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**Becoming a digital leader:**  
Insights and recommendations to  
drive digital transformation in the  
utilities industry

# Executive summary

Digitalization is remapping the energy system's DNA. Unprecedented pressure from regulators and consumers is driving utilities to accelerate their digital strategy and implementation. This urgency to transform is pushing organizations to act, but the burning question is: are they doing what they really should to navigate the complexity of digitalization across people, processes and technology? What are the leaders in digital transformation doing?

This paper builds on the 2016 CGI Global 1000\* outlook in which our utilities clients recognize that digital technologies are changing the way they operate, serve their customers and ultimately grow their business. However, some utilities are embracing digital transformation with a foresight and maturity level that clearly sets them apart. Our findings and insights reveal what these leaders in digital transformation are doing, their focus and priorities for the ongoing transition, and how they are addressing a key element of the transformation: people and cultural change. Understanding their views on their people strategy provides invaluable insight into the traits that characterize the organizations that are ahead of the game in adopting digital as a business model.



**1**  
Introduction

**3**  
The urgency to become digital is pushing organizations to act, but are they doing what they should?

**5**  
What are digital leaders in the utilities industry doing?

**7**  
In which areas are digital leaders outperforming the others?

**9**  
What are the priorities and key focus areas that differentiate leaders in digital transformation?

**11**  
What are the traits of a leader in digital transformation?

# Introduction

At CGI, as part of our annual client insights program, we ask our clients every year about their business priorities and the trends impacting their organizations. Listening to their perspectives helps us to refine our thinking, better informs our investment decisions, and enables us to innovate and evolve our strategy to lead our clients as their partner and expert of choice.

In 2016, we conducted more than 1000 face-to-face interviews with our clients, across 10 industries, and 20 countries. From the utilities industry we interviewed 110 clients, across 16 countries, primarily from the Americas, Western Europe and Australia. We talked to both IT and business executives to obtain a balanced view of the challenges and opportunities they faced in a rapidly evolving energy system.

The major theme that emerged is the varying speeds and magnitude of the transformations our clients are undertaking as they seek to become digital businesses. Some of our clients are at the start of their digital transformation journey, addressing the increasingly sophisticated needs of their own customers, or reacting to digital-first entrants. Others are initiating discrete digital projects to support customer-facing initiatives, whilst some others are driving enterprise-wide transformations by bringing legacy and digital together.

To use a traditional classification, our utilities clients belong to an asset-intensive industry, where not so long ago consumers were viewed more as metering points and interactions were often limited to just an invoice. This picture is rapidly changing. The reasons are multifold: digitalization of the sector and society at large, the blurring of lines between industries, a more empowered consumer, and regulatory changes that are enforcing a more competitive and customer-centric energy ecosystem. Despite these increasing pressures, in comparison, the magnitude of digitalization in the utility sector, is far behind other industries that are traditionally more consumer-oriented.





## The urgency to become digital is pushing organizations to act, but are they doing what they should?

Our clients recognize that digital technologies are fundamentally changing the nature of how they operate, serve customers and citizens, and ultimately grow their business. They are now asking the big question: “How do I transition from my current legacy state into a far more competitive digital enterprise capable of driving growth and creating new economic value in the future?”

The majority of our utilities clients are in the phase of leveraging digital technologies by deploying discrete point solutions as a way of optimizing the business and existing processes. They are opting to “bolt-on” and “accessorize” on top of their existing IT landscape. In most cases, these are isolated projects and not part of a larger enterprise-wide strategy to adopt digital as a business model. “Bolting-on” digital technologies in a fragmented way is a short-term approach, which may not allow them to realize the full benefits of deploying digital technologies. It may even end up damaging the CEO’s reputation. Adopting digital as a business model, instead of just leveraging ad hoc digital technologies, is far more challenging for established organizations and requires an integrated digital enterprise-wide approach.

Digital transformation concerns all aspects of the organization—business model, funding, culture, human capital strategy, operating model, technology, talent and more—to create a true digital enterprise, capable of developing innovative ways to more effectively run, transform and grow the business. Our clients tell us that they already possess many of these essential digital elements, are leveraging innovation as a strategic lever and hiring new people with the digital skills needed to differentiate themselves. However, in many instances, they concede being unable to bring together the various elements in a coherent manner to drive transformation.





# What are digital leaders in the utilities industry doing?

As the digital wave sweeps across the utilities industry, it is forcing organizations to think differently. They face the significant challenge of adopting a mindset that is customer-focused and collaborative, where decisions are based on digital insights and the need to be lean, agile and flexible. The findings of the 2016 CGI Global 1000\* outlook indicate that some organizations are able to attain this new “digital” mindset much faster than others.

So, what are they doing differently?

We asked our utilities clients to select the “maturity” levels of their digital transformations on a scale of 1-10, which enabled us to group them into three categories: leaders (high maturity), followers (medium maturity) and laggards (low maturity). Based on their responses, we have been able to compile the traits digital transformation leaders must have; identify what they are doing differently; determine their business and IT priorities; and ascertain where their focus in innovation and IT human capital strategy lies.

It is important to note that in some instances, there are significant differences in the responses based on geographies (Americas and Europe), and also across respondents, depending on whether they come from the technology or business side of the organization.

Utilities in North America see themselves more as leaders, with two thirds of the respondents indicating that they are in a “high maturity” stage. Comparatively, in Europe, only 45% of the utilities clients interviewed placed themselves in the same category. European respondents from the IT side revealed an even lower number, with only 33% seeing themselves as leaders.

Interestingly, across all regions, respondents from the business view their organizations as being more mature and leaders in digital transformation, compared to their IT peers, with 70% and 40% responses respectively. This reveals a lack of alignment across the organization on the definition of “digital” and on how to actually become a digital organization, a transition made more difficult by traditional, siloed operating models.

Developing an enterprise-wide digital strategy and roadmap has to be led from the top. Many of our utilities clients are already executing initiatives of a digital nature, but only 27% have a comprehensive digital transformation strategy in place. They also recognize the importance of driving a “must-do” culture. In fact, 71% of utilities executives report that culture and change management present a major challenge to transformation. Addressing and overcoming this barrier is key to breaking up silos, adopting an end-to-end business process approach, driving a customer-centric focus and becoming insight-led.





## In which areas are digital leaders outperforming the others?

Demonstrating foresight, leaders have invested earlier on in laying the foundation to reduce the costs of running the business, freeing up funds for transformation and ensuring their organizations are better prepared to absorb the impact of continuous regulatory changes in a more efficient way.

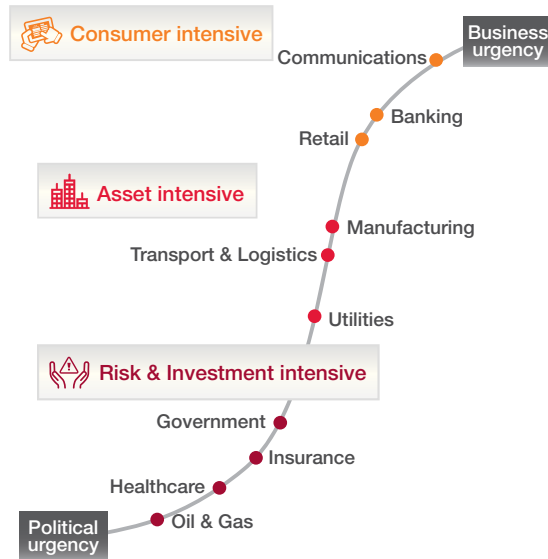
So, leaders are more mature in keeping up with regulatory compliances and also more advanced in IT modernization: 50% of leaders indicate that they are in the last two maturity stages of “Operate” and “Continuous Improvement” in IT modernization, as opposed to just 14% of followers. Unsurprisingly, leaders indicate that a smaller percentage of their IT budgets are allocated to operational expenditures (OpEx), which they have achieved by replacing legacy and adopting more agile and flexible delivery models. Only 27% of leaders allocate more than 65% of their IT budget to OpEx, while this is true for 43% of followers. This also explains, as we will see later in the document, why key innovation initiatives of leaders are focused on “growing the business” and not on agile IT delivery and infrastructure, as is the case with followers. Leaders have been able to shift the focus and resources from running the business to transforming it.

Leaders are in fact actually increasing their IT budgets spend: 74% of leaders are increasing spends or keeping them flat, against just 46% of followers opting for the same approach. These budget increments are being mostly allocated to capital expenditures (CapEx), earmarked to support new services, technologies and mobile solutions to further their digital transformation agendas.

Leaders are also more mature at delivering the benefits of big data and business insight, though this is quite a nascent area for most of the utilities surveyed. They have yet to demonstrate the necessary return on investment (ROI) to justify big data initiatives. Many of them still continue to grapple with issues related to data quality and management, and interoperability among siloed systems. Rather than attempting to first solve all data quality and data governance problems en masse, it is essential for utilities to balance the short-term needs with the longer term goals of an enterprise-wide digital transformation approach. Ideally they must start small and look for “low-hanging fruit” use cases to optimize the business and demonstrate the value to business users, underpinned by a clear vision of the utility in five years.

Leaders tend to also be more mature in exploiting mobile technologies to gain the benefits of a digital workforce and improve customer engagement. Amongst the leaders from the IT side, 71% see themselves as being in the last maturity stage of “Continuous Improvement”. However, only 9% of their business peers indicate being in this stage, and only 27% of them acknowledge being in the immediate previous maturity stage, “Operate”. So leaders from business, unlike IT, still see a lot of opportunities to further exploit mobile technologies, leading one to reason that digital initiatives related to these technologies are being driven by the business as the use cases and potential business value are clearer to them. Our clients tell us that modernized mobile devices can help them leverage mobility in new business process areas and optimize a remote workforce across the energy network.

# Digital initiatives focus on regulatory compliance and optimizing operations



## Digital Transformation in Utilities

One of the top digital transformation initiatives is the roll out of tools to empower the digital employee. However, there is a significant difference between how the business and IT regard its importance.

**60%** of **business** executives view digital employee tools as a top transformation priority, compared to just **45%** from the **IT side**.

This leads to two possible inferences. One is that adopting tools to enable a digital workforce is being driven by the business, and the other is that as the IT organization view themselves as being in higher maturity stages, they are prioritizing other digital initiatives.



# What are the priorities and key focus areas that differentiate leaders in digital transformation?

## Cybersecurity

As regulators apply increasing pressure on utilities to assure safety, cybersecurity is a growing focus area. The CGI Global 1000\* outlook reveals that leaders are keener at recognizing the impact of new technology advancements and digitalization on the security of the organization. Eighty-five percent of leaders from the IT organization view cybersecurity as a top industry trend, while it ranks as only the third top trend for 65% of their IT peers from the followers group.

Leaders have begun to experiment, trial and deploy, earlier than others, new digital interconnected technologies, as a result of their vision for the industry and their capability to free up resources from running the business, and reinvesting it to prepare for a changing energy system. This allows them to better evaluate the risks of security breaches arising from the inevitable massive deployment of digital IP-enabled technologies such as sensors, smart meters and community platforms. Their better understanding of the complexity of cybersecurity also explains why leaders place a higher priority on IT investments and perceive their maturity level to be lower than followers and laggards.

## Data analytics

Our utilities clients across the value chain recognize the immense potential value that the increasing wealth of data, both from their own systems, as well as the energy ecosystem offers. This is indicated by 67% of utilities executives who say that delivering the benefits of data and analytics is a top IT priority, compared to 41% last year. The importance of leveraging data analytics is high on the agenda for leaders from the IT organization. At 82%, it ranks as their number one business priority. Comparatively, 68% of followers from the IT side consider this to be only the fourth most important business priority.

Another important finding is that within the group categorized as leaders, those from IT place greater importance on analytics in their business and IT priorities, compared to their business peers. When asked about their key digital initiatives, 60% of the IT executives pointed to leveraging analytics, but only 43% of their business peers concurred, leading us to conclude that digital analytics initiatives are being driven by IT departments. In fact, in light of the lack of uncertainty on the use cases to leverage data, more attention is being given to technology as a means to embark on the digital transformation journey and respond to the pressing needs for optimizing the business.

## Collaborating across boundaries

Digitalization augments the interconnection between ecosystem players and enables extensive real-time data exchange, driving and supporting the need for new collaborative-based models across the energy ecosystem. Whether through equity stakes, partnerships or other alliances, 51% of the utility executives interviewed, clearly highlight the importance of collaborating with third parties to accelerate the transformation, create new business and operating models and deliver innovative value-added services to their customers.

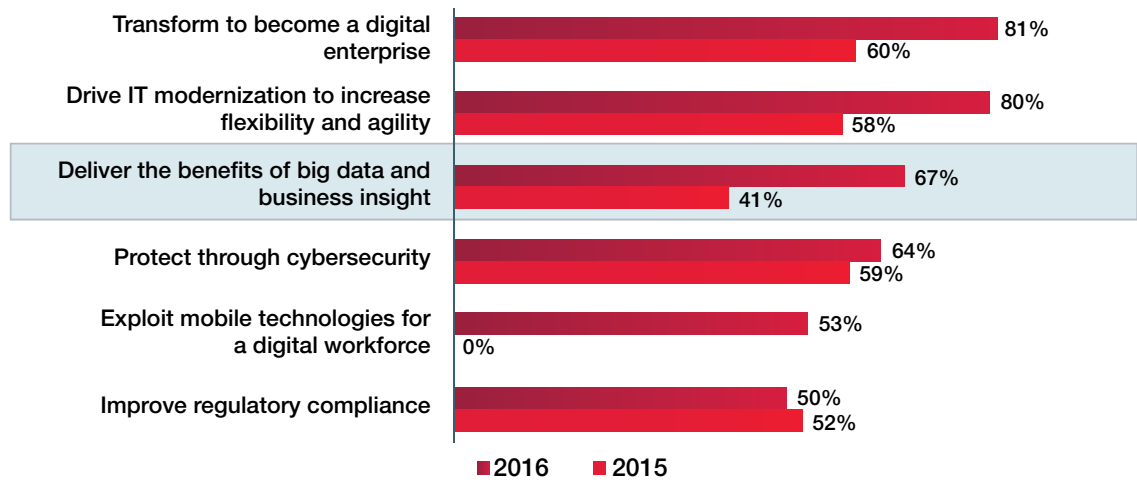
Amongst the leaders, 60% view expanding their ecosystem of partners as a priority. This is recognition that innovation and additional capabilities, such as data and digital skills are the need of the hour and they might be better found outside the organization. Comparatively, just 43% of followers share this view. These leaders are expanding their processes outside the boundaries of their organizations, not only for more efficient supply chain and grid management, but also to enable customers to participate in evolving distribution markets where they are both consumers and producers of energy, and support the move to a low-carbon economy.

\*CGI Global 1000 2016/2017 - An outlook on trends and priorities from over 1000 in-person conversations with business and technology client executives.

# Leaders in digital transformation are more mature in data analytics though this is an embryonic area for all our Utilities clients

81%
 The IT organization from *Leaders* give it a higher priority
 51%
 Than the business

*Utilities IT Priorities 2016 versus 2015*



Source: CGI Global 1000 2016/2017



# What are the traits of a leader in digital transformation?

Given the growing business imperative to attract digital talent with the know-how required to keep pace with digitalization and combat competition, it is crucial to understand utilities leaders' views on human capital strategy, and the potential risk factors related to the workforce and complexity of work. This helps to identify the traits that characterize a leader in digital transformation and creates a set of valuable recommendations for other utilities.

## Taking on the onus of hiring the right people

When it comes to managing their internal IT talent, a couple of key traits differentiate the leaders from the followers and laggards. For leaders, the responsibility of recruiting their IT staff lies with the IT leader (76% of respondents), and not with HR departments or other firms/departments. This could explain why leaders have a lower IT staff turnover: 80% of leaders have a turnover lower than 5%, while only 64% of followers achieve the same figure.

In a world where utilities need to compete for scarce talent, equipped with digital skills and open to new ways of working, retaining employees becomes crucial. Equally important is maintaining in-house knowledge of mission-critical business systems. This is the reason why 59% of leaders report investing in additional knowledge management measures, versus just 29% of followers.

## Achieving the right experience and attitude mix

The average age of the internal IT workforce also plays a key role in the success of the leaders' IT human capital strategy. Leaders employ an internal IT workforce with fewer junior and very senior professionals, allowing them to more easily achieve a balance between strong utilities and IT experience and the required cultural fit to transform the utility into a digital enterprise. This transformation requires a combination of people in business and IT that have enquiring minds and are digitally savvy, in addition to being eager to leverage the power of digital to perform their jobs in an innovative way.

## CIOs are key enablers

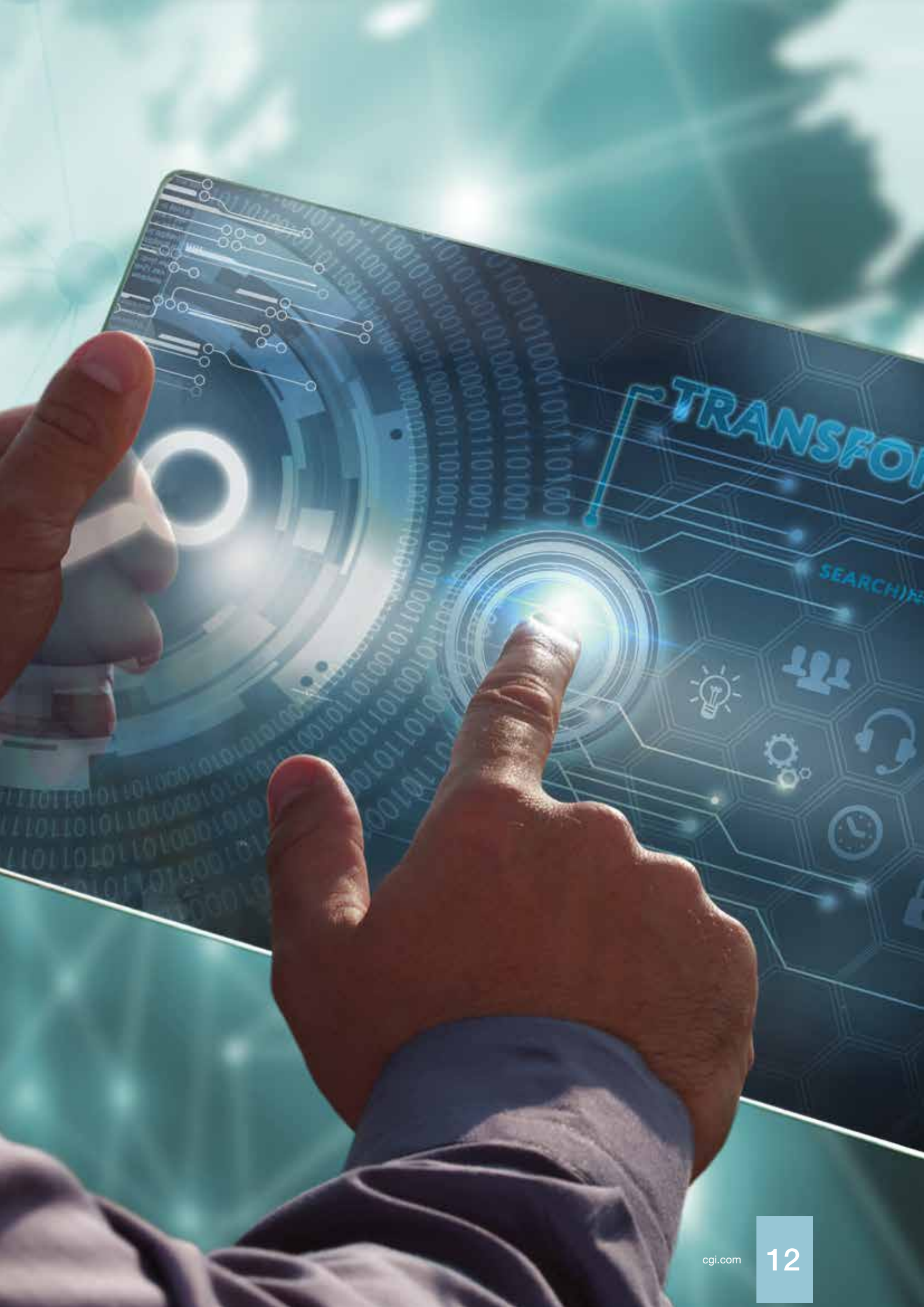
Utilities that are most successful with cultural change are bringing together technology and business to find new ways of doing business and operating. CIOs of these utilities act as key enablers of digital transformation. They are moving away from the traditional model where the business defines the processes, and IT follows through with technological solutions to implement them. It comes then as a natural conclusion that leaders have more IT people dedicated to transforming the

business than running it. In fact, 50% of leaders polled allocate more than 60% of their IT workforce to activities related to transformation, compared to only 27% of followers.

## Embracing an “outside-in” approach

Another key trait amongst leaders is their “outside-in” thinking—bringing in from the outside of the organization new ways of doing business, operating and working—which they see as critical to accelerate cultural change and support innovation. So what are they doing differently when it comes to their IT people organization? First they make more extensive use of an external IT workforce: 42% of respondents seen as leaders have more than 80% of an external IT workforce compared with just 14% of followers. They also use fewer delivery centers of their own, choosing instead to leverage the options provided by external providers. In working with external resources, they demonstrate a preference for fixed price type of agreements and near-shore IT resources as a means to go faster to market and be more agile. Leaders also reveal that they have a more complex IT landscape with a tendency to have a bigger number of applications and more lines of code: only 33% of them have lesser than 20 million lines of code, compared to 71% of followers.

Leaders indicate that they place more value on having an external IT workforce that is mainly comprised of members from the provider's organization. Followers, on the other hand, tend to prefer an effort-based time and materials (T&M) model of work. By having more internal people defining how projects get done diminishes the opportunities of bringing in faster new ways of working and new technologies. This in turn results in slower go-to-market and a longer time to deliver the needed results. Leaders highlight the need to accelerate their internal learning journey to adopt new ways of working and new IT delivery models by exposing their teams sooner to new ways of thinking and doing. The pace of change is accelerating and IT organizations must step-up to keep up with business needs.



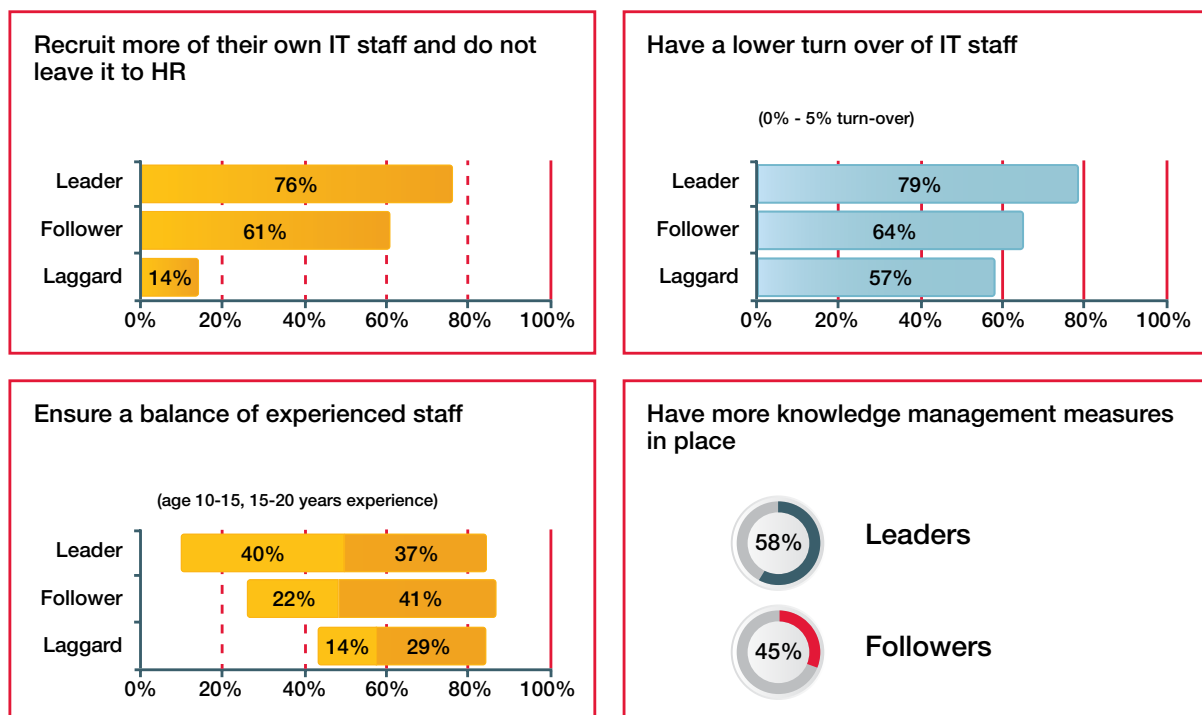
# IT human capital strategy recommendations

Based on the insights gained, we can summarize our recommendations for utilities aspiring to successfully address the unique IT human capital challenges of digital transformation:

- Take direct responsibility for the recruitment of your IT staff and do not leave it to HR or another department
- In your IT team, ensure a balance of experienced members, with both industry knowledge and an appetite for digital and change
- Invest in knowledge management measures
- Make more extensive use of an external IT workforce
- Opt more for fixed price based type of work, over T&M models
- Engage external IT teams that mainly comprise of members from the provider's organization
- Increase the usage of near-shore resources to enable faster go-to-market and agile ways of working

Following these recommendations, will make it possible to have more of the IT workforce focused on transforming the business, rather than just running it, changing the role of technology from an enabler to a driver of business change.

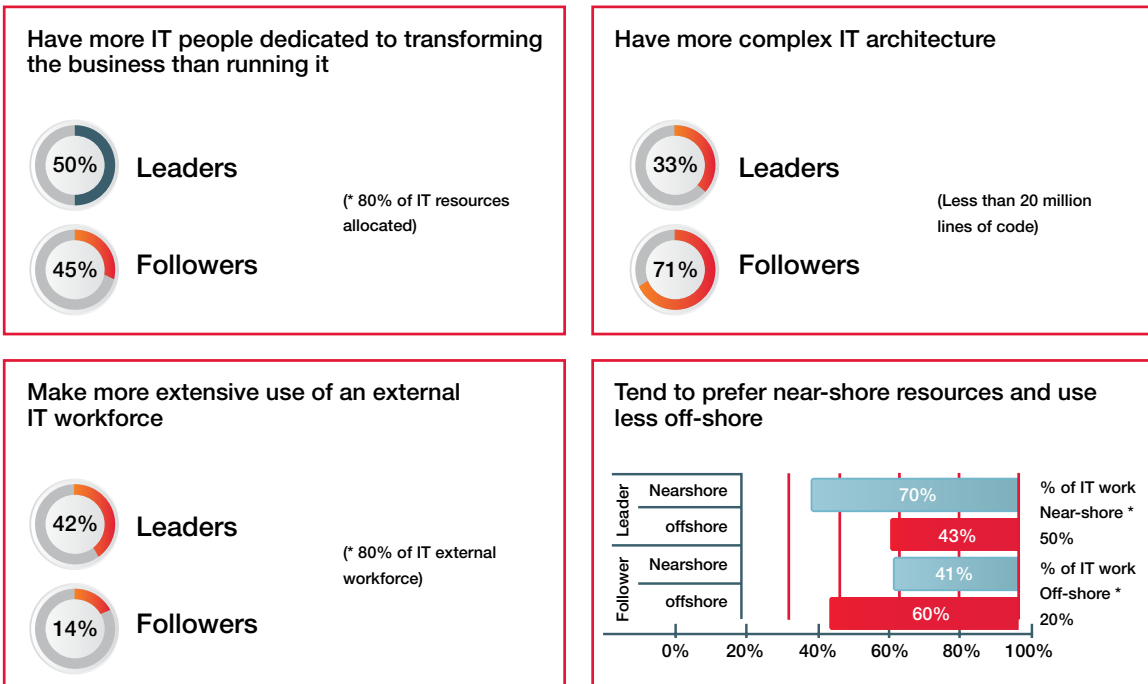
## IT leaders in digital transformation have a stronger focus on human capital



Source: CGI Global 1000 2016/2017



## ...and they also take a more outside-in approach to partners



Source: CGI Global 1000 2016/2017









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