a top benefit of investing in digital in our pre-pandemic study, especially among leaders (see Figure 6).

Customer experience investments pay off

Respondents were asked to name the benefits received from their digital initiatives. (Percent of respondents)



E&U response base: 191
Source: Cognizant/ESI ThoughtLab, 2019 study
Figure 6

The crisis has only heightened customer expectations

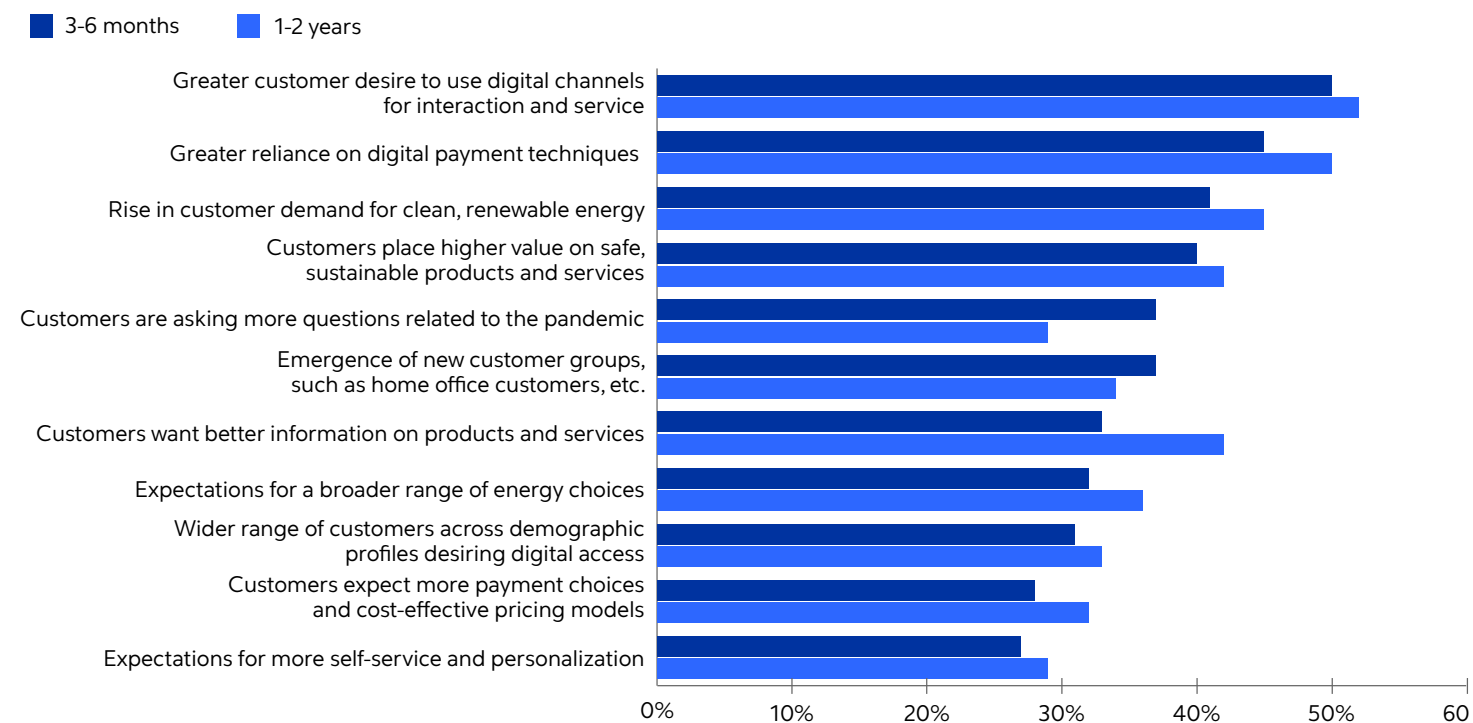
While customer behaviors were already changing before COVID, the pandemic has only heightened consumer expectations, both in the short and long terms.

E&U businesses expect an array of new and sustained demands, including greater use of digital channels (50%), such as mobile applications and more user-friendly websites, as well as digital payment techniques (45%) (see Figure 7). Digital advancements in these areas would include easier, faster and more varied ways to pay bills, resolve issues and report outages and receive personalized updates on them.

Sustainability and safety are also top-of-mind: consumers will increasingly demand clean, renewable energy (41%) and place a higher value on safe, sustainable offerings (40%).

Changing customer needs and expectations

Respondents were asked how COVID-19 is affecting customer needs, expectations and behaviors over the short- and long-term. (Percent of respondents saying high impact)



E&U response base: 150
Source: Cognizant/ESI ThoughtLab, 2020 study
Figure 7

Spending Will Rise, Post-crisis

The background features a 3D bar chart with blue bars of varying heights, receding into the distance. A red line graph is overlaid on the chart, showing an overall upward trend with some minor fluctuations. The scene is illuminated from the right by a bright light source, creating a lens flare and casting shadows on the bars. The overall aesthetic is futuristic and data-oriented.

Closing the spending gap

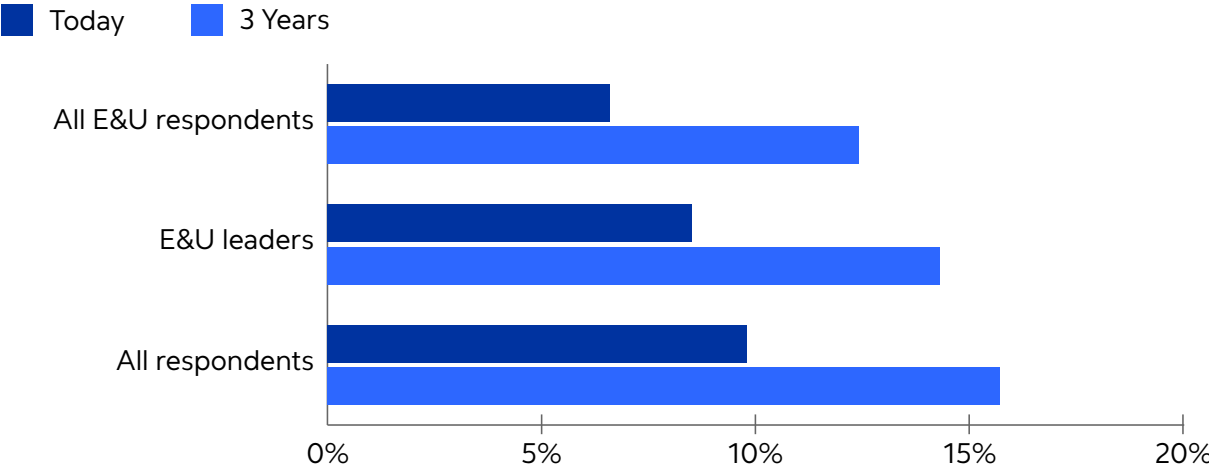
Our earlier study also found a significant spending gap when it comes to E&U investments in digital (see Figure 8). Considering the due diligence processes and compliance issues of regulated businesses, it's clear that any spending increases must be made in a balanced and measured way.

The good news, prior to the pandemic, was that E&U organizations planned to double the percent of revenue spent on advanced technologies by 2022. E&U's spending growth rate of 88% was the highest of all industries and exceeded the cross-industry average of 60%.

E&U digital leaders – which aren't far from meeting the cross-industry spending norms – provide a useful benchmark for other industry players to follow. For now, though, the spending gap between the average E&U business and leaders is wide.

Lower spending overall on advanced technologies

Respondents were asked what percent of annual revenues they planned to spend on all technologies across the organization, now and in three years. (Percent of annual revenues)



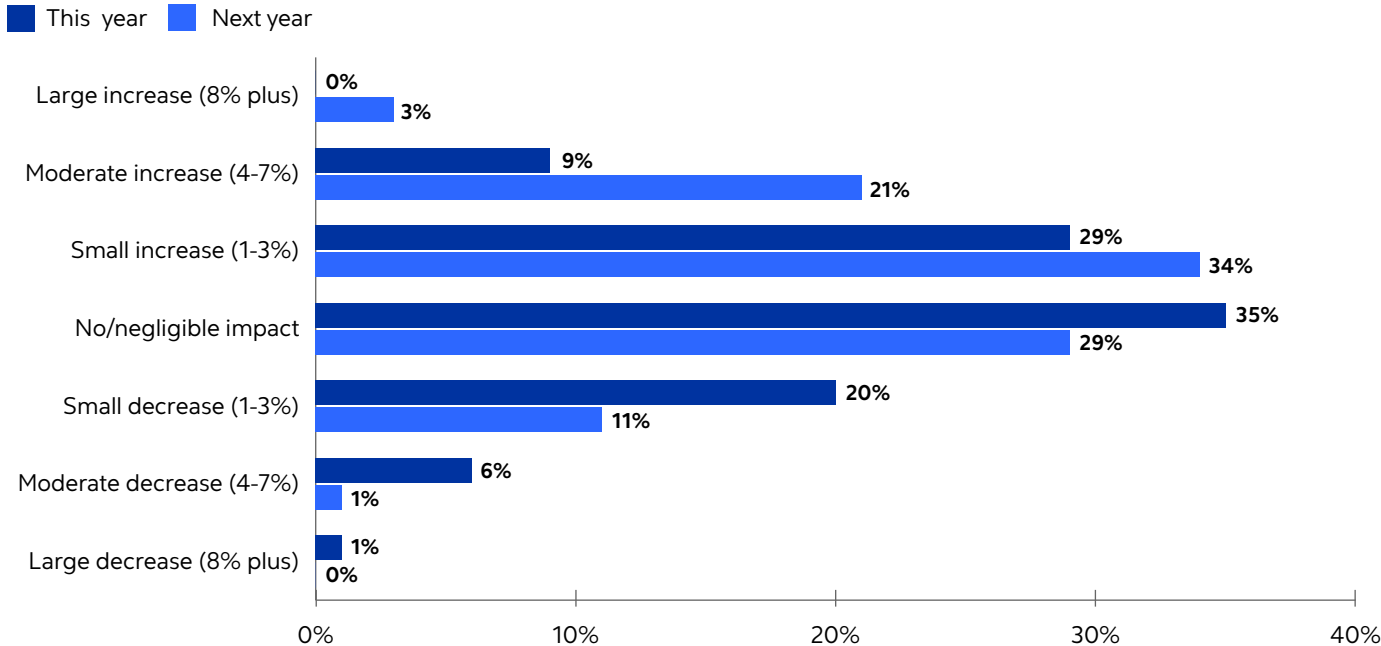
Total response base: 2,491
E&U response base: 191
Source: Cognizant/ESI ThoughtLab, 2019 study
Figure 8

Digital budgets will grow

The pandemic doesn't seem to have deterred E&U businesses from continuing to invest in digital. While half of utilities faced major financial hits during the crisis, only a minority (27%) reported the need to cut their digital budgets (see Figure 9). The majority increased digital budget allocations (38%) or kept them the same (35%). Almost six out of 10 E&U businesses plan to hike their digital budgets in the next year, while only one out of 10 will shrink them.

Digital budget hikes on the horizon

Respondents were asked how COVID-19 would impact their digital budget this year and next. (Percent of respondents)



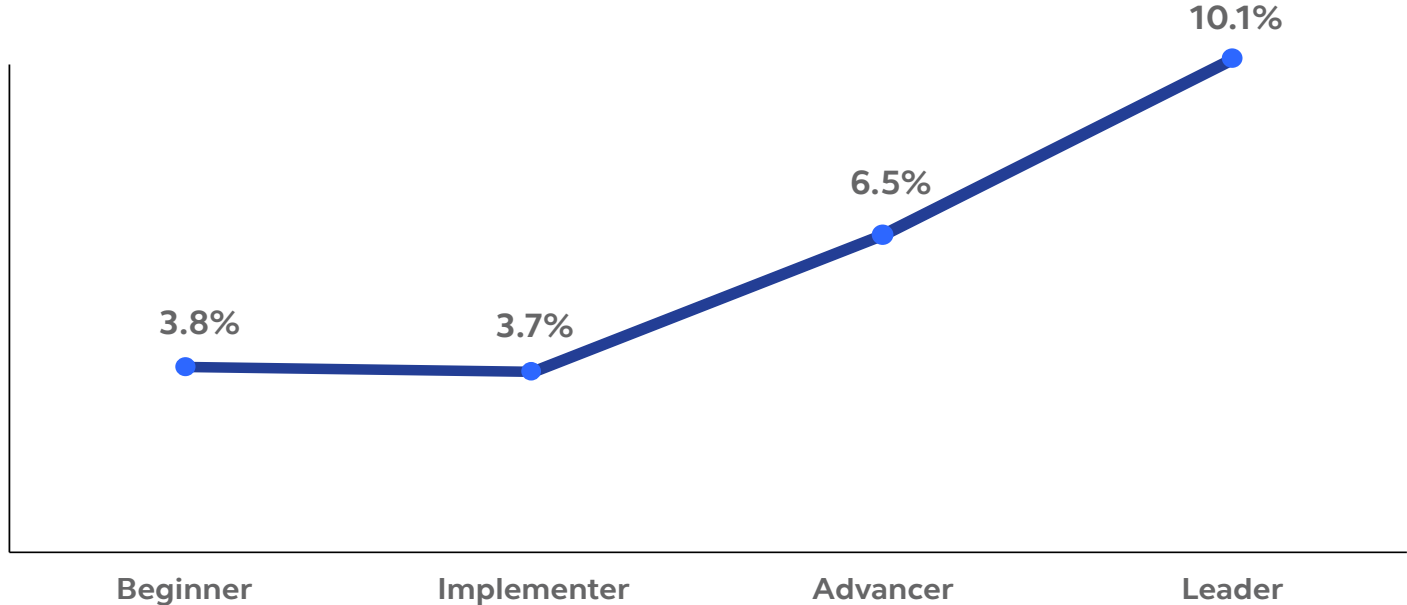
E&U response base: 150
Source: Cognizant/ESI ThoughtLab, 2020 study
Figure 9

Bottom-line impact could be substantial

The pandemic has spurred utilities to reprioritize and even delay their CapEx spending to free up cash. However, as seen in our pre-pandemic study, E&U organizations that invest in digital technologies and approaches could potentially see hefty benefits to the bottom line as their revenue outstrips their initial costs on a cumulative basis (see Figure 10). As they advance on their plans and develop into leaders, their revenue and net impacts grow.

Cumulative net impacts for E&U businesses by maturity level

Respondents were asked about the impact of their digital initiatives on their revenue and costs. We then used those responses to calculate the net benefit (revenue minus cost) for the different maturity categories. (Next benefit as a percent of overall revenue)



E&U response base: 191
Source: Cognizant/ESI ThoughtLab, 2019 study
Figure 10

Where to Target Digital Investments

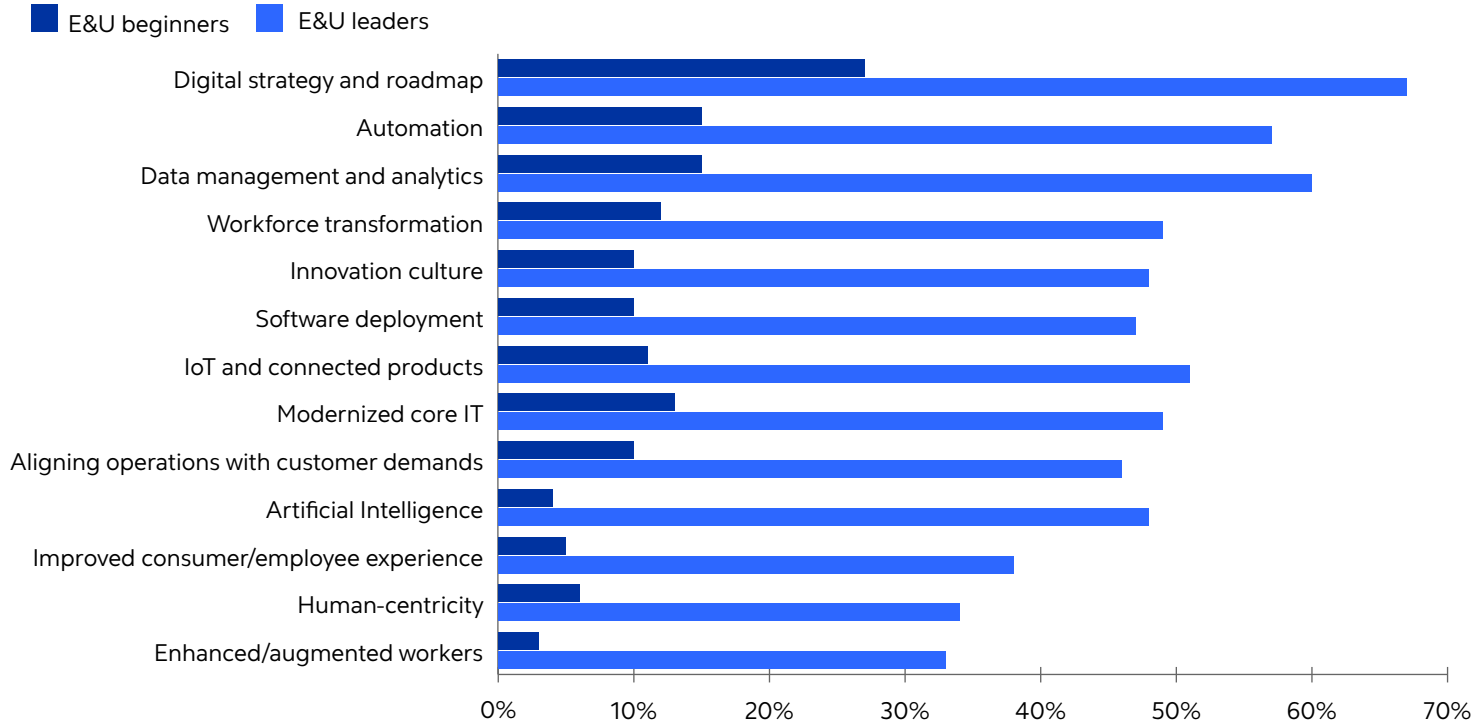
First, look to the leaders' areas of maturity

The looming question for many E&U businesses is where to start with their digital initiatives and investments. To answer that, we can first look at where E&U leaders reported the highest levels of digital maturity in our pre-pandemic study (see Figure 11). Leaders rated themselves as most mature in three top areas: digital strategy, data management/analytics and automation.

In our pre-pandemic study, data management stood out as a particularly high-payback investment across industries, where the same percent of respondents whose organizations have made moderate or substantial investments in data management (60%) have realized moderate to high returns. E&U leaders have not yet seen these results; 45% of leaders say they've made high levels of investment in data management, and 29% have realized moderate to high returns.

The leader-beginner digital divide

Respondents were asked to rate their level of maturity in each area. (Percent of respondents in the maturing or advancing stage)



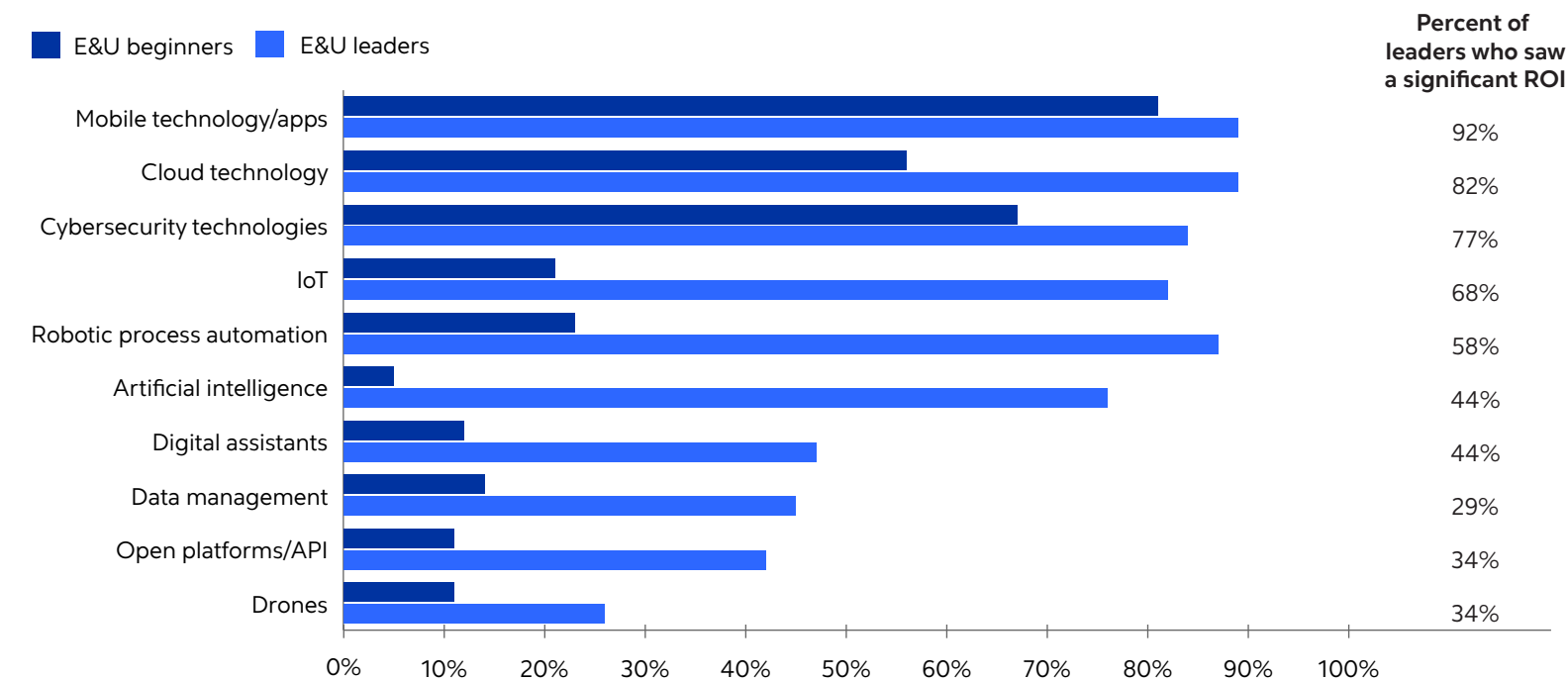
E&U response base: 191
Source: Cognizant/ESI ThoughtLab, 2019 study
Figure 11

Where leaders place their bets – and win

Another way to illuminate the way forward is by looking at where E&U leaders are investing most heavily and seeing the highest returns – not to mention the vast gap in spending between E&U leaders and laggards (see Figure 12). Before the pandemic, the areas where the most mature E&U business had spent most heavily and realized the highest payoff were mobile technology/apps, cloud, cybersecurity, IoT and robotic process automation. Except for mobile and cybersecurity, the investment gap between leaders and beginners was large.

Investment gulf between leaders and laggards

Respondents were asked their level of investment in each technology in the last two years. (Percent of respondents who made a significant investment)



E&U response base: 191
Source: Cognizant/ESI ThoughtLab, 2019 study
Figure 12

A closer look

Let's take a look at a few of these areas.

- Cybersecurity:** It's not surprising to see cybersecurity at the top of both beginners' and leaders' lists. Because leaders are more apt to have established and benefited from a digital strategy, it's also not surprising that over three-quarters consider cybersecurity to be a high-payback investment, as a well-crafted roadmap would help them understand not just where to invest but also how to do so while minimizing security risk.
- Cloud:** When it comes to the cloud, E&U businesses at the earlier stages of digital maturity are particularly cautious about considering migration and are apt to view cloud as a double-edged sword. Even with the agility benefits it offers, many are concerned about the introduction of unknown cybersecurity risk.

For these organizations, we advise taking a selective approach to cloud deployment that would slowly but surely increase organizational agility and transparency while minimizing risk. A good start would be to focus on applications with the lowest-risk workloads or those with minimal customer data or sensitive information.

- IoT:** The instrumenting of devices that sit on operational infrastructure with IP addresses is the most effective way to gather information for disaster intelligence or predictive maintenance. It's notable that a fairly close percentage of leaders have invested substantially in both IoT (82%) and AI (76%) as the two technologies often go hand-in-hand.
- AI:** While IoT initiatives signal a move toward collecting data that matters, full maturity means integrating data, analyzing content,

understanding what data matters most, and using AI to predict and prescribe the best actions. We've already seen leaders embark on IoT/AI initiatives to inform customers of potential outages and predict natural disasters before they happen so they can take preventive measures.

A smaller percentage are realizing returns as yet from AI (44%) vs. IoT (68%). This is because while the impact of AI is great, it's also among the most difficult of digital disciplines to master. Not only does it require a modern data foundation that brings together all the data that matters, but it also requires new skills to extract meaning from that data.

Post-pandemic shift in spending priorities

Following the pandemic, utilities will only shift more of their investment focus to cybersecurity and AI while also increasing spending on drones (see Figure 13).

Compared with the areas of digital investment identified before the pandemic, cybersecurity moved from third place to the top of the list of greater investment over the next two years. Cybersecurity’s preeminence is no surprise, as accelerated digital adoption has exposed firms to greater risks.

AI jumped from sixth place before the pandemic to second place going forward. The COVID-19 outbreak illuminated the power of AI for many companies, as it helps with accessing time-critical data and insights, adjusting to fluctuations in energy demand, protecting against cyberattacks and personalizing the digital experience for customers and workers.

Drones, meanwhile, will prove valuable in ensuring safety during the pandemic. Emergency surveillance and power line inspections are just a few areas where utilities will increase their reliance on drones.

While investments in mobile, IoT, cloud and automation appear to have descended the priority list, these technologies will still see increased investment. Specifically, the percent of respondents expecting to increase investment in these areas was 49% for automation, 43% for mobile, 42% for cloud (44% for cloud-based CRM and sales automation) and 42% for IoT.

Before and after: priority areas of investment

Respondents were asked if they would invest more or less in each area over the next one to two years because of the pandemic.

Areas of investment before COVID-19, ranked high to low	Rise in investment over next two years, ranked high to low*
Mobile	Cybersecurity
Cloud	AI
Cybersecurity	Mobile
Internet of things	Internet of things
RPA	Cloud
AI	RPA
Digital assistants	Drones
Data management	Open platforms
Open platforms	Data management
Drones	Digital assistants
Quantum computing	Quantum computing
Virtual reality	Virtual reality

* The areas in blue went up in the rankings; the areas in gray went down
 E&U response base: 150
 Source: Cognizant/ESI ThoughtLab, 2020 study
 Figure 13

Beyond technology: don't skimp on strategy

In our pre-pandemic analysis, we found that businesses will realize different returns on any given investment depending on their digital maturity level (see Figure 14).

Across industries, a key investment for businesses in the earlier stages of maturity is in the digital strategy itself. For E&U organizations in particular, uncertainty about digital technologies among less mature organizations may result in an old-school approach to laying out a technology roadmap that could put utilities even further behind. Concerns regarding cloud security, for instance, have pushed at least one of our clients to invest in building a new data center vs. taking a more modern and agile approach.

A well-planned digital strategy can also go a long way toward reducing the risk of unintentionally creating cybersecurity holes. By filling in knowledge gaps, E&U businesses can set up a digital roadmap that will help them anticipate the security issues they should be aware of. It's telling that of all the elements in our maturity framework, digital strategy is where E&U leaders consider themselves to be most mature.

As companies advance in maturity, managing data better – and therefore being able to derive insights, apply intelligence, drive growth and more – provides fuel for continued advancement. Lastly, automation – applying software to make work more efficient – should be on nearly every roadmap. It's a good way to contain costs and improve efficiency, as well as free capital to invest in other modern-economy initiatives (and upskill your workforce).

Maturity level determines where to start

Areas of investment where all respondents are realizing highest ROI based on their maturity.

	Beginner	Implementer	Advancer	Leader
1	Digital strategy	Digital strategy	Automation	Automation
2	Innovation culture	Automation	Digital strategy	Data management
3	Align with demands	Innovation culture	Data management	Transform workforce
4	UX	Transform workforce	Transform workforce	Digital strategy
5	Modernized IT	UX	Human centricity	AI

Total response base: 2,491
 E&U response base: 191
 Source: Cognizant/ESI ThoughtLab, 2019 study
 Figure 14

Thriving in the Post-Pandemic Age

An aerial night view of a city, likely Los Angeles, with a strong blue color overlay. The city lights are visible against a dark sky with some clouds. The overall mood is serene yet somber.

The road ahead

E&U organizations are striving to prepare for future challenges and advance their digital maturity. To meet these goals, we advise businesses to take the following steps:

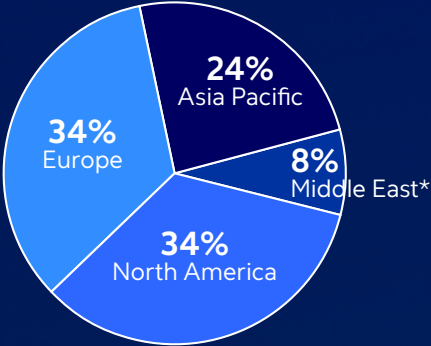
- I Focus on processes, not technology.** Taking a process-first approach provides needed context for technology investments. The best place to start is not “which technology to use” but how transactions should be conducted in the business based on changes in the marketplace and whether current processes are supporting them.
- I Prepare a digital roadmap.** For E&U organizations, it’s essential to develop a strategy that outlines which digital investments will be prioritized over time. Doing so enables these businesses to present a structured view of what they intend to implement and the intended outcomes.
- I Keep cybersecurity risks in perspective.** It can feel risky to pursue strategies involving advanced technologies and techniques; however, it’s vital for E&U organizations to branch out beyond their comfort zones. By focusing on which processes would benefit most from a digital upgrade, E&U decision makers can take a laser-like approach to what’s best for the business while minimizing security gaps.

Methodology

2019 digital maturity study

Working with ESI ThoughtLab, we surveyed a cross-section of 2,491 C-level executives (including 191 from the E&U industry) in mid-2019 and their direct reports across regions and industries, and from a mix of functions across the enterprise. The breakdown of the survey sample is displayed in the following graphs.

Respondents by region and country



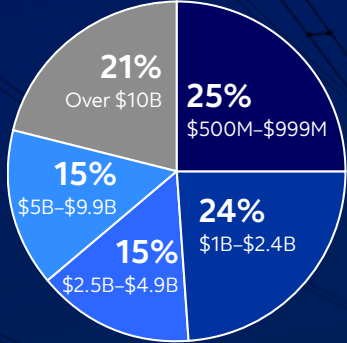
Of the 191 utilities that responded, 37% were in Europe, 37% in North America, and 26% in Asia Pacific.

* UAE, Saudi Arabia, Oman

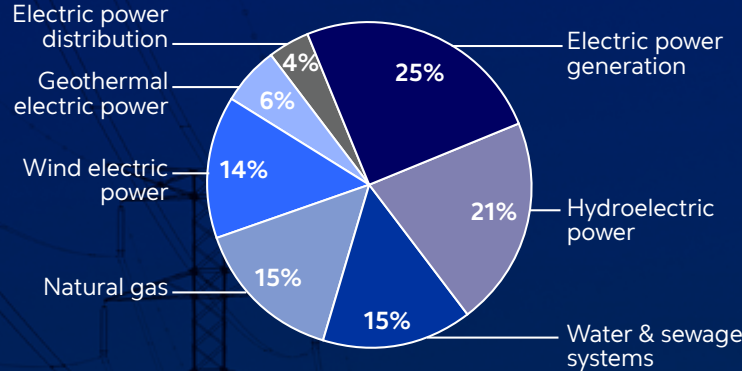
Respondents by industry

Respondents were spread evenly by industry (healthcare payers, healthcare providers, technology hardware, technology software, consumer products, financial services, industrial manufacturing, insurance, life sciences, media/entertainment/publishing, retail, telecommunications, utilities).

Respondents by revenue



Respondents by subsector*



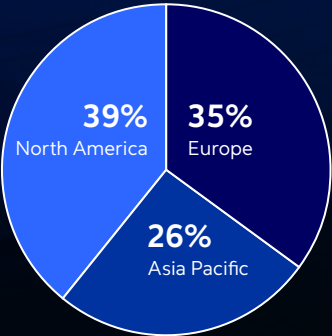
* Sample sizes for geothermal and electric power distribution are smaller than statistically significant.

Methodology

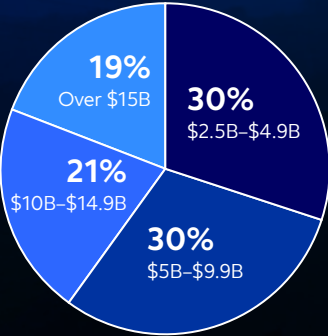
Late 2020 pandemic study

In late 2020, we worked with ESI ThoughtLab to survey senior executives (including CEOs, COOs, CFOs, CMOs, CIOs, CTOs, CHROs, Chief Sales Officers and other C-suite leaders) and their direct reports at 150 E&U organizations in 13 countries. A breakdown of the respondents' demographics is illustrated in the following graphs.

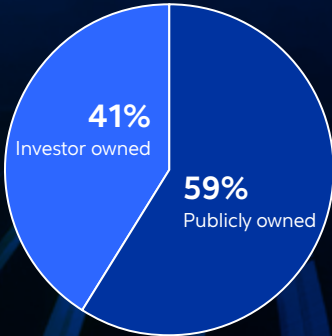
Respondents by region



Respondents by revenue



Respondents by ownership



About the authors

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Cognizant Global Utility Executive

David Cox is an accomplished utility industry executive, with domestic and international experience in operations, engineering, asset management, digital plant technology and growth market development. Prior to joining Cognizant, he served in executive leadership roles in the U.S., South Africa and Asia Pacific with Accenture. He has also held utility industry executive roles in engineering, project management and operations.

Leveraging over 25 years of experience taking corporate strategy from concept to operational reality, Dave collaborates with clients to formulate differentiated operational models, business processes and digital technology enablers to innovate and drive business optimization, growth and profitability for clients. His expertise is leading and supporting operational performance improvement and business transformation in the utility industry. He brings deep business development and functional expertise to accelerate successful client, practice and market development.

Dave started his career as a Plant Engineer and ultimately became the Director of Engineering at a large power and transmission utility company. He holds a master's degree in mechanical engineering from the University of Central Florida.

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Cognizant's Energy & Utilities business unit operates as a trusted global partner to electric, gas and water utility and energy providers, helping them accelerate business performance and drive growth through the power of digital. By leveraging our domain expertise and knowledge of E&U business process, we're able to deliver next-gen digital solutions "in context" across the exploration, generation, transmission, distribution and supply value chain. By doing so, we enable E&U organizations to reach the renewables future. Our E&U business unit is recognized as a [leader in digital transformation services](#) by HfS Research for innovation, strong digital capabilities and mature industry-specific services that advance the industry's ever-evolving business requirements. Learn more at www.cognizant.com/utilities and www.cognizant.com/oil-gas-digital-solutions.

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Cognizant (Nasdaq-100: CTSH) is one of the world's leading professional services companies, transforming clients' business, operating and technology models for the digital era. Our unique industry-based, consultative approach helps clients envision, build and run more innovative and efficient businesses. Headquartered in the U.S., Cognizant is ranked 194 on the Fortune 500 and is consistently listed among the most admired companies in the world. Learn how Cognizant helps clients lead with digital at www.cognizant.com or follow us [@Cognizant](#).

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ESI ThoughtLab is an innovative thought leadership firm that creates fresh thinking and actionable insights through rigorous research and evidence-based analysis. It specializes in using the latest quantitative and qualitative tools to examine the impact of technology on companies, cities, industries, and business performance. ESI ThoughtLab is the thought leadership arm of Econsult Solutions, a leading economic consultancy.

The ESI ThoughtLab report "Driving ROI Through AI" was the source for the data and much of the analysis in this ebook.

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