# Digital Transformation Review **Twelfth Edition**

## Taking Digital Transformation to the **Next Level**

### Lessons from the Leaders

# Digital Transformation Review *Twelfth Edition*

## Taking Digital Transformation to the **Next Level**: Lessons from the Leaders

Edited by the **Capgemini Research Institute**

*Capgemini* RESEARCH INSTITUTE

The Capgemini Research Institute is Capgemini's in-house think tank on all things digital. The Institute publishes research on the impact of digital technologies on large, traditional businesses. The team draws on the worldwide network of Capgemini experts and works closely with academic and technology partners. The Institute has dedicated research centers in India, the United Kingdom, and the United States. It was recently ranked number one in the world for the quality of its research by independent analysts.

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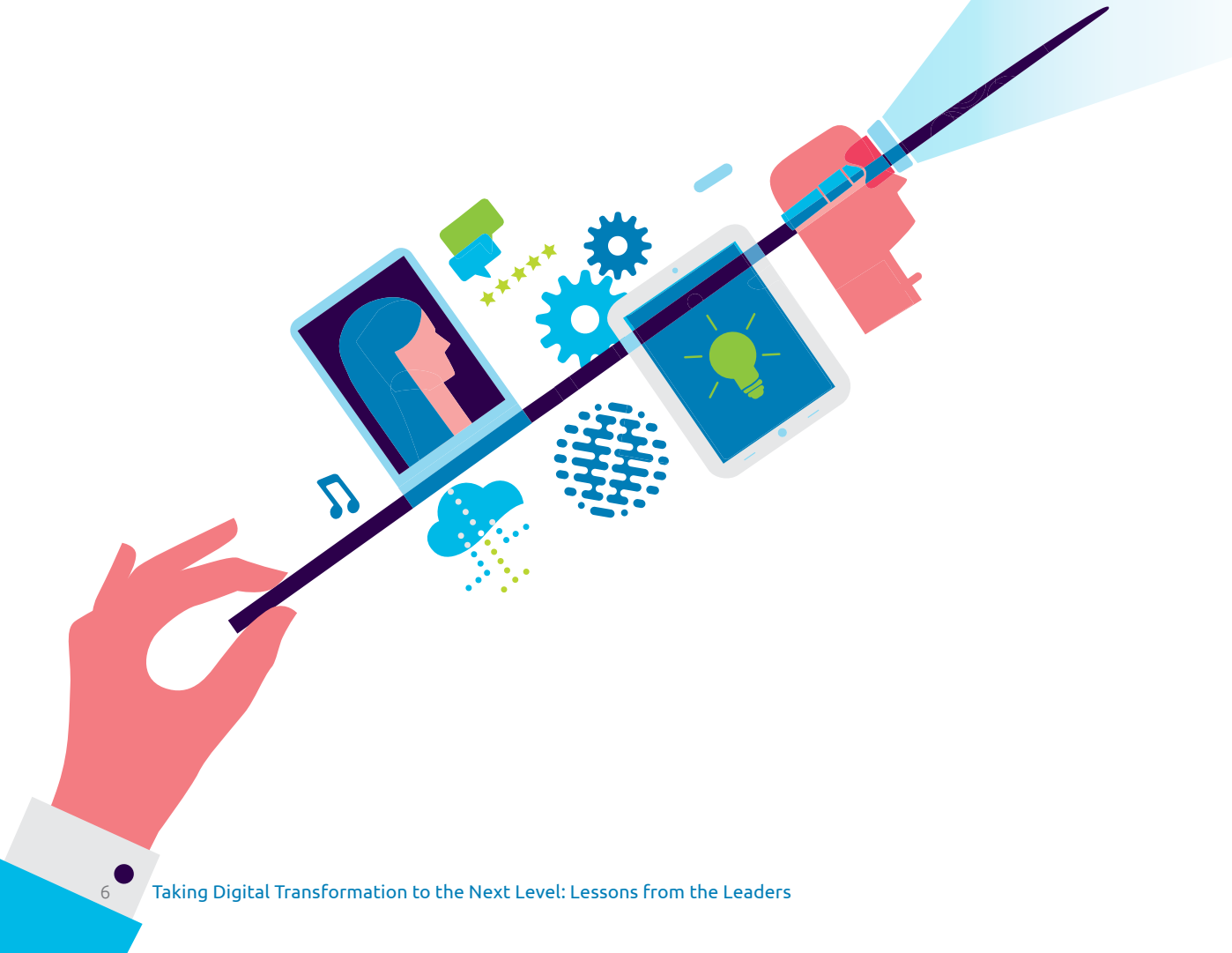
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# Introduction by the Capgemini Research Institute

## The changing nature of digital mastery

Taking Digital Transformation to the Next Level: Lessons from the Leaders

The rules of the game have changed. An array of advanced technologies – from artificial intelligence to the internet of things – are reinventing how organizations create value. However, significant questions still remain about what capabilities and leadership qualities are required to seize this opportunity, particularly in terms of employee engagement, talent, and culture. In this Digital Transformation Review, we interview a range of digital leaders, providing a first-hand, global perspective on the key capabilities and characteristics required to succeed in a world where what we understand as digital transformation is evolving fast.

We spoke to leaders from large multinational corporations across a broad spectrum of industries, including automotive, consumer goods, energy, entertainment, financial services, industrials, life sciences, and retail. A number of critical lessons and insights emerged:

- **There has been a pivot from a top-down approach to top-down and bottom-up.** In our interviews, Mrutyunjay Mahapatra, formerly with State Bank of India, discusses the importance of having digital champions.

*Whatever your strategy, if people are not sold on it, there will be a problem. We are setting up centers of excellence where there will be focused teams of people who are trained in digital technologies. These people will be the champions of digital change."*

**– Mrutyunjay Mahapatra, formerly with State Bank of India**

- **The employee experience is increasingly important.** Employees want to be engaged and participate in the strategy of the business and organizations need to motivate, engage, and excite their people. Upskilling and reskilling through education and training are key here, as well as opportunities to collaborate across functions and share innovative ideas through smart platforms. Unilever's Rahul Welde outlines why it is important to treat employees like customers.

*We think of our employees as consumers. We therefore aim to create a similar wow effect with learning and culture change as we do with our brands for consumers."*

**– Rahul Welde, Unilever**
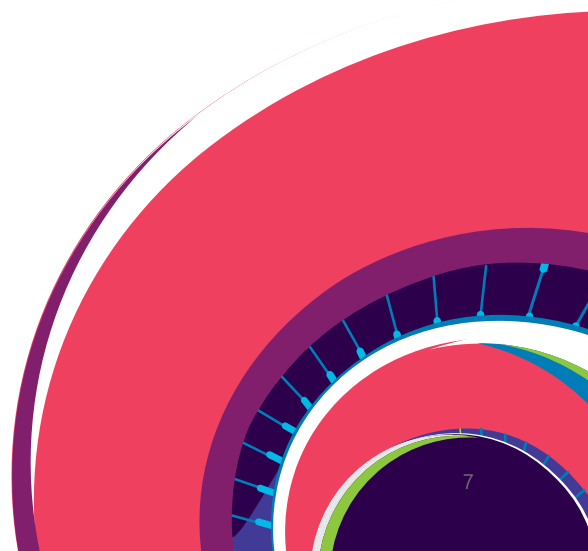
- **New cultural frameworks are pivotal.** Daimler's Sabine Scheunert outlines why today's talent will be looking for those organizations that can offer a stimulating and non-hierarchical culture.

*Establishing a positive, non-hierarchical, productive, and exciting working culture, as well as new working methods, coupled with ground-breaking projects, that 'move the world,' is key to both attracting and retaining talent."*

— **Sabine Scheunert, Daimler**

- **There is a need to marry governance frameworks with local needs.** Governance is key to ensuring accountability for digital initiatives and consistency across geographies. However, as well as clear global governance frameworks, digital initiatives need to reflect local market and organization needs. Michelin's Eric Chaniot outlines why robust governance arrangements need to be also sensitive to local market needs.

*On top of our strong governance, the Digital Direction is located across the world through our digital factories. This ensures a stronger proximity to our internal business partners and a better understanding of local market specificities, both from an employee and a customer perspective."*

— **Eric Chaniot, Michelin**

- **Communicate, communicate, and communicate!** Daimler's Sabine Scheunert emphasizes how transparency and openness are key to effective communication.

*The most crucial success factor is transparent and open communication equally through all levels."*

— **Sabine Scheunert, Daimler**

- **Organizations need to find – and define – their purpose.** Many consumers today, especially millennials and other next generations, place significant importance on sustainability and social issues. They expect to see those same philosophies and beliefs in the brands that they interact with and support. Bayer's Saskia Steinacker outlines how organization purpose offers a positive vision that key stakeholders – from employees to consumers – can engage with.

> *We focus on making people understand that digital is not a thing in itself, but it is a means to contribute to our vision of feeding an ever-growing world population and fostering health."*
>
> **– Saskia Steinacker, Bayer**

# Delivering digital mastery: a Capgemini perspective

In this edition, we also present the key findings of our extensive global research of over 1,300 executives – *"Understanding digital mastery today: Why companies are struggling with their digital transformations."* We found that many organizations are struggling to turn their digital investments into business successes.
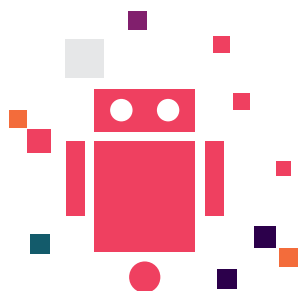
Only *39%* have the **digital capabilities** required

Only *35%* have the **leadership capabilities** required

## Percentage of organizations believing they have the required capabilities
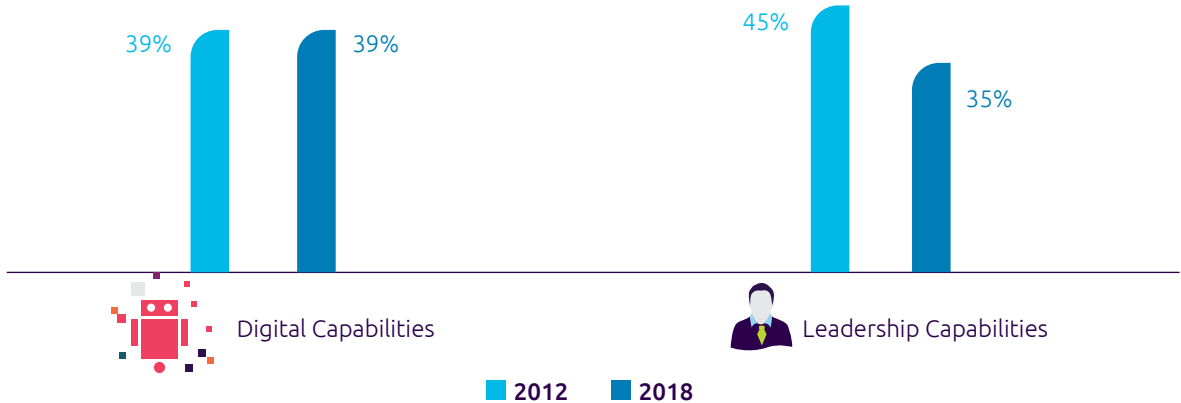


39%    39%    45%    35%

Digital Capabilities    Leadership Capabilities

■ 2012    ■ 2018

Source: Capgemini Research Institute, Digital Mastery Survey; April–May 2018, N=1,338 respondents, 757 organizations; Capgemini Consulting and the MIT Center for Digital Business, "The Digital Advantage: How digital leaders outperform their peers in every industry," 2012, N=391 organizations.

*Calculated based on the average percentage of organizations agreeing to the questions in each category (rating of 5, 6, 7 on a scale of 1 to 7); Questions included in this analysis are the same in 2012 and 2018.

Our research pinpoints the best practices of a small cohort of high-performing organizations – the digital masters – who have critical digital and leadership capabilities in place. We hope this edition of the Digital Transformation Review offers both insight and pragmatic ideas for action. Please reach out to us if you would like to discuss any of these topics and the implications for your organization.

Please visit us at *www.capgemini.com/researchinstitute/* or write to us at *research@capgemini.com*

# Leader and Expert Interviews

**1** United States
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Beijing

# Industry Leader Perspectives

**Saskia Steinacker,**
Bayer

## Bayer: Advancing digital in health and nutrition

*Saskia Steinacker, Bayer's global head for digital transformation, is responsible for driving the digital mandate across the group together with the Digital Excellence Council, a cross-divisional/functional group of executives. She has played a key role in developing the company's digital agenda with a focus on new business models to accelerate growth. The digital agenda enables the organization through a shift of mindset and culture, optimized technology, rapid processes, effective partnerships, and expert knowledge on data.*

*The Capgemini Research Institute spoke with Saskia to understand more about Bayer's digital transformation to foster new solutions in the areas of health and nutrition.*

# Bayer's digital transformation journey

## What is your mandate as global head of digital transformation at Bayer?

Bayer is organized into three divisions – pharmaceuticals, consumer health, and crop sciences. To drive the digital agenda across the Group, we established the "Digital Excellence Council," which has a sponsor from the Board of Management and executive representatives from all the divisions, countries as well as from group-wide functions, such as IT. This council covers the entire digital agenda – from driving the digital mindset and leveraging data to building infrastructure and fostering partnerships required for digital growth. My role is to drive the Group-wide digital transformation together with this council.

> *To drive the digital agenda across the Group, we established the 'Digital Excellence Council,' which has a sponsor from the Board of Management and executive representatives from all the divisions, countries as well as from group-wide functions, such as IT."*

## Where is Bayer today in its digital transformation journey?

We are in the midst of our digital journey, and we are learning as we go in this fast and iterative process. Today, technological advancements and evolving customer needs and expectations are compelling organizations to think of new and innovative business models. For our digital transformation, we are focusing on three things: firstly, digitizing the customer experience; secondly, digitizing our operations; and thirdly, new business models.

What does that mean for our customers and patients? In the area of crop science, we want to help farmers make better decisions based on the insights we get from data provided by sensors or drones. In the area of health, we want to bring new medicine to patients more efficiently and much faster. We want to tailor treatments to individual patients, assist healthcare professionals in getting to the right diagnosis, and offer new non-pharmaceutical solutions.

Operations are becoming digitized across our entire value chain to have effective and cost-efficient functional areas. For example, at our pharmaceutical manufacturing site in Garbagnate, Italy, we deployed a digital twin-based scheduling program to drive improvements in our quality-control lab. The site was just recognized amongst the nine world-leading smart factories by the World Economic Forum.

> *For our digital transformation, we are focusing on three things: firstly, digitizing the customer experience; secondly, digitizing our operations; and thirdly, new business models."*

# New business models to maximize the value for the customer

## How has digital changed your relationship with customers?

Digital has given us an opportunity to have multi-directional interactions with our customers. Newer digital channels enable us to co-create with the customer – take clinical trials, for example. We could use the data of smart health devices to monitor a patients' health. The patient could stay at home and would not need to come to a clinic for health checks.

> **Digital has given us an opportunity to have multi-directional interactions with our customers."**

Our vision is to get closer to the customer. In our digital health space, we have apps to help our patients manage their conditions. For example, the myBETApp helps people with multiple sclerosis manage their injections. We also have the Skin Peace app, which is a tool for patients with eczema that calculates the right amount of topical treatment needed.

> **Our vision is to get closer to the customer. In our digital health space, we have apps to help our patients manage their conditions. For example, the myBETApp helps people with multiple sclerosis manage their injections."**

In the future, digital technologies will make it possible for us to identify diseases and illnesses at a much earlier stage with the help of artificial intelligence that recognizes patterns. Then, when people are ill, we can provide more individualized treatment.

In digital farming, we already have a solution, which makes it possible for the farmer to calculate the right time and appropriate dose of fertilizer or crop protection needed for every square meter of ground. This is not only making farming more efficient, but also much more sustainable.
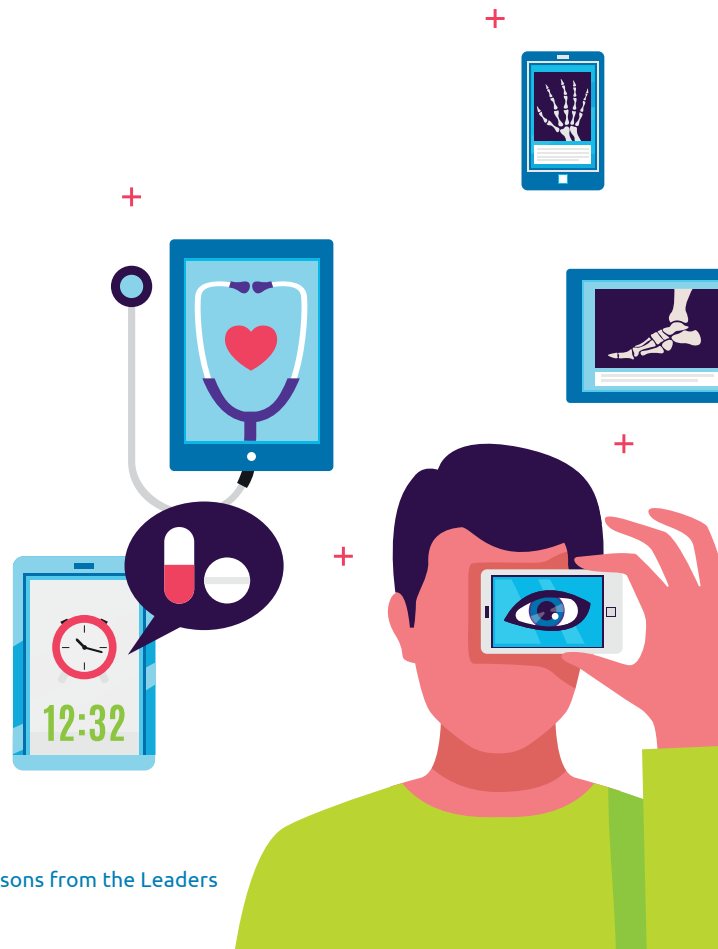
## You spoke about the potential of AI. How are you leveraging emerging technologies to improve outcomes for customers?

We are doing a lot of work in areas such as artificial intelligence and machine learning. Our innovation centers – including our Life Sciences iHUB in Silicon Valley – focuses on these emerging technologies. Established in 2015, the LifeScience iHUB forges collaboration between tech companies and Bayer to find uses for innovative sensors, AI/machine-learning and digital apps for human health, animal health, and agriculture.

Bayer Grants4Apps (G4A) is another global program that offers support to startups and companies that are developing innovative solutions in health and care. We offer mentoring and coaching, office space, networking, and financial support. This year,

six new startups focusing on AI, IoT, and data and analytics, among others were awarded funding and expert support in this accelerator program. For example, one German start-up, Zencorlabs offers a smartphone software and device that uses artificial intelligence to warn patients of heart failure.

We are also implementing artificial intelligence and machine learning to process patient safety-related data such as side effect reports more efficiently and faster. To that end, we've partnered with the professional services firm Genpact for the development and have embarked upon a multi-year agreement for artificial intelligence applications in pharmacovigilance. Going forward, the application of AI in pharmacovigilance has the potential to uncover new drug-related side effects earlier, and therefore could potentially further improve our ability to better ensure patient safety.

## Culture and collaboration – key building blocks of digital transformation

### How do you mobilize your digital vision across the organization?

We focus on making people understand that digital is not a thing in itself, but it is a means to contribute to our vision of feeding an ever-growing world population and fostering health. Showing concrete examples where digital has created a larger value, such as the ones we have in our digital health and digital farming space, is a very crucial step for people to understand how digital technologies can help to achieve a better life for our customers. The plan for implementing this vision is through our concrete

enablers of digital customer experience, digital operations, and digital business models.

> *We focus on making people understand that digital is not a thing in itself, but it is a means to contribute to our vision of feeding an ever-growing world population and fostering health."*

## Digital culture is often the single biggest hurdle to successful digital transformation. What are some of the things that you have done to develop the culture Bayer needs to be successful?

First, we understood that there are employees who are excited, there are employees who are somewhat undecided, and there are some employees who are resistant to change. We knew that we could not have a communication and change plan based merely on sending a daily email saying: "we are on digital journey." We needed to guide people through the different phases of change. We do this by making them part of the vision and showcasing successful tangible examples of how digital has improved the lives of our customers. We tailored the communication to the specific groups and ensured that the messages resonated with them.

> *We knew that we could not have a communication and change plan based merely on sending a daily email saying: 'we are on digital journey.' We needed to guide people through the different phases of change."*

One of our key initiatives was recognizing individuals who brought in an amazing innovative idea – either in serving customers better or making operations more efficient. Our "Digital Innovation Award" was a very powerful step, as it not just makes brilliant people visible, but also motivates employees to be excited about the change. We also offer a lot of training opportunities – for example, reverse mentoring to foster our digital culture. We know this will be a long journey, but we are pleased with the progress we have made so far.

## How do you measure the success of your cultural transformation?

One of the key questions posed in every transformation is: "what is the KPI?." Of course, we use some quantitative measures. For example, measuring the success of digital training in terms of completion rate and interest levels. Or measuring how we increase effectiveness and efficiency in our functional areas. However, the key metric is how successful we are in rolling out our business strategies and driving new models on global and local levels which ultimately provide maximum value to our customers.

## We often see collaboration as a key stumbling block for large organizations. How do you ensure your teams are collaborating and working across silos?

We focus on being agile to drive our new business models in our cross-functional teams. We started an initiative called "5x5" (Five by Five) in 2015 for example. This is where five people from different functions and backgrounds come and work together for five weeks on a specific business challenge or opportunity. At the end of the five weeks participants present their final solution, often a prototype to the business unit sponsor. The program provides our employees with an opportunity to step out of their function or business unit and to understand the dynamics of cross domain teams. We have even filed some patents for prototypes that came out of this program and have launched and commercialized new businesses.

Our DevOps pilots are another example. They show that we can deliver better quality digital solutions much faster when we bring people together in cross-functional teams instead of working in a traditional setup. In one of our pilots, colleagues from R&D and

IT develop a digital platform to support drug target identification. The results are not only better, but it's also more fun to work like this!

> **We focus on being agile to drive our new business models in our cross-functional teams. We started an initiative called '5x5' (Five by Five) in 2015 for example. This is where five people from different functions and backgrounds come and work together for five weeks on a specific business challenge or opportunity"**

## Leadership and what the future holds for Bayer's digital agenda

### How important is it to invest in leadership capabilities to drive digital transformation?

We need to have leaders who not only have the ability to understand the complexity of the task at hand, but can also motivate and drive people towards the common goal in a systematic way. Liam Condon, president of our Crop Science Division, is a great example of that. The way he talks about our vision to feed a growing population in a sustainable manner, and links it to the need to have new business models in digital farming, gets people excited.

### What are the next steps for Bayer's digital transformation? Where do you see the company in the next five to 10 years?

One of our important priorities is to focus on our health and nutrition businesses. There are a lot of market opportunities and to realize them we need to come up with business strategies that are aligned to market and customer needs. This also ties into having the right capability, the right people, and the right skill sets. The changing dynamics also calls for optimizing ourselves in structures and setup. When I think of the next 10 years, I wouldn't say there's a concrete 10-year plan. Instead, as we progress through our journey, we will have to be flexible and iterative to achieve the vision we have outlined. Our focus will continue to be creating excitement among our employees to contribute to this transformation.

# Industry Leader Perspectives

**Sabine Scheunert,**
Daimler AG

## Daimler: accelerating digital innovation by transforming culture, collaboration, and talent

*Sabine Scheunert has been heading up the new digital unit at Mercedes-Benz as vice president Digital and IT Marketing/Sales Mercedes-Benz since July 2016. This newly created function brings with it responsibility for the whole range of associated IT-based marketing, sales, and after-sales activities – and for the entire scope of digital customer experiences for the Mercedes-Benz brand.*

*In addition to the continued expansion of the company's pioneering IT landscape, Sabine's remit also includes the development of new and profitable customer-centric digital services. The digital unit operates on a global scale and cooperates with a wide range of incubators and start-ups – right around the world. She is also the CIO of Mercedes me, the Mercedes-Benz personalized customer portal.*

*The Capgemini Research Institute spoke with Sabine to understand more about Daimler's digital transformation and the important role played by culture and talent.*

# The Daimler digital transformation journey

## Digital is at the core of Daimler's strategy. How has your journey in Mercedes-Benz evolved over the past few years? What is the initiative that you are most proud of?

Having come from a marketing and customer relationship management background prior to my role at Daimler, I find it exciting to be a pivotal member of Daimler's digitalization. In saying this, I mean that the role of IT changed fundamentally by enabling and educating us towards a digital and tech-driven company. Therefore, it is an essential driver of the digital change. With our internal initiative, "digitalONE," we established a program that I am extremely proud of. Through applying new working methods – driven by the spirit of co-creation – we brought business areas and IT together like never before. digitalONE provides a genuine added value for Daimler and contributes to a successful digital transformation.

> *With our internal initiative, 'digitalONE,' we established a program that I am extremely proud of. Through applying new working methods – driven by the spirit of co-creation – we brought business areas and IT together like never before."*

## What was the impetus for creating the new digital unit at Mercedes-Benz in 2016? How has it helped to drive success of your digital transformation?

Creating the digital unit, digitalONE, was momentous – it was an embodiment of a changing organization where silos are being broken down, teams and disciplines are merging, and a new common mindset emerges. digitalONE encapsulates our strategy, a team of people, as well as our spirit and mindset. We brought digitalONE to life through various projects, initiatives, and events that supported our transformation.

## Connectivity, mobility, autonomous and electric cars are a key part of your strategy. How have these priorities helped to transform your customer experience and your operating model?

What you mention is our strategy – "CASE" – Connected, Autonomous, Shared, and Electric. As our chairman, Dr. Dieter Zetsche, said: "Each of these has the power to turn our entire industry upside down. But the true revolution is in combining them in a comprehensive, seamless package.

"With digital services, for example, we are absolutely at the heart of our customers' experience. So much so, that we consider our customers to be not only Mercedes-Benz drivers, but anyone who has experienced any of our services and apps. Ultimately, Mercedes-Benz stands for the

> *'CASE' – Connected, Autonomous, Shared, and Electric."*

highest standards in luxury mobility. And, with the new Mercedes-Benz mobility services, we have conquered new customer groups for the brand. This way, we are evolving from a traditional car manufacturer to a connected mobility service provider that is able to offer its customers the right service, at the right time, in the right place.

## The digital vision

**You've expressed that Daimler's purpose is to develop services, products, and experiences that truly move the world. Can you elaborate on this vision? How did you mobilize Mercedes-Benz around this vision?**

Since its inception, Daimler has always stood for pioneering inventions that have progressed humanity forward. This is not only our core ethos, but a benchmark we set for ourselves for every new digital service we create for people. To be more precise, the company's purpose is more than a "vision" – it's what drives each and every one of us, and it's what gets us up every morning to do what we do. "First, move the world" expresses that our actions should change the world in a positive way. And, our horizon is not limited to Mercedes-Benz customers – we strive to create a positive impact for everyone in this world. Communicating the purpose and ensuring it's part of our core organizational value set is necessary to mobilize Daimler people.

> *Communicating the purpose and ensuring it's part of our core organizational value set is necessary to mobilize Daimler people."*
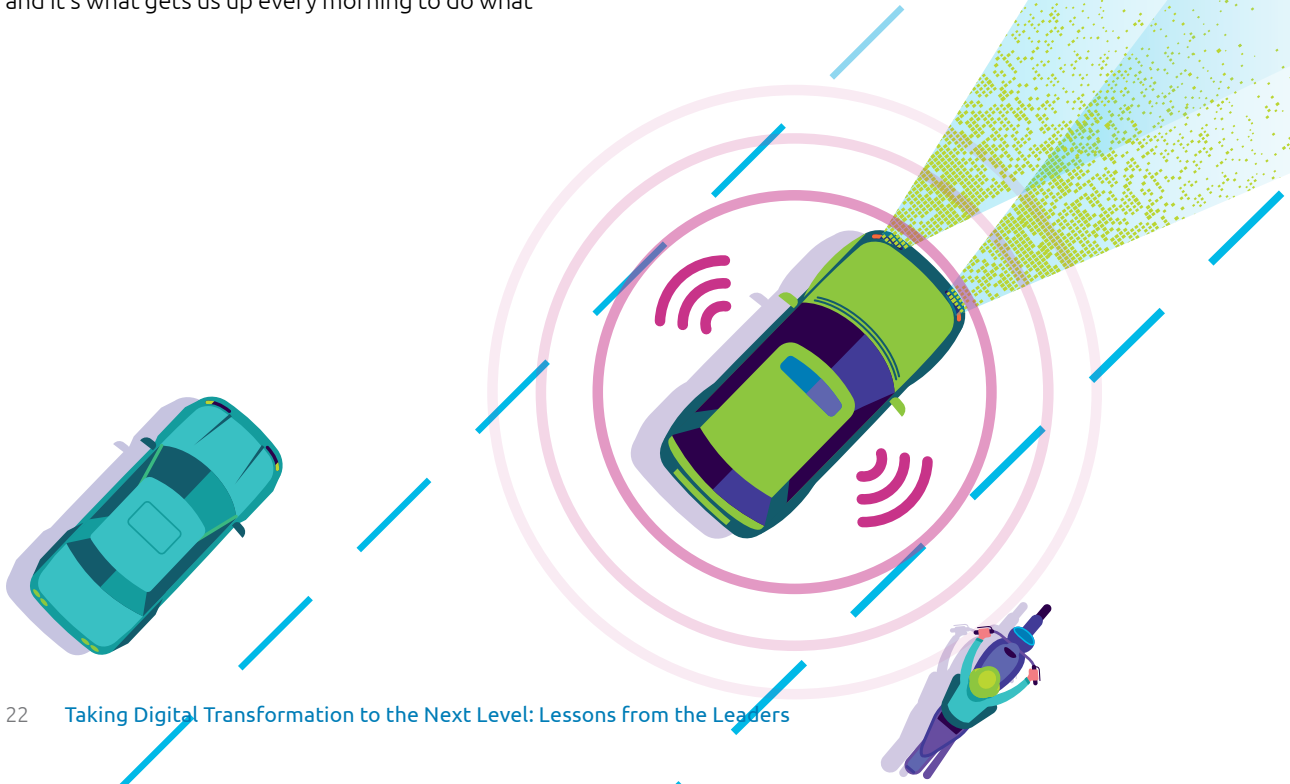
# Transforming the culture

**We've found in our research that culture is the number-one hurdle to successful digital transformation. Is it your experience as well? And if so, how are you changing your culture?**

Within most organizations, culture is often determined by its leaders. They must embody the values of the organization – and most importantly act according to those values. Leadership 2020 is our set of principles that all leaders (and of course the whole team) adhere to. They define how we communicate and operate and lay the foundation of culture at Daimler. Customer orientation, for example, is one of those eight principles. The beauty of Leadership 2020 is that it also provides a yardstick for hiring new talent.

*Within most organizations, culture is often determined by its leaders. They must embody the values of the organization – and most importantly act according to those values."*

**How do you accelerate innovation efforts in the digital age? How do you encourage people to experiment and accept a very iterative process?**

Extolling the benefits of an iterative development process, that includes our target user in the process, is something that needs to be demonstrated – rather than just communicated. When pilot teams are successfully, effectively, and quickly rolling out products and services to market in an agile fashion, it becomes a clear case for the rest of the

organization that iterative processes, in autonomous non-hierarchical teams, simply works! That is the best internal promotion you can do to create sweeping change across an organization.

The principles of Leadership 2020, again, serve as the perfect basis since they speed up innovation. We, for instance, see our principle "empowerment" as crucial for bringing good ideas to the market quickly. The success proves us right. A good example, which demonstrates that we at Daimler already live by these values, is our "Digital House." In this sub-unit of digitalONE, we work in a swarm of almost 200 employees in a creative, inspiring, and agile environment.

**You've mentioned your team works in swarms. What is this and how does it help to transform your digital culture?**

Swarms work autonomously, are self-organized, set goals and roles, have complete end-to-end responsibility, and include a diverse range of people across functions and skill sets. They thrive on two-way engagement and constantly shift and adapt to the changing landscape. This bold step positions us to intercept upcoming trends on the digital horizon and even predict and anticipate customer needs.

*Swarms work autonomously, are self-organized, set goals and roles, have complete end-to-end responsibility, and include a diverse range of people across functions and skill sets."*

Indeed, we operate the biggest swarm within Daimler and have implemented this working model, where the team works in an empowered atmosphere with a flat hierarchy and in a customer-centric way.

## How do you ensure that teams collaborate across silos, product lines, functions and regions?

Technology plays a big role here. We aim to transcend geographical boundaries through open lines of communication such as video, instant chat, and online collaboration tools. Ensuring key players across departments are part of the development process (either regularly or at key intervals and milestones) is critical to ensuring collaboration and effectiveness. Our swarm working model I mentioned above is a great example of this. Cross-functional players come together to collaborate and focus on delivering a specific project. This is the future of work, and a blueprint we want to roll out to the entire organization.

## How are you measuring success of your cultural transformation?

That's a great question. In fact, there are no hard KPIs that can measure the success of cultural transformation. However, I believe that speed is a good starting point, which gives you an idea of how far changes have already come in your company. For example, working in our digital house swarm, which I mentioned before, enabled us to roll out "OneWeb" to 42 markets in less than 18 months.

So, we believe in the power of pilot teams, which means to test new methodologies and working models in a smaller group to evaluate the possible impact for the whole organization. Regardless of the methods you decide on, the most crucial success factor is transparent and open communication equally through all levels.

*The most crucial success factor is transparent and open communication equally through all levels."*

# Attracting digital talent

## How is Mercedes-Benz addressing the challenge of hiring, developing, and retaining digital talent?

We need to position ourselves as an extremely attractive workplace for digital talent. Our competitors are clearly not who they used to be – we have tech giants and startups alike to contend with. Establishing a positive, non-hierarchical, productive, and exciting working culture, as well as new working

methods, coupled with ground-breaking projects, that "move the world," is key to both attracting and retaining talent. We have always been represented at the innovation centers of the world – for example, we opened locations in Silicon Valley and Bangalore more than 20 years ago. And we now have locations at all the new digital hotspots such as Seattle, Tel Aviv, Berlin, and Lisbon. We go where the best talent is to be found.

## As Mercedes-Benz moves more towards a networked mobility service model, what type of skills and experiences are more critical now than ever?

Automotive experience is not a fundamental criterion to entering the Daimler fray anymore. We need people from a diverse and global background, people who are problem-solvers, people who have an empathy for the human condition. We need people who can bring in new perspectives. After

*Automotive experience is not a fundamental criterion to entering the Daimler fray anymore. We need people from a diverse and global background, people who are problem-solvers, people who have an empathy for the human condition."*

all, we are here to progress humanity forward with inventive and innovative mobility solutions.

## Looking to Daimler's future

### What are the next steps for Daimler's digital transformation?

We are constantly working on new digital services and innovations to offer our customers a great experience through all channels. By using newer technologies such as AI, or even Blockchain and Quantum Computing, we want to ensure a dialogue based on our customers' needs and therefore improve their journey at every touchpoint.
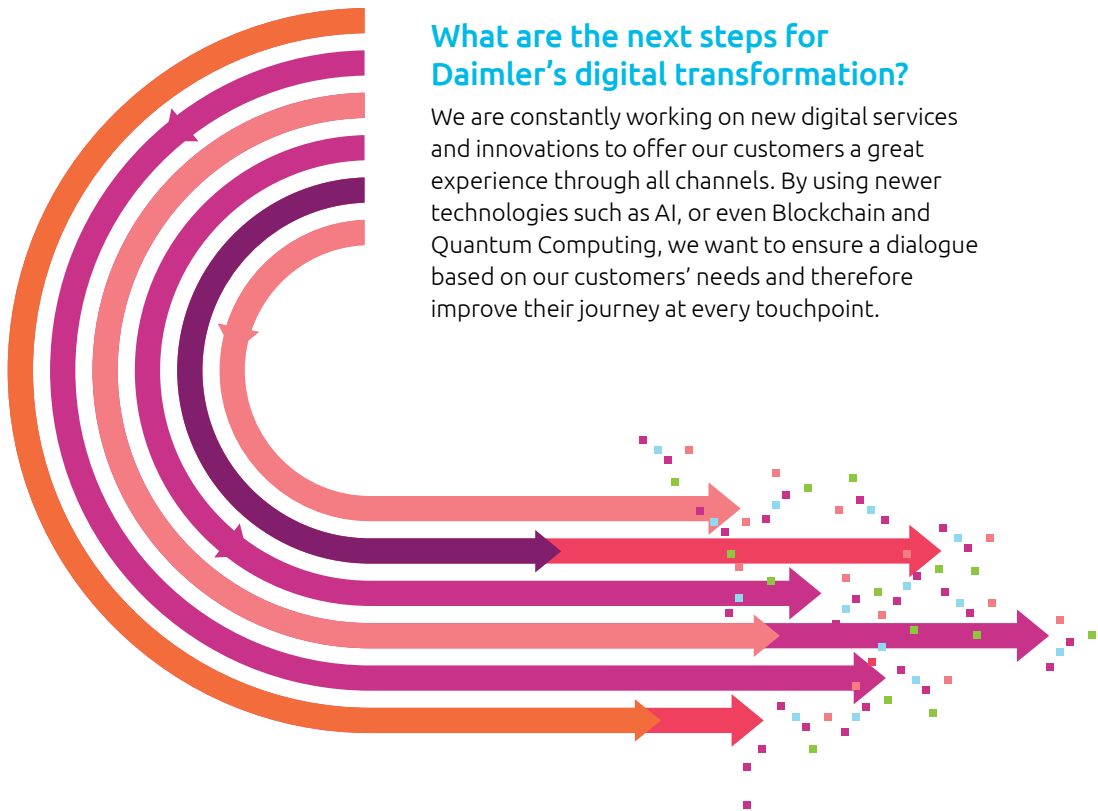
# Automotive lags behind other sectors in their digital transformation journeys

## Fewer than a third of automotive companies have the digital capabilities required for digital transformation

**Percentage of organizations believing that they have the necessary digital capabilities, in the automotive sector and globally**

Overall
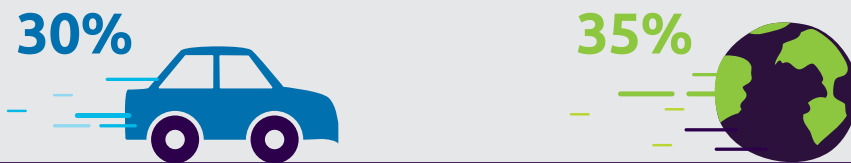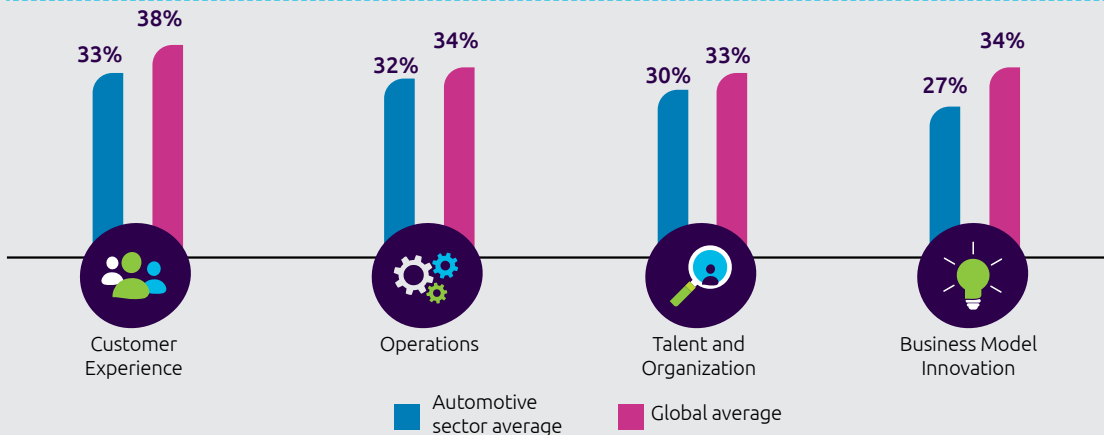
**30%**   **35%**

By Category

38%
33%

34%
32%

33%
30%

34%
27%

Customer Experience

Operations

Talent and Organization

Business Model Innovation

■ Automotive sector average    ■ Global average

Source: Capgemini Research Institute, Digital Mastery Survey; April–May 2018, N=1,338 respondents, 757 organizations; N=174 automotive respondents, 85 automotive organizations.

# How can automotive organizations progress on their journeys to digital mastery?

## Develop a digital culture that spans traditional automotive silos and hierarchy

**6** out of 10    **automotive respondents** (63%) say that culture is the top hurdle to digital transformation

**39%**   **of automotive employees say leadership acts as a role model** in displaying openness to change and adopting new behaviors (versus **75%** of automotive leadership)

Deploy change agents and empower employees to drive digital culture

Use collaboration tools to increase transparency and reach out to employees

Design new digital KPIs focused on behaviors rather than successes or failures

Make digital culture change tangible

Set a clear vision and have visible leadership involvement

Source: Capgemini Research Institute, Digital Mastery Survey; April–May 2018, N=1,338 respondents, 757 organizations; N=174 automotive respondents, 85 automotive organizations.

### THE NEED FOR SPEED
Four recommendations to turbo-charge digital performance in the automotive industry
Global Digital Mastery Research Series: Automotive

## For more insights, read our report here:

Capgemini Research Institute, "The need for speed: Four recommendations to turbo-charge digital performance in the automotive industry, Global digital mastery research series: automotive," November 2018.

# Industry Leader Perspectives

**Torbjørn Folgerø,**
Equinor

## Equinor: scaling digital initiatives to build sustainable solutions in the energy sector

*As senior vice president and chief digital officer at Equinor, Torbjørn Folgerø is responsible for shaping and executing a company-wide digital roadmap, defining Equinor's enterprise data strategy, scouting for emerging technologies, and developing data science solutions.*

*Equinor, formerly Statoil, is a Norwegian-based international energy company with a presence in more than 30 countries, revenues of $61 billion, and 20,000 employees.*

*The Capgemini Research Institute spoke with Torbjørn to understand more about Equinor's digital transformation and the important role played by digital technologies and processes.*

# Digital transformation at Equinor

## What is your digital transformation strategy?

Our digital roadmap is centered around six digital programs cutting across the company and three key enablers: developing digital capabilities and leadership, utilizing the external ecosystem, and developing our unified data platform.

For example, on this third objective, we recently built a cloud-based data platform called "Omnia." Here, relevant data is made available, irrespective of its source or its point of creation in the value chain. The idea behind this platform is to move from silos of data across our value chain – such as development and production, transportation, marketing and trading – to one common data platform that orchestrates all our data. Our onshore, integrated remote operations center in the US is already using this platform to develop machine learning and data analytics that help with operational improvements and making better data-driven decisions.

*We recently built a cloud-based data platform called "Omnia." Here, relevant data is being made available, irrespective of its source or its point of creation in the value chain. The idea behind this platform is to move from silos of data across our value chain – such as development and production, transportation, marketing and trading – to one common data platform that orchestrates all our data."*

We are driving digital opportunity via three technology enablers: process digitalization, data science, and robotics and remote control. We will continue to work in these areas and focus on expanding our scale of digital operations. By 2020, Equinor plans to invest around a quarter billion dollars in digital technology to create more value and improve operations.

*By 2020, Equinor plans to invest around a quarter billion dollars in digital technology to create more value and improve operations.digital technology to create more value and improve operations."*

## What are the most pressing challenges you face in delivering against your strategy?

While we are progressing along expected lines, there are two key challenges that we are currently addressing. First, when moving our data to the cloud-based Omnia platform, cybersecurity is a key concern for us and we are investing time and resources into mitigating risks. The second challenge is delivery time. We are used to long lead times in our traditional development projects, often several years from a discovery to we start producing. Now, we are delivering value from digital initiatives in matter of months, and sometime weeks, by working incrementally and with minimum viable products. This is a big change for us as a company.

# Transforming operations

## What are some of the most notable recent digital initiatives you have launched?

This year, we established an integrated operations center (IOC) with the aim of improving safety, increasing value creation, and reducing emissions from our installations on the Norwegian continental shelf. Over time, all our 30 operated, offshore assets on the Norwegian continental shelf will be connected to the center. So far, three assets are live, with two more coming on stream before Christmas. Here too, we are streaming industrial data from these offshore assets into one physical center. In this center, we have a 90-member team that includes engineers, data scientists, and software developers. Their role is to use the data and continuously develop new solutions on production optimization and predictive maintenance using machine learning and other techniques. Our ambition is to create value from our operated fields in Norway by more than $2 billion from 2020 to 2025.

We also built digital twins for four of our oil field projects. The digital twins allow for a virtual, real-time representation of the physical installations. If we take the example of the Johan Sverdrup oil field, there is a lot of data collected during the planning and operation phase. The digital twin, which we have built by embedding gaming visualization into our 3D models, will help us maximize the value of this data to run analytics and provide relevant technical information. We will continuously develop this and scale to other projects.

We recently launched an operational planning tool, which we piloted in one of our assets in Norway, to improve offshore risk management and safety, using cognitive techniques. We created a minimal viable product that the asset team is now using. It integrates data from five different sources into one new visualization, consisting of incident data, technical integrity data, and planning data. We are also using natural language processing to tap into previous security incidents in the company so that operators and engineers learn from what happened previously before they execute the work. The system is able to find valuable insight by screening our history of incident records, often written text and pdfs in Norwegian dialects! The solution is now being scaled to all our assets in Norway.

We have also launched a reservoir-experience platform, making subsurface data available in Omnia, which is more than half of our data volumes in the company. This is used to explore new oil and gas reservoirs and to improve the recovery rates and lifetime of existing reservoirs.

Lastly, we created a team focused on robotic process automation. The team has already freed up a significant amount of time; time that is now spent on value creating activities instead of manually

> *We built digital twins for four of our oil field projects. The digital twins allow for a virtual, real-time representation of the physical installations."*

moving information from one system to another. Our new virtual employees, called Rob and Roberta, are now responsible for executing many routine tasks, thus improving efficiency as well as reducing human-driven errors.

*Our new virtual employees, called Rob and Roberta, are now responsible for executing many routine tasks, thus improving efficiency as well as reducing human-driven errors."*

## Which digital technologies have improved operations at Equinor the most?

Omnia, our cloud-based data platform – along with data science and augmented and virtual reality – are the three technologies that have helped us the most so far. We built Omnia to give our employees access to integrated data across systems and organizational boundaries and to connect the broader ecosystem to the same platform. We are already building internal data science capabilities and using AR/VR on the digital twins to increase our workforce's efficiency, which is also an important focus area for us. Now we are looking into more nascent technologies, such as blockchain and 3D printing.
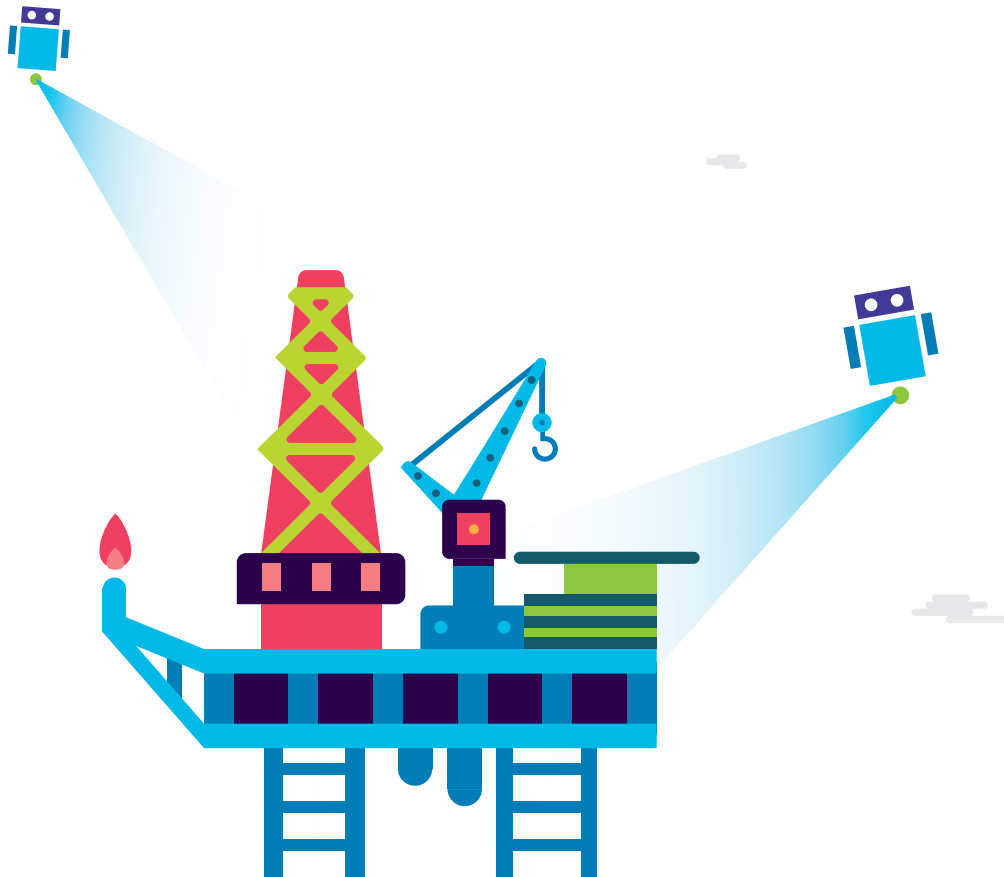
# Encouraging collaboration

## What key roles do vendors, partners, and start-ups play in your digital transformation journey?

Firstly, we see that we must collaborate in new ways with our current suppliers – such as the big oil and gas service providers – by integrating data more seamless between companies. For example, by connecting them to Omnia through APIs. We also believe that many of the best solutions may not come from Equinor or the big suppliers but from start-ups across the world, including those in Silicon Valley, Boston, Tel Aviv, and Oslo. We are

working with a range of start-ups to test early-stage technologies. We recently partnered with Techstars, a start-up accelerator program, which has selected 10 global start-ups to work with us for three months. These start-ups have access to our experts and data so that they can work on and create new solutions. The selected companies are representative of some of our focus areas, including solutions within the energy sector, new business models, digitalization, and renewables. For example, one of the start-ups, DeepStream in the UK, is a tech-enabled tendering and supplier pre-qualification platform for oil and gas businesses. Another start-up, Voyager in the US,

is a cloud-based data hub assisting the commodity shipping industry to improve decision making, automate processes, and connect systems.

## Are you benchmarking against or getting inspiration from companies outside the energy industry?

There is a lot for us to learn from industries such as mining and finance. Mining, as an example, face challenges that are very similar to ours. Therefore, we are closely mapping them to gather insights from their challenges, successes, and failures. Looking at the finance industry, they have done a lot of interesting work on agile delivery methods, which we are now applying in Equinor. So, I have spent time interacting with CXOs of many organizations, within and outside the energy industry, to share learning and ideas.

## Fostering innovation

### How are you encouraging your employees to experiment and to accept an iterative process?

Our belief is that if you witness immediate success in every project that you initiate, then you are playing safe. It is critical for some projects to fail to be able to test new solutions and technologies. However, these projects need to be carried out in a structured and safe manner so that one can stop them when required and continue learning. We also need the infrastructure to test everything, from how we create sandboxes to allowing start-ups to work on our datasets. To increase engagement across the company – and encourage the promotion of new ideas – we have an internal entrepreneurship program. We receive a great response and a lot of people are investing time and funds to work on new ideas. These ideas are further presented to a group of senior executives and, if given a go-ahead, the possibility of funding a permanent project can be explored.

While fostering innovation, we need to stay focused on providing a safe environment to our employees. For example, we do not test our solutions in our operations that are dangerous, such as our complex operations on hydrocarbons. It is critical for us to have a clear understanding about how and where solutions can be tested, where we can experiment, and what are the requirements for implementation.

*Our belief is that if you witness immediate success in every project that you initiate, then you are playing safe. It is critical for some projects to fail to be able to test new solutions and technologies."*

# Change management

## How did you prepare the organization for your digital transformation?

We took both a top-down and bottom-up approach. Equinor's leadership has three challenging yet simple tasks – shaping the future, empowering people, and delivering results. These three also fit very well in our digital vision. We are working toward enabling our leaders to achieve these goals. For example, "Taking Equinor beyond 2025 Digital," was launched a few years back involving 11 senior vice presidents. Today, our CEO and executive committee spends lot of time understanding and working on the overall digital roadmap.

We are also investing in developing the digital skillset among all our employees. We have many smart minds working at Equinor and it is our current workforce that knows our business and the problems to be solved by applying new digital technology. Therefore, we have established our "Digital Academy," where all employees can learn about digital, from machine learning to programming to cybersecurity to Office 365. We also launched a Digital Center of Excellence in 2017 that is responsible for managing digitalization efforts across the company through six digital programs. The center of excellence has employees both from the business side as well as world-leading talents within areas such as machine learning and artificial intelligence.

*We took both a top-down and bottom-up approach. Equinor's leadership has three challenging yet simple tasks - shaping the future, empowering the people, and delivering results."*

## How are you addressing the challenge of hiring and sourcing digital talent?

We are addressing this challenge in four ways. Firstly, a lot of our employees have strong quantitative aptitude, and many are already working alongside analytics teams. We try to upskill and re-skill these employees and engage them with data science projects. Secondly, we target external recruiting, particularly new software developers, IT security professionals, and data scientists. In the new Digital Center of Excellence, the ratio of internal versus external recruitment is almost equal. We want to attract digital talent in the fields of data analysis, machine learning, artificial intelligence, and software development. The fact that we are addressing some of the biggest energy problems in the world provides a unique value proposition to digital minds. Thirdly, we have built digital labs at multiple offices and are encouraging all our data scientists and software developers to spend up to 20% of their time on education. Finally, we also nurture good relations with universities.

*We have built digital labs at multiple offices and are encouraging all our data scientists and software developers to spend up to 20% of their time on education."*

### Are employees resistant to this new way of working?

My role requires that I gather a clear understanding of varying perspectives and ensure a seamless integration across different parts of the organization. At large, we have witnessed high levels of curiosity and engagement from our employees. Whenever we host large-scale digital events, we see high employee participation. Overall, we are off to a good start. Now we must prove to everyone that these new methods, processes, and ways of working will drive value before people fully buy into it. Once that is achieved, we need to ensure we deliver those solutions with sufficient speed and accuracy.

## The future of digital transformation at Equinor

### Which are your key upcoming milestones and what would success on those mean?

At Equinor, our first and foremost priority is the safety of our employees. We ensure that every employee in our organization is provided a safe and secure environment at work. We strongly believe that digital is going to be a key enabler to continuously improve the safety performance at Equinor. We are also focused on value creation. We have an ambition to increase the value of our existing assets by $2 billion by 2025. We also have efficiency targets of reducing drilling cost by 15% and investments in future field developments by 30%. Lastly, we can increase employee engagement and upskill our workforce by teaching them new digital tools and engaging them continuously in our digital journey. This will have a high impact on their everyday productivity.

### How do you see Equinor evolving in the next 10 years with respect to its digital transformation roadmap?

Digital transformation is an ongoing process and there are benchmarks that every company needs to set for itself. One can't evolve overnight and to transform at scale requires significant investment. While we have a long way ahead of us, I believe we are on the right track. We endeavor to achieve higher levels of safety, carbon-efficiency, and profitability in a more seamless manner using data and digital solutions. And, we want to ensure that we collaborate closely with both internal and external stakeholders throughout our digital journey. Our digital evolution has the potential to significantly impact the way the energy industry functions in the years ahead.

# Across the world, digital plants have generated a lot of enthusiasm among utility players

### Adoption: Europe and US are the early adopters while India and China plan to catch up

| | US | UK | France | Germany |
|---|---|---|---|---|
| | 30%  50% | 33%  33% | 32%  68% | 39%  50% |

| | China | India | Sweden | Italy |
|---|---|---|---|---|
| | 79%  21% | 76%  10% | 50%  25% | 22%  56% |
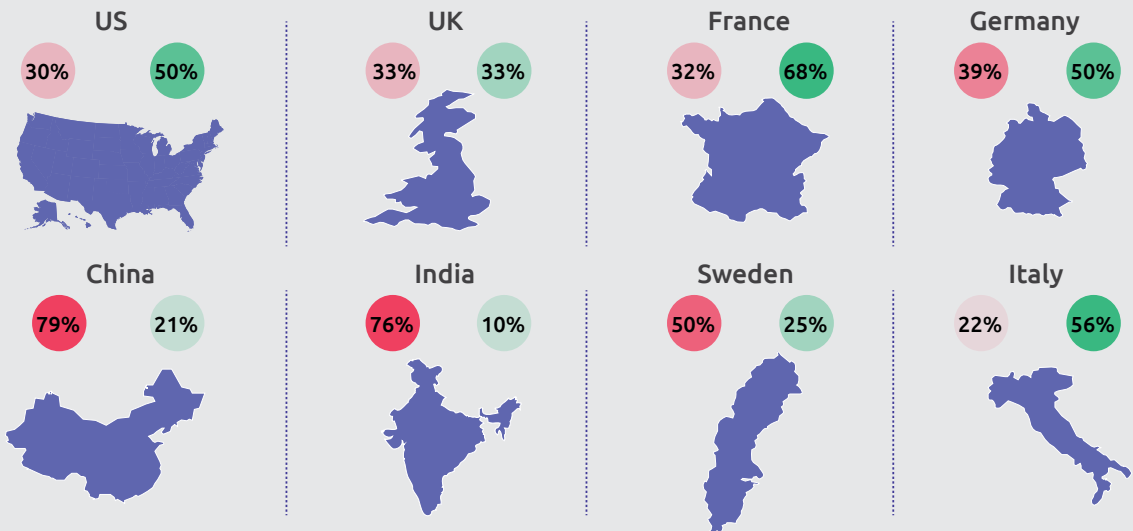
**We have a  digital plant initiative being formulated or work in progress**

Below 25%   25 - 35%   35 - 45%   45 - 55%   Above 55%

**We have an ongoing ( operational ) digital plant initiative**

Below 25%   25 - 35%   35 - 45%   45 - 55%   Above 55%

Source: Capgemini Research Institute, digital utilities survey, February-March 2017; percentages indicate the share of organizations in each category

# How can utility companies increase their digital maturity to realize full potential of digital plants?

## Beginners

- Use business case analysis to see and prioritize digital plant initiatives, taking organizations' strategic goals into account.
- Perform proof-of-concepts to identify most appropriate technologies and applications.
- Set up effective governance process to track the benefits

## Conservatives

- Go for holistic transformation rather than point technology solutions
- Chalk out a strategic investment plan to scale up the digital plant initiatives

## Fashionistas

- Synchronize the digital efforts by engaging the leadership to drive the initiative from the top
- Develop and nurture skills among employees to make the most out of digital plants

Source: Capgemini Research Institute analysis

**The Digital Utility Plant**
Unlocking value from the digitization of production
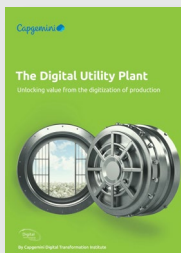
### For more insights, read our report here:

Capgemini Research Institute, "The Digital Utility Plant: Unlocking value from the digitization of utility production," September 2017.

# Industry Leader Perspectives

**Barbara Martin Coppola,**
IKEA

## IKEA's digital journey: giving "160,000 entrepreneurs" the liberty and freedom to drive digital transformation

*Barbara Martin Coppola is the chief digital officer for IKEA Group. In this capacity, she is responsible for driving every aspect of digital within Ingka Group – from digital customer touch points to internal digital operations.*

*Prior to IKEA, Barbara served as chief marketing officer at Grubhub. She has also held leadership positions with Google, Samsung, and Texas Instruments in nine countries.*

*The Capgemini Research Institute spoke with Barbara to understand more about the digital transformation journey of IKEA.*

# IKEA's digital transformation journey

## Can you tell us about IKEA's digital vision?

IKEA's vision is to "create a better everyday life for the many people" and I think it has digital at its core. The true measure for our vision is that customers should be able to conveniently interact with us across various touch points and channels. These interactions should display IKEA's uniqueness, values, knowledge, products and be personalized for each customer.

There is also a big aspiration to use the incredible amount of knowledge our company has about life at home. For example, we want to have a positive impact on both people and planet. As part of our ambition to inspire and enable more people to live a better everyday life within the limits of the planet, we recently piloted an app around a healthy environment at home. We strive to think big in order to deliver solutions at an affordable price for the many people around the globe.

*We want to have a positive impact on both people and planet. As part of our ambition to inspire and enable more people to live a better everyday life within the limits of the planet, we recently piloted an app around a healthy environment at home."*

## How has IKEA's digital transformation journey evolved over the past few years?

Our digital transformation is about embracing a digital DNA in all aspects: digital touch points for customers, internal solutions for co-workers, and embedding digital in our ways of working – which is agile, cross-functional, and collaborative. We have been making big improvements using digital in e-commerce and fulfillment across our various countries. We have embarked on this journey towards digital and are working on our technology landscape, architecture, structure, and skillsets so we can deliver at the required speed.

## Can you tell us about some of the specific initiatives you have launched?

To achieve our vision, the first step is to simplify our technology landscape. We have focused on simplifying our technology architecture via a modular approach and parallel processing.

The second step is to completely rethink and recreate customer touch points. We want to make it easier for our existing and new customers to access IKEA when and how they want. We will continue to open new stores and invest in our existing ones, but we should expect these to play a wider range of roles in the future. By offering new store formats, we want to create even more convenient and unique experiences for our customers by combining the physical with digital. Making our stores part of our customer order fulfillment network will, for example, allow us to offer a great majority of our customers same- or next-day delivery of big furniture items.

Another important step is to utilize digital to run our internal operations in a more efficient way – be it finance, human resources, store operations, or supply chain. We have, for example, an ambitious development and innovation agenda in terms of automating handling, storage, and picking activities across our entire fulfillment process, where we are currently exploring different solutions.

The underlying part is to align these digital objectives to how we work and to the way we are structured from an organizational and technology perspective. We are already making strides in these aspects and will continue to do so.

## Out of these three digital initiatives, is there a higher priority on one over others?

We believe all these initiatives are interconnected. If we don't simplify the landscape from a technology perspective, we will not be able to have agile and nimble releases, which will impact the front-end customer experience. The way we as a company are organized and work with our co-workers is at the center of every transformation. We need to ensure that we allow for agility and cross-functional empowerment and instill accountability for business outcomes in our structure. For example, every week, we discuss current experiments, lessons from previous tests, and new things we would like to try. We also maintain a ratio: 70% of efforts are devoted to scaling initiatives that are successful, and 30% of efforts are focused on developing new ideas and technologies. We are already seeing some fantastic results, as it keeps people motivated to grow and try new things without 100% risk.

*Every week, we discuss current experiments, lessons from previous tests, and new things we would like to try. We also maintain a ratio: 70% of efforts are devoted to scaling initiatives that are successful, and 30% of efforts are focused on developing new ideas and technologies."*

# Creating a more engaging digital customer experience

## How are you leveraging emerging technologies to create more engaging experiences for your customers?

There have been a few incredible opportunities in our home furnishing area. With technology and 3D modelling of a space, we give design suggestions to customers on how to furnish a room depending on their budget. Today, our 3D model library has more than 33,000 models, as well as libraries for textures, materials, and props. Now, about 25% of all room renderings are made in 3D. These solutions offer

*With technology and 3D modelling of a space, we give design suggestions to customers on how to furnish a room depending on their budget. Today, our 3D model library has more than 33,000 models, as well as libraries for textures, materials, and props."*

customers the ability to experience our products in a 3D virtual rendering which can be mapped to any room in their own home – from their own home.

Our augmented reality (AR) app, "IKEA Place," allows customers to visualize how a piece of furniture fits into their real space and environment. We do have plans to consolidate our different apps to allow customers to browse our catalog, plan store visits, and virtually decorate from one app. We are also experimenting with virtual reality (VR) to showcase, for example, how a customer's kitchen will look with different cabinets and configuration.

Our range of smart products and other connected products is another step towards embracing digital. We are exploring multiple possibilities of AI and data intelligence. Our product recommendation algorithm, for example, has raised our conversion rates incredibly. These technologies help us to create very simple, yet useful, digital experiences for consumers.

*Our augmented reality (AR) app, "IKEA Place," allows customers to visualize how a piece of furniture fits into their real space and environment."*

### You spoke about the new format stores and integrating digital with physical. How important are these digital-led channels for you today?

Today, 80% of all customer journeys start online, this highlights the importance of digital to build relationships with both new as well as existing customers. The customer will decide what touch points and channels are suitable to his or her needs. Reimagining customer touch points requires us to think of new possibilities for the physical-digital channel interactions, which can create useful and magical customer experiences. Take, for instance, when a customer walks into a store – be it our traditional store or a newer, digital-format store, if we can identify their intentions, interests, and delivery preferences from their online activity, we can offer a totally different level of service. This added intelligence creates truly useful experiences for our customers.

*Today, 80% of all customer journeys start online, this highlights the importance of digital to build relationships with both new as well as existing customers."*

### You acquired Task Rabbit, which had been set up to let users hire temporary workers to deliver purchases, clean homes, and assemble furniture, in 2017. How do you see a services start-up like TaskRabbit fitting into IKEA's digital future?

The acquisition of TaskRabbit is working well for us on a few different aspects. The first one is that people in the physical environment can now choose the service they need and get it handled, assembled, and delivered. Also, from an online perspective, TaskRabbit's platform is a part of our checkout process and allows consumers to connect directly to individuals who help them assemble their IKEA furniture. This makes customers move from a "you-do-it-all" to a "tech-does-it-all" approach. TaskRabbit has now expanded in Canada, the US, and the UK, and we plan to continue the expansion.

# Unleashing the power of "160,000 entrepreneurs" to drive digital to scale

**You spoke about the importance of technologies such as AR and VR in IKEA's digital landscape. What is your talent requirement for these technologies?**

There is a two-pronged approach for talent. We have technology experts for AR, VR, and 3D-modeling in Sweden, China, and elsewhere. We focus on nurturing our internal talent via training as well as hiring externally for the required skillsets. For example, we have extensive ongoing training on DevOps methodologies for the engineering organization to adopt new ways of working.

Secondly, we also work with external partners to co-create experiences for our customers. For example, we work together with Space10, our research hub and exhibition space that brings together designers, artists, and technologists to innovate tomorrow's new products and solutions. We call it a future-living lab, where we can explore ideas to create better and more sustainable ways of living. Space10 works on wide-ranging ideas, such as autonomous urban farming, upcycling products and how to re-use materials, autonomous vehicle design, and 3D printed meatballs. So, we leverage innovation both inside as well as from outside the company.

> *Our future-living lab, Space10 works on wide-ranging ideas, such as autonomous urban farming, upcycling products and how to re-use materials, autonomous vehicle design, and 3D printed meatballs."*

**We have seen that digital culture is often the single biggest hurdle to successful transformation. What are some of the things that you have done to develop the culture that IKEA needs to be successful in digital?**

We believe people and culture play the most important part in the transformation. IKEA places a lot of value and focus around entrepreneurship – we say that we are "160,000 entrepreneurs." Bringing in those positive aspects from our values and embedding them with the digital DNA is required to successfully transform. We also need to ensure that there are no digital islands. So, reorganizing intra-functional dynamics and integrating business and technology knowledge together is truly important to us.

> *We believe people and culture play the most important part in the transformation. IKEA places a lot of value and focus around entrepreneurship – we say that we are '160,000 entrepreneurs'."*

We believe that digital DNA is based on performance as well as on empowerment. Performance implies giving full responsibilities to cross-functional teams to have the liberty and freedom to decide on what they want to test and develop along the way. So, whatever they do, they need to get that to a measurable deliverable. In other words, "the North Star" that we have defined. It's also a philosophy of starting small, slicing the problem into small chunks,

and being action oriented. Empowerment of our co-workers, and learning from failure, is also a key part of this.

## What are some of the unique challenges in digitally transforming such a large organization? How do you overcome them?

The most important is to get co-workers to learn and practice new ways of working that push them to go outside of their comfort zone. If this critical part is well managed, an organization can do incredible things. Then it is to align the whole organization to the digital strategy. All parts of the organization need to be orchestrated together, and this is where digital brings the intelligence together to provide a single view of the customer and more efficient operations. Another success factor would be the speed at which we can train people and acquire new talent. And, finally, legacy systems and technology are a challenge, but we are on the way to overcome this.

> *The most important is to get co-workers to learn and practice new ways of working that push them to go outside of their comfort zone."*

## Our past research has found that organizations often struggle to take digital initiatives to scale. How do you scale your digital initiatives?

The key to scaled digital initiatives is to approach the challenge or opportunity as an iterative process. This is about testing, building, learning, getting feedback from customers, and analyzing data. We scale what works, and what doesn't we take the learnings from it and continue. As I did mention, particularly for digital, it is important to have a clearly defined vision – a North Star. Empowering the team to work in a dynamic and flexible way allows them to try new things. However, throughout the testing, it is important to always be clear about the North Star and set parameters to ensure we're measuring what works and what doesn't.
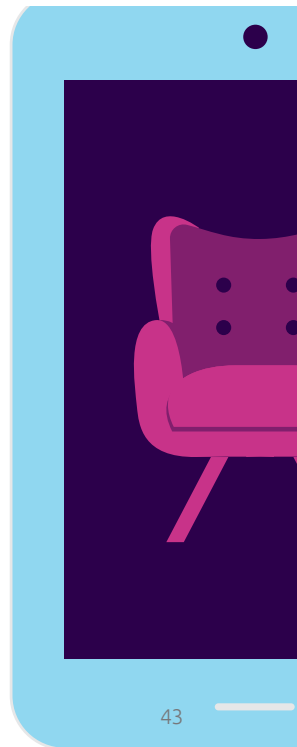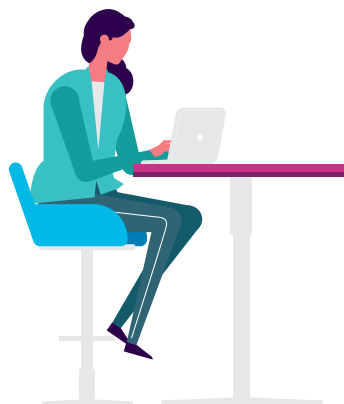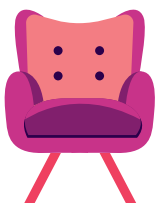
# Retailers are accelerating their AI deployments

## More than one out of four retailers are deploying AI in their organization

### Share of retailers deploying AI



| 2016 | 2017 | 2018 |
|------|------|------|
| 4%   | 17%  | 28%  |
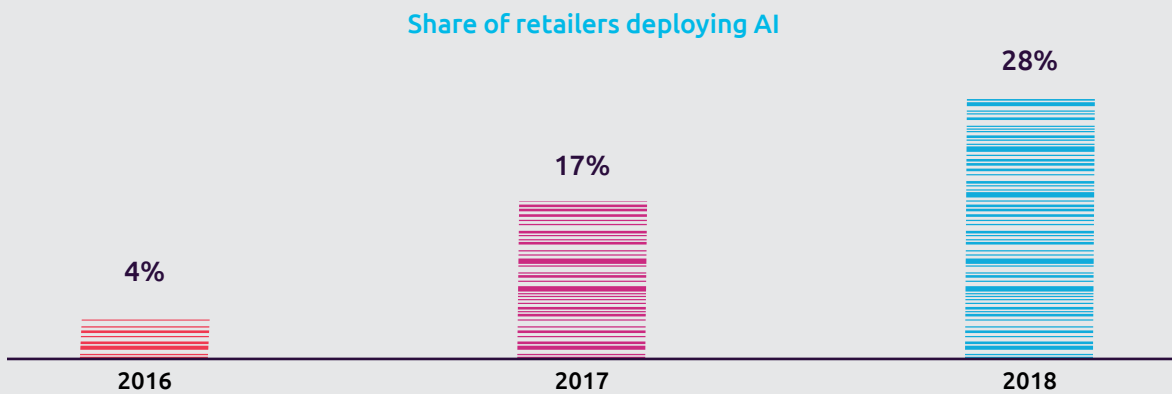
Note: These are retailers that are working on AI at any stage of maturity: pilot, multi-site deployment, and full-scale deployment.
Source: Capgemini Research Institute analysis; Analysis of Top 250 retailers based on 2017 revenue from Bloomberg, October 2018.

# Most retailers focus on customer-facing AI initiatives

## Almost three out of four AI use cases are deployed in customer-facing areas
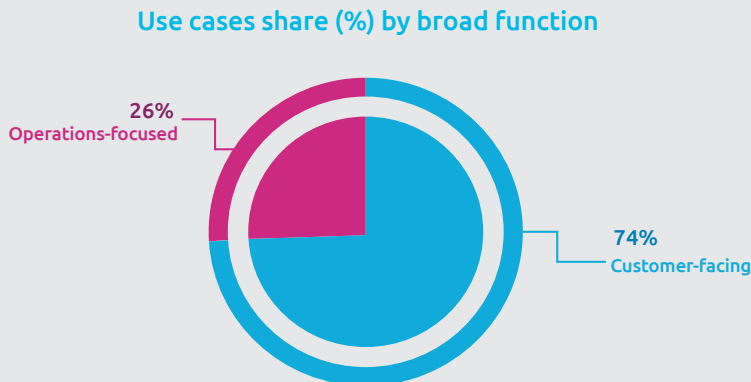
### Use cases share (%) by broad function



26% Operations-focused

74% Customer-facing

Source: Capgemini Research Institute analysis; Analysis of Top 250 retailers based on 2017 revenue from Bloomberg, October 2018.

Operations-focused use cases are defined as use cases impacting operations of retailers, not necessarily visible to the end customer, for example, supply chain optimization, procurement, etc.

Customer-facing use cases are defined as use cases with a direct impact on the end customer, for example, a chatbot for customer service.

# How should retailers leverage AI to yield most benefit?
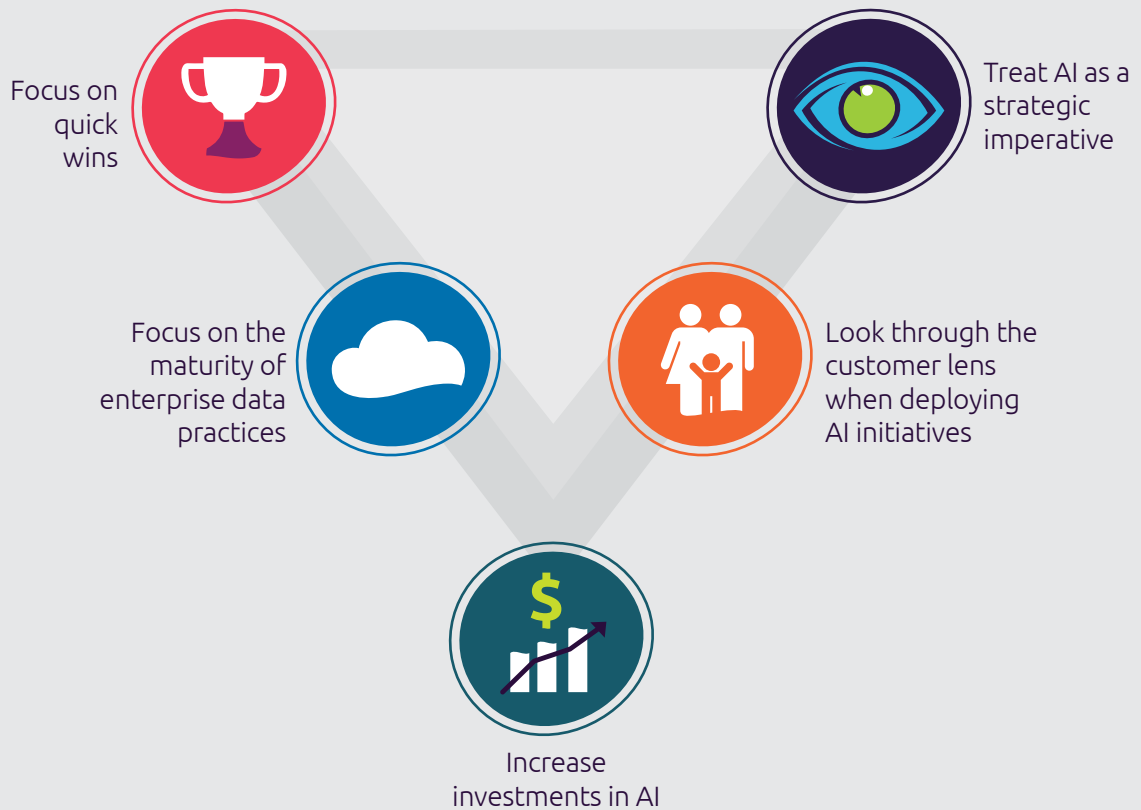
Focus on quick wins

Treat AI as a strategic imperative

Focus on the maturity of enterprise data practices

Look through the customer lens when deploying AI initiatives

Increase investments in AI

Source: Capgemini Research Institute analysis.

## For more insights, read our report here:

Capgemini Research Institute, "Building the retail superstar:
How unleashing AI across functions offers a multi-billion dollar opportunity," December 2018.

**BUILDING THE RETAIL SUPERSTAR:**
How unleashing AI across functions offers a multi-billion dollar opportunity

# Industry Leader Perspectives

**Frédéric Levaux,**
Legrand

## Legrand's journey: how collaboration and culture change have driven new digital innovations

Legrand is a global specialist that offers a range of products and solutions that connect millions of buildings to energy, data, and lighting – from energy distribution to digital infrastructures. With a presence in nearly 90 countries – and a workforce of over 37,000 people – Legrand reported 2017 sales of more than €5.5 billion.

As Legrand's chief digital officer, Frédéric Levaux is responsible for driving digital transformation across the Group. This primarily covers two areas: using digital to improve and transform industrial capabilities at Legrand and using digital to make Legrand a better workplace.

An MBA graduate of HEC Paris, Frédéric is a veteran of digital innovation projects and new ventures. He has co-founded several start-ups, including a venture capital-backed mobile software publishing firm.

The Capgemini Research Institute spoke with Frédéric to understand more about Legrand's digital transformation.

# Legrand's digital transformation journey

## What was the impetus for Legrand's digital transformation?

The history of Legrand is a traditional industrial company focused on manufacturing electrical switches and outlets in a slow-moving industry. Digital was not on top of the agenda. But everything changed a few years back with IoT. A big realization for us was when Google Assistant and Nest emerged. It showed that a company could come in from scratch, create a domestic thermostat, and sell it directly in what was a traditional value chain that involved the manufacturer, wholesalers, installers, and end users.

> *The history of Legrand is a traditional industrial company focused on manufacturing electrical switches and outlets in a slow-moving industry. Digital was not on top of the agenda. But everything changed a few years back with the IoT.*

We reacted very quickly in 2015 by launching the Eliot program, a worldwide program that aims to accelerate IoT deployment within the Group's product range. By 2017, Eliot had more than 30 connected product families and generated sales of almost €488 million from connected devices.

We have a vision that, in the future, all the products we make today will be connected and interoperable. Initiating connected products really started the chain of events. In the beginning, as we got these products to market, they started generating data on our end users through apps and websites. We were able to leverage this data to improve the customer experience and identify ways to connect an entire ecosystem. With this experience, we are now able to connect all the dots and accelerate our efforts. However, I would say that we are still in the first half of our journey. We are now making sure that everything is connected and that we have a single view of our end user and that all the necessary steps regarding security and privacy are taken into consideration.

> *We reacted very quickly in 2015 by launching the Eliot program, a worldwide program that aims to accelerate the deployment of the IoT within the group's product range. By 2017, Eliot had more than 30 connected product families and generated sales of almost €488 million from connected devices.*

## What is so revolutionary about intelligent switches and outlets? What's the benefit to the consumer?

In order to fully answer, you have to understand that connected switches and outlets are part of a larger connected home ecosystem. The fact that a switch is connected has little direct impact on the consumer, however, if you consider that switch or outlet as a set of intelligent sensors, then their role becomes key. These switches are already present in every room of your house, they could integrate temperature sensors, air quality sensors, light

sensors, and microphones. That data will make your smart home assistants more intelligent and will also make your home safer by monitoring any electrical hazard, for example. Coupled with usage data and artificial intelligence, our products could improve your quality of life tremendously in the home as well as contribute to substantial energy savings.

*Connected switches and outlets are part of a larger connected home ecosystem...*

*Coupled with usage data and artificial intelligence, our products could improve your quality of life tremendously in the home as well as contribute to substantial energy savings."*

## What role does design play in your innovation strategy?

Over the last few years, we have focused on using design as a differentiating factor. When you are in a very commoditized industry like ours – with switches and outlets –you must find ways to differentiate. Design is a great way to do it. Our design teams now work at the product conception phase with the engineering teams.

We created a Group-level website for collaboration across design teams in Europe, Asia, India, and the US. These design teams employ a user-centered design approach, which is a framework where things like usability goals and user characteristics are studied at each phase of the design process. For example, what do our users do when they come home from work? What parts of their home do they often touch? The designers think about how our end users might interact with our products – through voice, touch, or motion – and how they can use that information to build designs for new user interfaces. We believe that focusing on voice, touch, and motion in this user-centric design approach differentiates us.

*Over the last few years we have focused on using design as a differentiating factor... design teams employ a user-centered design approach."*

# Leveraging strategic partnerships

## How important are strategic partnerships to your digital transformation?

Early on, we saw the need to build a partnership strategy and so that it is one of the key pillars of our acceleration program – building an open ecosystem where our products are interoperable. We started out with voice assistance because we decided not to build our own voice assistance technology. It is already out there with Apple, Amazon, and Google and we saw potential for partnering as they do not have the products that we offer.

*We have been making sure that our products are compatible with whatever system the customer chooses to put in their house."*

We make sure that our products are compatible with whatever system the customer chooses to put in their house. In addition to technology partners, we have many business partnerships. For example, we are partnering with Marriott International and Samsung to launch the hospitality industry's IoT hotel room. The IoT Guestroom Lab explores concepts that have the potential to elevate the guest experience and create more efficient hotel room design and construction. It has multiple responsive IoT systems, creating devices with sophisticated voice control technology that allow the guest to alter lighting, arrange a wake-up call, and even turn the shower on at the desired temperature. The lab helps the industry serve guests better and optimizes hotel operations.

We are also working with start-ups to build an ecosystem around the start-up community. Most recently, we acquired smart home start-up Netatmo.

Based in France, Netatmo had already collaborated with us in 2017 on "Céliane with Netatmo," our smart switches and power outlets solution. The solution could allow you to build a house with a smart electrical installation from day one and is compatible with many technologies, such as Google Assistant and Amazon Alexa.

*We are partnering with Marriott International and Samsung to launch the hospitality industry's IoT hotel room. The IoT Guestroom Lab explores concepts that have the potential to elevate the guest experience and create more efficient hotel room design and construction."*

## Is there a particular initiative you are most proud of?

As a result of our partnerships, we decided to open the ecosystem with a program called, "Works with Legrand." This is a website where any developer can download our APIs and build their own app to pilot with our products. It has been up and running for a year. Deciding to open everything up was a big cultural change. Opening the Legrand ecosystem has resulted in many more potential partners. Through this program, we have carried out projects

*'Works with Legrand,' is a website where any developer can download our APIs and build their own app to pilot with our products… Deciding to open everything up was a big cultural change.*

with companies such as La Poste, Renault, and BNP Paribas. We see companies and developers who we would not have thought were interested in connecting to switches, but who are now looking for these sorts of connections and data to build new services.

# Promoting internal collaboration and developing talent

## Are you also navigating a cultural change in your digital transformation journey?

For us, digital means more collaboration internally. In the past, when products were not connected, employees did not naturally reach out to their colleagues in other departments. This was because we had very distinct products with sometimes different distribution channels. Now that our products need to talk to each other, we need to have standard protocols so that the data can be shared. This means employees must work together from the initial product conception. Culture change is primarily about driving the greater collaboration that our digital transformation requires. For this, we launched an initiative to change our ways of working – to increase collaboration and to increase sharing of knowledge and data. We are accomplishing this through working groups, seminars, and using workplace collaboration tools.

The other big cultural change for Legrand is to move from a product mindset to a solution mindset. This means that instead of thinking of a product in isolation, you must think of it in the full product lifecycle, including software, data, upgrades, and servicing. In order to accomplish that, we must improve the skills of our workforce and bring in

> *A big cultural change for Legrand is to move from a product mindset to a solution mindset.*"

new skills, such as software development and data analytics skills.

## What are some specific initiatives that you have in place to develop your current talent?

In one of our projects, "digital training and skills," we've put in place an internal digital platform to train employees on the different steps of digital. In the first phase, we are training 9,000 employees. It is a collection of massive online open courses (MOOC), which are gamified with quizzes and challenges so that employees can earn points and feature on a leader board.

We also offer specialized training by function. For example, a sales person could be trained on social

> *We are training 9,000 employees through a collection of massive online open courses (MOOC).*"

selling, a marketing employee would have training on how to use CRM efficiently, and a finance employee would participate in training on how to leverage robotic process automation to improve their productivity. Our goal is to increase the overall level of awareness around digital and then give employees practical tips and tools to leverage digital in their everyday work. The program has been piloted for six months and we hope to roll it out globally to 20,000 employees in 2019.

# Looking to the future

## How do you see digital transformation helping Legrand evolve in the next 10 years?

In the next five years, I hope we will be able to achieve a lot of our plans in terms of setting up the infrastructure and rolling out connected products. This means that in the next 10 years we could be one of the biggest consumer home data producers in the world. I think at some point there will be a shift where software will become Legrand's main focus and first source of revenue as the mechanical parts become less and less important. What will remain important is the user interface, the design, and of course, the intelligence around user habits contained in the home data captured by those switches and outlets. I can envision a future where we might be selling insights to other companies to build better homes or energy management systems. The opportunities are many and I believe we will be a key player in providing data to create larger connected environments, from connected buildings to connected cities.

## Why do you think many organizations today are yet to make substantial progress on digital transformation?

I think trends do not move as fast as they appear to, particularly in our traditional B2B industry. For example, we've talked about digital disruption for the past 10 years. However, when we look at IoT adoption in connected products, it is still not significant. I believe only about four percent of the total market is connected products versus non-connected products. We are still selling a huge majority of non-intelligent switches and outlets.

Therefore, since growth rates are not doubling every year, many leaders tend to have the perspective that it is okay to go slow.

## What key recommendations would you give other large organizations on how to maintain momentum during a digital transformation journey?

My number-one recommendation would be to drive the digital agenda and have sponsorship from the top management. It will not work without that. The CEO must be the strongest advocate for change. He or she must be convinced and believe in digital. Secondly, top management needs to set the example – meaning they have to know and practice what they promote. If leadership tells the organization that it must digitally transform – and that employees need to understand data better, attend training, build mobile apps, and so on – they must also do these things themselves. Otherwise, the workforce won't be on board. We strongly believe that our leaders must lead by example.

> *My number one recommendation would be to drive the digital agenda and have sponsorship from the top management. It will not work without that. The CEO must be the strongest advocate for change."*

# Industry Leader Perspectives

**Lilian Tomovich,**
MGM Resorts International

## MGM Resorts International: sparking the wow factor through digital and human connections

*A 20-year veteran of marketing communications, Lilian Tomovich serves as chief experience and marketing officer of MGM Resorts International, a global hospitality and entertainment company with 78,000 employees. Lilian oversees guest interactions across marketing channels with the goal of improving the guest experience companywide. Prior to MGM, she was senior vice president of Consumer Marketing for MasterCard. Lilian's work has been recognized by numerous industry awards. In 2016, she was recognized as one of the Top 100 Women in Brand Marketing and, in that same year, among the 50 Most Influential Travel and Hospitality Marketers in the Americas. Lilian also sits on the Board of IHOP and Applebee's.*

*The Capgemini Research Institute spoke with Lilian to understand how MGM Resorts is transforming the customer experience through digital.*

# Customer experience at the center of digital transformation

## What is the impetus for creating the chief experience officer role at MGM Resorts International?

We predominantly view ourselves as being in the business of experiences. We have hotel rooms, casinos, entertainment venues, restaurants, spas, and retail. Everything we do is about heightening consumer senses – whether it be through food, music, massage, or the thrill of a casino game. We are very clear that our role is to wow every customer who walks through our doors. The idea behind my role is to enable a holistic, integrated approach to ensure the delivery of exceptional guest experiences through both analogue and digital services.

> *We are very clear that our role is to Wow every customer who walks through our front doors."*

## How has MGM Resorts International's digital transformation journey evolved?

As with many hospitality companies that are not digital natives, we were – and always will be – very much focused on the physical experience. However, we recognized that in order to continue to transform and grow our business, we must leverage the digital ecosystem. And when we think about digital transformation, we really think about it from a digital capabilities' perspective, and largely about addressing the gap between marketing and IT.

> *In early 2017, we realized that there was an opportunity for us to invest more heavily – not only in existing digital channels like web and mobile, but also to explore customer data platforms and marketing technology. This would help us to have a 360 view of the customer and ultimately help drive better guest personalization."*

In early 2017, we realized that there was an opportunity for us to invest more heavily – not only in existing digital channels such as web and mobile, but also to explore customer data platforms and marketing technology. This would help us to have a 360-degree view of the customer and ultimately help drive better guest personalization. While we have been focused on digital transformation for the past few years, the program really picked up steam when I hired our first chief digital officer in October 2017. Their mandate was to create MGM Digital Ventures, which we have been building for the last 12 months.

> *I hired our first Chief Digital Officer in October 2017. Their mandate was to create MGM Digital Ventures, which we have been building for the last 12 months."*

## What are the key priorities of Digital Ventures?

Digital Ventures has four key strategic priorities. The first pillar explores how we can continue to optimize our existing digital touch points. Predominantly, these are web, mobile, kiosk, and email. How do we make those best-in-class digital touch points, not only from a look and design perspective, but a performance perspective?

The second pillar explores how we build the marketing technology stack and the customer data platform that will allow us to do things like hyper-personalization and push notifications. We have been focused on agile software development, bringing different teams together virtually, which has allowed us to develop digital capabilities faster. We are already seeing results: our delivery cycle of pushing updates on the web has been significantly reduced and increasing page load times is having a positive impact on customer conversion rates.

The third pillar is what we call self-service, which focuses on how we are building self-service capabilities in our industry for the future. For example, we are exploring solutions where customers can order drinks by the pool using their phone. The lounge chair would have an RFID tag, so the server would know exactly where to deliver the drinks among the hundreds of guests relaxing at the pool. Another example of a solution in development would allow a guest to control the temperature in his or her room even before physically entering the room.

And lastly, the fourth pillar is what we call future-state technology. Under this pillar we are focused on emerging technologies such as AI and augmented reality for enhancing the customer experience. For example, using chatbot services to personalize the guests' experience.

Digital Ventures is already bringing noticeable benefits. Since moving to agile, the rating for the MGM Resorts International mobile app has increased from 1.7 stars in the App Store in 2017 to 4.8 stars today.

*We are exploring solutions where customers can order drinks by the pool using their phone. The lounge chair would have an RFID tag, so the server would know exactly where to deliver the drinks among the hundreds of guests relaxing at the pool."*

## Which digital initiative are you most proud of?

I am particularly proud of what we have done with our mobile check-in services. A lot of hospitality companies require guests to do their mobile check-in 24 hours in advance. With us, you can do your mobile check-in at any time, even after arriving at the hotel, and go straight to the door. You can tap your phone against the door, unlock it, and enter your room without ever having to speak to a staff member. While this seems simple, it provides a great seamless guest experience and, when you think about the scale in which we operate in, it is remarkable. An average-sized hotel has a few hundred rooms, but our average hotel has roughly

*You can do your mobile check-in at any time, even after arriving at the hotel, and go straight to the door. You can tap your phone against the door, unlock it, and enter your room without ever having to speak to a staff member."*

5,000 rooms. The logistics behind ensuring the room is clean and funneling that volume of traffic through our mobile device to do a seamless check-in, is complex. It took us about 16 months to build this solution because of all the systems integration and the complexity around the scale that we operate in.

## How does Digital Ventures align with the IT and marketing functions of the organization?

Currently, the chief digital officer reports to me and Digital Ventures rolls into the marketing organization. This means the teams are very well aligned and Digital Ventures helps to drive our marketing objectives, which is to use data insights to deliver personalized experiences. We are jointly working towards a future where personalization, automated marketing, and trigger-based marketing become central to our methods of attracting and retaining customers.

The Digital Ventures team works very closely with our IT teams, especially on the back-end services and the support required to enable a lot of these guest experiences I mentioned. There is a real partnership between IT and Digital Ventures.
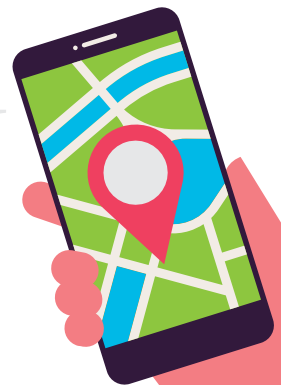
# Digital vision and leadership

## What is MGM Resorts International's digital vision?

Our broad vision is to provide the best digital experience possible to our guests in the industry. The entire digital vision is focused around how we simplify the guest experience, leveraging digital channels to do so while driving greater share of wallet. It starts with web and mobile and progresses into using data for personalization. How can we leverage the data that we have to provide better offers and experiences? For example, if one of our shows is 50% empty, how can we alert a consumer who is walking by a Cirque du Soleil show that there are tickets available? How do we offer her or him last-minute, discounted tickets? This is the type of personalization we want to implement in the future and we are already taking steps to get to this level. For example, we use in-room tablets to send personalized triggers to our guests, be it purchase-related recommendations or timely breakfast options, suited to their liking, based on data already collected.

## How do you mobilize leadership around this vision?

With our leadership team, we started with clearly articulating a strategy, making sure that we obtained the necessary funding and then showcasing and talking about it as frequently as we can. For example, we send out five- to seven-minute videos, every two weeks, to the senior leadership team. We call these "DV Minute Videos" and they talk about what is new in Digital Ventures and what the team is working on in that week. This is useful to the leadership team as we provide quick snippets communicating the strategy and the latest updates on a frequent basis, and it gets people excited. They feel part of the process. Since they feel in-the-know, it also helps with their support to ensure we have the right talent and budget to fully execute these projects.

*We send out five to seven-minute videos, every two weeks, to the senior leadership team. We call these "DV Minute Videos" and they talk about what is new in Digital Ventures and what the team is working on in that week... it gets people excited."*

# Digital talent and employee experience

## What are some of the unique challenges for the hospitality and entertainment sector when recruiting digital talent?

The challenges for us are the same as for every other company pushing on the digital front. Talent is scarce and in demand. We are hiring designers, engineers, and product managers. I believe that talent is industry agnostic and we have hired talent from many different industries, be it food and beverage (for example, Starbucks) or technology (for example, Microsoft). In fact, most of our hires are not from the hospitality industry.

*I believe talent is industry agnostic and we have hired talent from many different industries, be it food and beverage or technology. In fact, most of our hires are not from the hospitality industry."*

## How have your digital transformation efforts affected employees?

We are looking at ways to respond to challenges on the employee front. One of the biggest challenges is to communicate business needs to our approximately 80,000 employees. Like quick service restaurants, such as McDonald's or Subway, we have a lot of frontline staff who are not in the corporate office and not on email daily. To address this, we recently launched a mobile app named LEO, the name of the lion in our brand logo. LEO is designed exclusively for all 80,000 MGM Resorts team members so they can stay informed and connected to the MGM community. We can communicate the latest news, inspiring moments happening throughout our properties, tips for working smarter and living better – pretty much everything. The app has been a big win for us and has allowed us to innovate the employee experience.

*We recently launched a mobile app named LEO designed exclusively for all 80,000 MGM Resorts team members so they can stay informed and connected to the MGM community."*

# Industry Leader Perspectives

**Eric Chaniot,**
Michelin

## Michelin: a start-up culture drives digital transformation at tire and mobility giant

*Eric Chaniot, chief digital officer and senior vice president at Michelin, is responsible for accelerating the organization's worldwide Digital Transformation. He joined the company in 2015 with over twenty years' experience in technology, working for large corporations and also creating start-ups. These start-ups included Internet Word of Mouth or "iWoM," which aimed to make web ratings and reviews more reliable, by using proprietary technology. After moving to the US, he created Tire Intelligence, a data and software start-up. This company enabled tire manufacturers, tire distributors, and tire dealers to manage their businesses more efficiently and to drastically improve their web presence.*

*The Capgemini Research Institute spoke with Eric to understand more about Michelin's digital transformation and the important role played by innovation.*

# Michelin's digital transformation journey

## Where is Michelin in its digital transformation today?

After three years in this role, I can see that our investment in creating a cross-functional digital department at Group level has paid off. We have succeeded in mobilizing the workforce by demonstrating that digital tools make their work more interesting, simpler, and more value-creating. Our digital factory has revolutionized the way we develop and deploy our websites. We have expanded our investment strategy to incorporate many digital players, including start-ups and public platforms, such as Bookatable, Europe's largest online restaurant reservation website, which we acquired in 2016.

> *We have expanded our investment strategy to incorporate many digital players, including start-ups and public platforms, such as Bookatable, Europe's largest online restaurant reservation website, which we acquired in 2016."*

## How has Michelin adapted its strategy to take advantage of digital?

Given how different a digital operating model is compared to our traditional business of selling tires, we constantly need to find creative solutions to compete in the digital space. For example, we were very proactive in developing an e-commerce strategy. We decided to start selling direct in 2015, something Michelin had never done before. We acquired Blackcircles, the leading player in online tire sales in the UK and took a minority stake in the

leading player in France, Allopneus. While tires sold directly online represent only a small part of the market, customers often use the web as a source of information prior to purchase. Our platforms provide access to user advice and help guide those purchasing decisions.

> *Given how different a digital operating model is compared to our traditional business of selling tires, we constantly need to find creative solutions to compete in the digital space."*

## What is your ambition with the connected tire solution? How successful has it been to date?

According to Thomas Edison: "a vision without execution is hallucination." Our vision is to be a leader in digital mobility and the connected tire solution is a critical part of that.

Using RFID technology and sensors on the tire, the objective of the connected tire is to monitor – in real time – a wide variety of parameters relating to the driving experience, the road, and the tires themselves. For tires, this could include, for example, temperature, pressure, or wear. The connected tire leverages digital technology, so we can deliver a premium customer experience.

> *Our vision is to be a leader in digital mobility and the connected tire solution is a critical part of that."*

We have many initiatives for connected tires, some of which are already on the market, while others are in the R&D phase. For example, we have a fleet management trial involving 200 buses for the city of Venice, aimed at improving maintenance, safety, and fuel consumption. We launched PresSense in 2017, the first connected tire for aircraft designed in conjunction with Safran, to facilitate maintenance operations and manage stocks more efficiently. Also, in the mining industry, we have developed a complete monitoring and reporting platform for tires, trucks, mine haulage, and vehicle cycle analysis.

> *Using RFID technology and sensors on the tire, the objective of the connected tire is to monitor – in real time – a wide variety of parameters relating to the driving experience, the road, and the tires themselves. For tires, this could include, for example, temperature, pressure, or wear."*

## You recently launched Michelin Track Connect. How does this further expand your connected tire solution?

Yes, we continue to build on the connected tire as it's so central to our digitalization. Just this past April, we launched Michelin Track Connect. We are the first manufacturer to sell a connected solution for the private car tire sector, which we co-developed with driving enthusiasts during an 18-month lab workshop. We asked them what improvements they would want to see in the behavior of their vehicles, and how to enhance their performance and their driving pleasure. The application can support drivers before, during, and after circuit runs. It recommends the most suitable

pressure for the vehicle's tires within dry, damp, or wet driving conditions; it gives the driver real-time information about the pressure and temperature of each tire, and it will indicate what adjustments need to be made prior to returning to the circuit. It is like having a Michelin expert next to you.

## You are undergoing a major CRM initiative. How has that contributed to the customer experience?

We realized that we needed to become a technology company if we were going to seriously compete in mobility. In 2016, we launched a worldwide CRM modernization program called ENGAGE with the goal of better serving our customers. The program is based on Salesforce cloud solutions and gives the sales, marketing, and customer services teams a 360° view and a better understanding of our customers. Now our staff can use one platform to access real-time customer data. When we devised our

> *We realized that we needed to become a technology company if we were going to seriously compete in mobility. In 2016, we launched a worldwide CRM modernization program called ENGAGE with the goal of better serving our customers."*

development strategy, we made sure to co-design the new Salesforce systems with our sales reps and customers, such as tire dealers and fleets, rather than just handing the project over to the technology team. Once a month, we had sales people, tire dealers, and the digital teams working together on the solution. We were focused on design thinking with the different parts of the business. It's because of this approach that we have an adoption rate of

more than 80%. Since speed of innovation is critical in our market, we were able to complete the first phase of the rollout in under six months.

## Leading digital transformation

### How do you get your leadership and the workforce aligned with your vision in digital?

Our Digital Transformation is clearly a priority for our president, Jean-Dominique Senard. The first time I met him, I really felt how important this initiative was for the Michelin Group and the future of our business. Recruiting a CDO from a completely different background was something of a gamble, but at the same time demonstrated the expected magnitude of change. We decided to put in place governance where the Executive Committee of the Group plays the role of the Digital Board, ensuring that each Business Line or Corporate Direction is involved in our Digital Transformation Roadmap.

Last but not least, on top of this strong governance, the Digital Direction is located across the world through our digital factories. This ensures a stronger proximity to our internal business partners and a

*... the Executive Committee of the Group plays the role of the Digital Board, ensuring that each Business Line or Corporate Direction is involved in our Digital Transformation Roadmap."*

*[Of this Salesforce CRM program], we have an adoption rate of more than 80%."*

better understanding of local market specificities, both from an employee and a customer perspective.

*On top of this strong governance, the Digital Direction is located across the world through our digital factories."*

### Chief digital officers come from a multitude of backgrounds today. What's your take on the best experience for a CDO?

To my mind, a chief digital officer should be a businessperson, ideally with a technology background, rather than a technology person who has some interest in the business. At the end of the day, he or she needs to have a great relationship with the heads of the business lines and regions. Having that business acumen and understanding of business issues will help nurture those relationships. You also need a leader whose passion gets employees motivated. Personally, I spend a lot of time with our employees. We don't have a rigid level of hierarchy, and I often get involved in discussions with employees to help support the vision and promote what we're trying to accomplish.

# Fostering a start-up culture

## How can large companies such as Michelin accelerate innovation efforts in the digital age?

After my first meeting with the Group Executive Committee, I had five priority projects that the committee believed digital would help to accomplish. At the time, the digital group was only six people, but I started to build small cross-functional teams so that we could go fast and reduce delivery from months and years to weeks. Within four weeks, my team had accomplished three of the five projects and was hailed a success. It was important for me to build credibility as well as speed to delivery so that I could begin creating that start-up culture from the very onset of my tenure. As we continued to achieve our initial successes, I had many teams coming up to me to request our support.

> **It was important for me to build credibility as well as speed to delivery so that I could begin creating that start-up culture from the very onset of my tenure."**

## How is Michelin's collaboration with the start-up ecosystem impacting your cultural transformation?

We've been successful in developing an innovation culture at Michelin and this has significantly contributed to our cultural transformation. In 2014, we launched an Incubator Program Office (IPO). The role of the IPO is to identify relevant projects that can support growth at Michelin in the future. We are looking for ideas, both internally and externally, that can be quickly implemented and have definite objectives. We grow them and test their viability on the market. Our ambition is to create a portfolio of businesses or projects incubated at Michelin. Every project is sponsored by a Michelin business unit director and we make sure they have strong link to our existing work so that it's rooted in reality. To begin with, we focused mostly on internal initiatives, but we've branched out considerably to investing in external partnerships and start-ups. For example, some external projects incubated in IPO include: Symbio F Cell, a start-up specialized in fuel cells, Wecare, a Chinese smartphone app offering global vehicle maintenance services, and Luli Information Technology, a Chinese start-up specialized in innovative car sharing.

## How else have you instilled a digital culture?

We have launched a comprehensive set of initiatives to develop the culture, the required competencies, and also to assess our digital maturity of our local organizations. This upskilling plan is a joint effort with our HR department and our internal business partners.

> **We offer an online training platform with more than 15,000 registered employees."**

We offer an online training platform with more than 15,000 registered employees. Last year, we also partnered with a business school in Europe and offered a digital certificate to 150 highly motivated digital transformers. It's something that employees are excited about and makes them proud. At our headquarters, we have a very innovative agreement

with our unions to incorporate digital culture online training in the employees' profit sharing scheme.

Another example is our creation of FactoLab in 2017, a public-private laboratory dedicated to the industry of the future. In partnership with three university institutes in the Clermont-Ferrand region in France (Institut Pascal, Lapsco, and Limos), the research and development program focuses on man-machine cooperation, particularly in the fields of cobotics (i.e., when people and robots collaborate) and new digital technologies. Our research partners mobilize their research laboratories and their expertise in fields such as cognitive science and we offer an application and experimentation framework, fast prototyping tools, and international visibility.

## Attracting and retaining talent

### How are you sourcing talent? Which skills are in greatest demand for Michelin?

We've thought creatively about hiring across our countries. For example, in France, 50% of our development team is made of contractors or freelance. And even when we try to bring them on board as regular, salaried employees they often say, "No thank you." And it's not because of a lack of commitment; they just prefer that model and want the flexibility in the current market. We also have a heavy recruiting and hiring presence in India. Michelin is not a well-known brand in India yet, but we are improving and there is so much talent in India that is applicable to our business. In terms of skill sets, computer vision is a skill in great demand but challenging to find. Data analytics, of course,

**In France, 50% of our development team is made of contractors or freelance."**

### How do you ensure that your teams are collaborating across silos, such as business functions or countries?

It can certainly be a challenge. We try to provide the digital tools necessary for our employees to easily collaborate and change the way we work. One example is our corporate social network, which we launched in 2013 and which now connects more than 40,000 employees. The tool is used to share good practice, work in agile mode, codevelop offers and services with clients, and promote change, among others. With more than 800 communities, employees can exchange ideas every day. It's designed to support our digital transformation and allow a higher level of collaboration and improved agility and efficiency.

remains in great demand for us. Also, given our CRM initiative, Salesforce is a skill we often look for.

### Given the challenge of finding digital talent, how is Michelin retaining the talent you do have?

I spoke earlier of the digital training programs we offer which help with employee development and retention. Just this year, we rolled out an app called InTouch that is part of our Human Capital Management digital platform. The app is a digital space open to all Michelin employees and is accessible from any device, including personal PCs, tablets, or smartphones. The app gives our employees access to a unique platform for managing their careers and includes information and features on a wide variety of topics such as job postings, skills, training, interviews between employees and managers, functional and geographical mobility, and compensation. We want them to own their careers by offering them autonomy and showing them that digital can enhance their careers.

# Hurdles to digital transformation

**More than 6 out of 10 respondents consider culture as the number one hurdle to digital transformation**
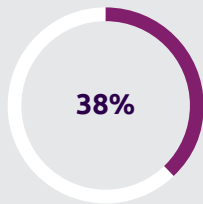
**38%** Lack of clear leadership vision
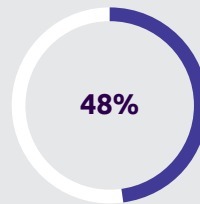
**48%** Presence of archaic IT systems and applications
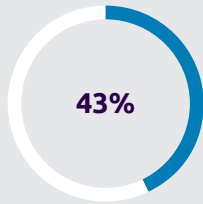
**43%** Lack of digital skills
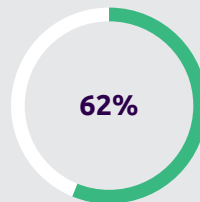
**62%** Cultural issues

## Leadership and employees disagree on the existence of digital culture in their organizations

**40%**

**27%**
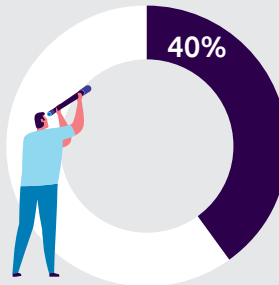
**40% of leadership** believe that their organization has a digital culture

Only **27% of** employees agree

Source: Capgemini Research Institute Survey, Digital Culture; March-April 2017, N = 1700, 340 organizations.

# Blend top down and bottom up approaches to code a Digital DNA
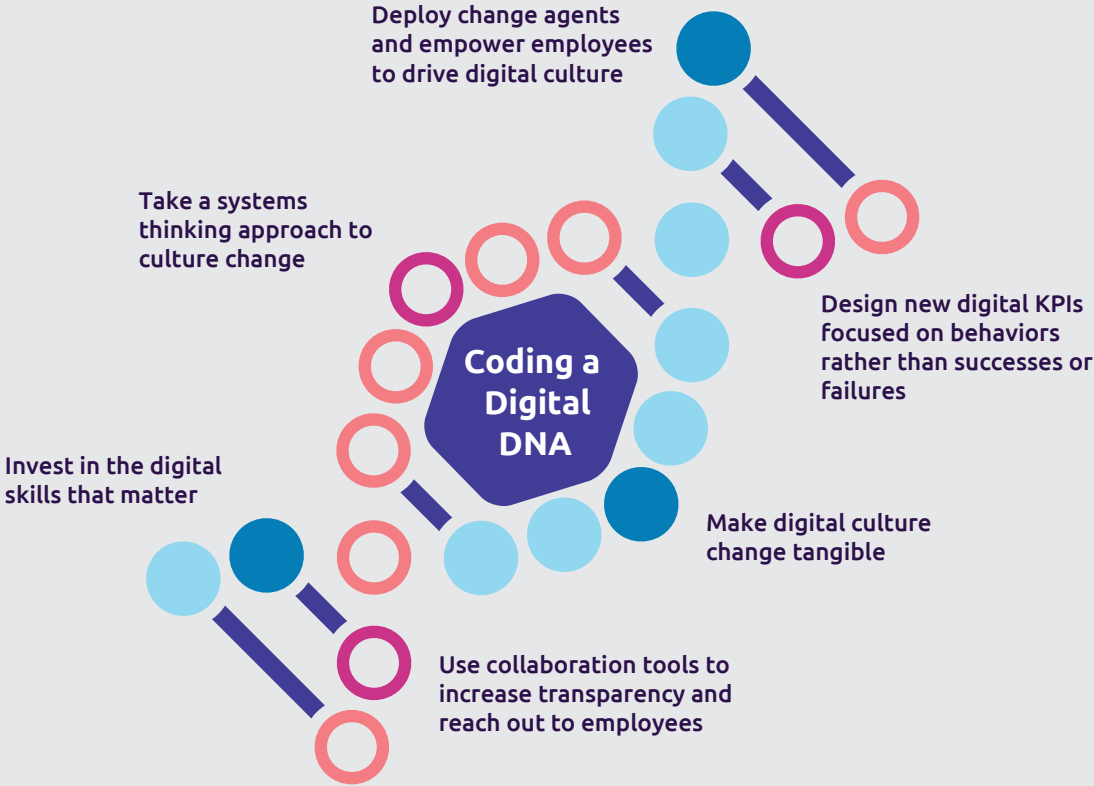
**Deploy change agents and empower employees to drive digital culture**

**Take a systems thinking approach to culture change**

**Coding a Digital DNA**

**Design new digital KPIs focused on behaviors rather than successes or failures**

**Invest in the digital skills that matter**

**Make digital culture change tangible**

**Use collaboration tools to increase transparency and reach out to employees**

**Set a clear vision and have visible leadership involvement**

Source: Capgemini Research Institute analysis.

## The Digital Culture Challenge:
Closing the Employee-Leadership Gap

By Capgemini Digital Transformation Institute

## For more insights, read our report here:

Capgemini Research Institute, "The Digital Culture Challenge: Closing the employee-leadership gap," June 2017.

# Industry Leader Perspectives

**Mrutyunjay Mahapatra,**
formerly with State Bank of India

## State Bank of India: Taking a 200+ year-old bank to the digital age

*Mrutyunjay Mahapatra is the managing director and CEO of India's Syndicate Bank, one of the major commercial banks in India, founded in 1925. The Capgemini Research Institute interviewed Mrutyunjay when he was chief digital officer of the State Bank of India (SBI), India's largest bank with assets of over $480 billion. Mrutyunjay has held several leadership roles over his 35 years' experience with SBI.*

*The Capgemini Research Institute spoke with Mrutyunjay to understand more about SBI's digital transformation journey.*

# SBI's digital transformation journey

## What does a successful digital transformation mean for you?

We believe that a successful digital transformation means a complete digital reimagination of all essential business verticals. Let us take the example of transaction banking. A digital transformation in transaction banking involves reimagining around 300 customer journeys. One such journey is the account-opening process, which typically takes around 35 minutes. How can we complete the process using digital technologies in five minutes? This requires an IT stack that is completely attuned to new technology. How can I do this when I have already invested millions in my legacy stack? That is digital transformation. Reimagination is like a caterpillar becoming a butterfly rather than a young man becoming an old man. That is how I look at it. It is a proper metamorphosis.

Or, look at a typical mortgage-buying experience. In the past, getting a home mortgage loan from a bank used to mainly revolve around two things – interest rates and the amount of finance required. Today, however, we find that the customer journey begins much earlier – when a customer first thinks of buying the house. There are a lot of factors under consideration when deciding to purchase a home. Does the location have hospitals, schools, health clubs, or parks in the vicinity? What is the reputation and track record of the builders? If I am asking the customer to travel to various platforms to fulfill this

> **We believe that a successful digital transformation means a complete digital reimagination of all essential business verticals.**

journey, then I am not keeping them sufficiently engaged. Through a platform developed by the bank on its own – or through a partner ecosystem – customers should be able to access the majority of solutions required for taking a home loan. This is what I call as reimagination, which we have achieved through our YONO app at State Bank of India.

## SBI launched YONO (you only need one) in November 2017 as an integrated app that offers financial and lifestyle products to customers. Could you tell us about it?

YONO is a mobile app that has four ingredients. First you have the digital bank. Second is the financial superstore, where a consumer can purchase a variety of financial products. Third is the end-to-end digitization, which is meant for internal employee consumption. And fourth is, of course, the cross-selling and cross-monetization (e-commerce). Given the Reserve Bank of India guidelines, we are not allowed to sell non-financial products or services. Therefore, we facilitate purchases through a network of around 81 partners.

## Who are you targeting with this app? Digital natives?

I see consumers in four broad buckets – digital natives, digital migrants, digital front-seaters, and the digitally averse. We all know who digital natives are – they are the ones born in the digital age, and naturally comfortable with digital technology. Digital migrants are people who have understood the value of digital as a result of their job or professional requirements and who often have some wealth. Digital front-seaters are those who might undertake an occasional digital transaction but will

never do deep digital customer journeys. They will still come to the physical branch. And, finally, the digitally averse are those who think technology is a fad. Unfortunately, wealth distribution is skewed toward the digitally averse. We need to take care of all four segments if we are to build a universal bank. And we need to create a combination of assisted journeys and digital journeys.

# Engaging employees in SBI's journey

## What are the some of the challenges you faced in educating and involving employees in the transformation journey?

The success of a transformation program hinges on the involvement of employees. But, for that to happen, digital transformation must be translated into a tangible benefit for employees. Otherwise, they won't participate. It does not always have to be a financial incentive. If a transformation program helps free up time and increase their productivity, employees are motivated to participate. For example, one of the customer journeys is account opening. Traditionally, customers come into a branch with a bunch of documents that need to be manually processed. It used to take several days to open an account. With the launch of YONO, the customer

*Digital transformation must be translated into a tangible benefit for employees.*

downloads the app, completes the account opening form on their mobile, and comes to the branch where the application is validated. In five minutes flat, a new bank account is opened. The convenience of opening accounts and the time saving is encouraging employees to open more accounts using YONO rather than through traditional means.

*If a transformation program helps free up time and increase their productivity, employees are motivated to participate.*

## How do you encourage employees to adopt digital initiatives?

Any digital initiative must make the life of the employee easier – only then will they adopt it. There should be a discrete benefit that's tied to their KPIs and that the initiative influences. There's a popular saying that culture eats strategy for breakfast. If you do not change the culture of the organization, then you will have issues. Whatever your strategy, if people are not sold on it, there will be a problem. We are setting up centers of excellence where there will be focused teams of people who are trained in digital technologies. These people will be the champions of digital change.

*Any digital initiative must make the life of the employee easier – only then will they adopt it.*

# How to measure success in digital transformation

### To succeed in digital transformation, what are the factors you must get right?

The first is senior leadership buy-in. Digital transformation projects are not IT projects and require business buy-in. Top leadership needs to be invested right at the outset of the program.

Second is choice of partners. Your partners should be equally passionate in committing resources to the program as you are. Those partners with a transactional approach are bound to fail because they are unable to make a correct assessment of the resources required for these kinds of projects.

The third area is the organization's readiness quotient. This varies based on individual maturity levels and should be completely internally driven. Every organization needs to set its own transformation ambitions by undertaking an internal assessment of organizational readiness.

And fourth, of course, is that you should have the budget! Money spent on transformation will not give you immediate ROI. Organizations should be willing to write off the digital transformation investment based on a set of qualitative returns, not necessarily quantitative returns.

> *Money spent on transformation will not give you immediate ROI. Organizations should be willing to write off the digital transformation investment based on a set of qualitative returns, not necessarily quantitative returns.*

### If ROI is not the right metric, can you share how you measure the success of digital platform initiatives such as YONO?

I do believe ROI is not the right measure for an innovation such as the YONO platform. That is because you cannot establish financial ROI early on. Rather, we deploy a measurement matrix to track progress. For example, one measure that we use is how many new people are coming to the platform. Let us say that we get roughly around two million log-ins a day into YONO. Of this two million, how many are new customers? How many new types of transactions are being completed? How many of them have tried more than three or four products because of the ease of transaction? What are the comments being posted and where are they clicking?

> *I do believe ROI is not the right measure for an innovation such as the YONO platform.*

The qualitative benefits I referred to earlier include an important upside from this sort of initiative – brand building. By launching digital initiatives like this, we are seen as a more digitally-savvy bank. In addition, the adoption of new transformation disciplines – such as hackathons, agile project management, and collaborative ways of working – helps drive culture change across the organization.

## If ROI is difficult to prove, how do you make the case to leadership for innovation investment?

You have to put a cap on the amount of money you will invest in a digital transformation initiative and establish a timeframe. That way, you are capping the risk. After a certain timeframe, I showcase what I have achieved based on what I described previously, and then ask for the next tranche of funding. It has to happen incrementally. However, it is important to be agile and have a minimum viable product in the form of a quick-win. Without that, it can be a bottomless pit where you continue saying, "no, no, don't ask me about ROI." Nobody will buy that.

> *You have to put a cap on the amount of money you will invest in a digital transformation initiative and establish a timeframe. That way, you are capping the risk.*

# The importance of trust to SBI

**In the context of a very large financial services organization in a country such as India, what do you believe are some of the challenges that are unique?**

One unique challenge is that the payment system and the transaction is the first touchpoint of any general customer to an institution. In our context, the institution imparts trust. The institution imparts authentication. We have to first impart a sense of robustness and a sense of credibility. Culturally, Indian consumers are very, very value conscious. They may spend a little more time for a lower cost. And if you are too jazzy then people will not stick with you. Another thing typical to the Indian customer is that family significantly influences which bank you have a relationship with. The children's decision about keeping an account for a long time is influenced by the father's decision or mother's

decision. So, there are cultural nuances that differentiate the Indian consumer.

**You mentioned that you have to impart trust. Earlier, you also spoke of a minimum viable product (MVP). How do you balance agility with ensuring you are seen as a symbol of trust?**

An MVP does not mean that we compromise on security at any stage. Our minimum viable product also has to pass the security test, user application testing, system integration testing, and a variety of other processes. It's important to bear in mind that we cannot be as nimble-footed as a startup. People will forgive a startup, saying they are yesterday's child. But how can a 212-year old organization mess up? We have that adverse burden of proof on us. We just have to be more careful. Sometimes, that takes more time.

*An MVP does not mean that we compromise on security at any stage. Our minimum viable product also has to pass the security test, user application testing, system integration testing, and a variety of other processes.*

# Intelligent automation in financial services offers more than just cost savings

Share of organizations by benefits from intelligent automation



| | Insurance | Retail and commercial banks | Capital markets |
|---|---|---|---|
| 33% | | | |
| 65% | | | |

**Insurance** — 33% / 65%
**Retail and commercial banks** — 34% / 65%
**Capital markets** — 37% / 62%

■ Share of organizations that have seen 2%-5% revenue increase

■ Share of organizations that have improved customer satisfaction by more than 60%
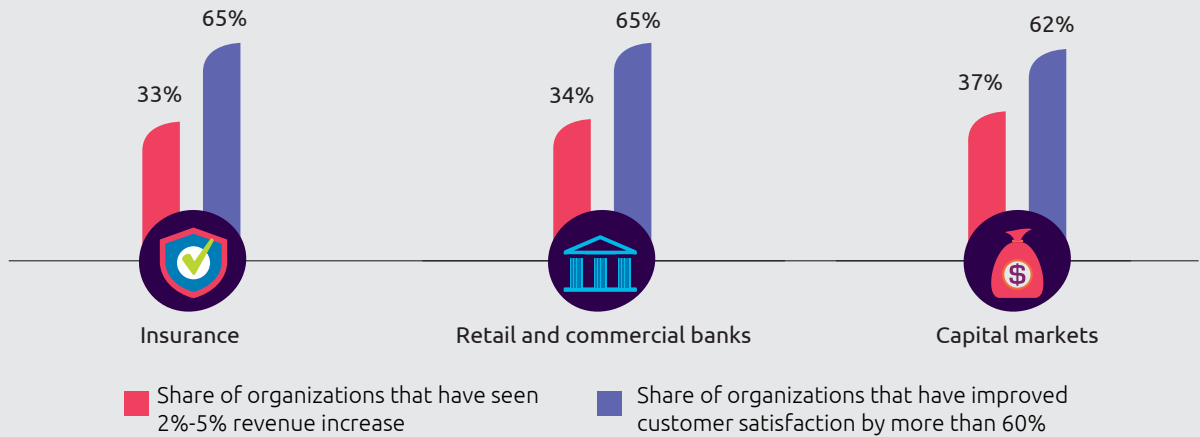
Source: Capgemini Research Institute, Automation in Financial Services survey; February–March 2018, N=750 companies

# Automation transformation roadmap for financial services

## 3. Scaling-up
- Establish an automation Center of Excellence (CoE)
- Expand automation from easy to complex use cases
- Secure and sustain employee engagement

## 4. Industrialize Intelligent Automation
- Processes re-engineered
- Business metrics driven
- Automation for Transformation

## 1. Vision and Leadership
- Set a compelling vision and get leadership backing

## 2. Pilot Intelligent Automation
- Assess and create business case
- Identify high potential use cases and test in a process or two
- Recruit automation talent
- Collaborate with ecosystem partners

Source: Capgemini Research Institute analysis.

## For more insights, read our report here:
Capgemini Research Institute, "Growth in the Machine: How financial services can move intelligent automation from a cost play to a growth strategy," July 2018.

# Industry Leader Perspectives

**Rahul Welde,**
Unilever

## Unilever: consumer-first approach accelerates digital transformation

*Rahul Welde – executive vice president, Digital Transformation – leads global digital initiatives at Unilever. A veteran of the company, he joined in 1991, and has worked across a range of roles in the global organization. A well-known face in the industry, Rahul plays an active role in industry bodies and was chairman emeritus for the Mobile Marketing Association Asia and the regional vice president for the World Federation of Advertisers (WFA).*

*The Capgemini Research Institute spoke with Rahul to understand more about Unilever's digital transformation.*

# Unilever's digital transformation – the journey so far

## Can you tell us how you are steering Unilever's digital transformation journey?

Unilever has the unique privilege of being a company that touches over 2.5 billion people every day. This strong physical presence is powered by many brands that are global market leaders. The landscape is changing dramatically with digital technology. We are thus transforming our brands to win in this digital ecosystem – we want to reimagine and revitalize our brands, both from a communications and commerce standpoint – and drive this transformation through data at the core.

## Which digital transformation initiatives are you most proud of?

There are quite a few initiatives we are proud of. We are seeing the benefits of transformation across a number of business areas – in driving impact for our brands as well as efficiencies.

We have laid a strong foundation through our 5C framework – consumers at the center, with great content and connections, building communities, and powering commerce. This framework lies at the heart of our transformation. This is showing great impact across our presence in the digital ecosystem. Equally, we have stepped up from a technology and tools perspective. This drives simplification whilst bringing new tech into our plans. For example, the work we have been doing through media and our

programmatic trading desk "ULTRA" or U Studios which is our content capability. We are also using a variety of tools to enhance the quality of our investments, embedding a test-and-learn approach, greater experimentation, and continuous-learning loops. We are going beyond communication and using these to fuel innovation across the business system. We now have data centers in many locations, enabling us to deploy modern tech and systems. All these initiatives form the backbone of the multi-faceted digital transformation of Unilever.

> *We have laid a strong foundation through our 5C framework – consumers at the center, with great content and connections, building communities, and powering commerce.*

## What surprised you the most in your journey so far and what did you learn from it?

One of the things that has grown faster than expected is e-commerce. People's need for convenience – along with the friction-free nature of platforms – has led to a dramatic increase in consumers embracing e-commerce. It is very liberating for consumers to make their own choices, and where and when they want to shop. The second area which has taken off is in social influence. The

impact of social influencers in shaping consumer interest has been much bigger than anyone imagined. The key learning is that we have to keep a sharp eye for the changes that are taking place and as we are a part of that fast-changing ecosystem, we need to respond rapidly.

*Instead of thinking whether we are social first, or mobile first, we keep reminding ourselves that we must be "consumer first" – we should always be "people first."*

## Engaging the end-consumer

**Is being "consumer first" a challenge for Unilever, given the need to keep up to speed with fast-changing consumer needs and preferences? How do you manage to keep pace?**

We pride ourselves in staying close to local trends and having very customized approaches to all segments. We have a very diverse portfolio, both in terms of geography as well as product categories. That requires us to stay very close to our consumers and thus all our thinking and frameworks have a consumer-first approach. As an example, "Putting People First" is central to our Crafting Brands for Life approach. Another example is that the consumers are at the center of our 5C framework. We always think of people and consumers at the center. This also enables us to keep pace with changing demands and trends. Technology is changing things fast and it is here that we are leveraging our global scale, expertise, and approaches. We always remember one underlying

principle – we sell everyday products that consumers value and use regularly. With that perspective, we have to ensure that we are at the sharp edge of great execution, every day and everywhere.

**How are you leveraging new technologies to transform your relationship with the end consumer?**

A large part of the business is still conducted in retail stores, while e-commerce is the fastest growing channel. The influence or how we engage consumers is increasingly online. We must win in an omnichannel world leading across conventional as well as new channels – both for communication and for commerce. We have evolved our marketing significantly and continue to do even more now. We have invested in large digital platforms and capabilities, and are leveraging data, optimizing our content and connections using tech and tools, and effectively engaging with consumers more directly through a data-driven approach.

## There is a new crop of consumer goods companies that directly reach consumers on digital platforms. Do you believe this will be a new form of competition for large, traditional companies like Unilever?

There is no doubt that the internet allows a democratization of services or products. Thus, a large number of companies have now found it easier to enter the market. At the end of the day, what will matter is how close we are to consumers and how we fulfill and service their needs. Many brands are now also evaluated on their purpose – how they live and what values they represent. For instance, how sustainably do we source raw materials? How do we ensure fair work practices not just for our employees, but also those of our partners? How are we minimizing the impact on climate, and so on? At Unilever, our Sustainable Living Plan and purposeful brands are at the heart of everything we do. These are some aspects which differentiate our brands and our company. It is not just about directly reaching consumers – it is the totality of your proposition, what you have to offer, and what you stand for.

❝ *At Unilever, our Sustainable Living Plan and purposeful brands are at the heart of everything we do."*

## How important are the values of a company or its brands for today's consumers and future consumers?

Extremely important! Over half of consumers already buy or want to buy sustainably. We have the unique privilege of having great brands that are not only super-efficient and have great propositions but are also led by purpose and our sustainable living plan. Causes that are good for every one of us are at the heart of many of our brands. And consumers want to be a part of this themselves. So, every time they use one of our products, they are really helping to do good. Take, for instance, our brand Dove – which addresses social change through real beauty. For over a decade, Dove has been working to make beauty a source of confidence and addressing issues of self-esteem. Or Domestos – which is improving access to toilets. Or our new brand, Love Beauty and Planet, brought to market last year, is made with natural ingredients and using bottles made from 100% recycled materials as well as being recyclable after use. People love products that stand for and believe in a purpose. We have over 25 sustainable-living brands and they consistently outperform the average.

❝ *People love products that stand for and believe in a purpose."*

# Taking the employees along

## How have your employees responded to digital transformation? How readily did they embrace the change?

Digital is touching everyone, including employees who experience the dramatic changes in their daily lives. It is easy therefore to understand the change. A cultural transformation underpins digital transformation. It is also about skills – we have been driving a large-scale skills transformation program across our organization. In Marketing alone, thousands of our employees are constantly upgrading their skills, while other functions – such as finance, supply chain, procurement, HR – are reskilling thousands more. These initiatives are driving empowerment, greater agility, greater collaboration, and greater experimentation.

*In Marketing alone, thousands of our employees are constantly upgrading their skills, while other functions – such as finance, supply chain, procurement, HR – are reskilling thousands more."*

## How involved is Unilever's leadership in these reskilling programs?

Leaders have to very much be a part of the culture transformation – in fact, at the center of it. Similarly, when it comes to digital we are enabling our leaders with new skills and deeper understanding of technology. For example, our leaders are enrolled in a reverse-mentoring program, where some of our younger digital-native employees act as mentors to these very senior leaders. And it is very exciting for

both these groups. For senior leaders, it demystifies technology and improves their knowledge base. More importantly, it also creates a cultural intervention. It sows the seeds of a culture that is much more accessible, open to experimenting with fresh ideas, and willing to learn. It is also a way for leadership to signal to the entire organization how serious they are about are making the change.

*Our leaders are enrolled in a reverse-mentoring program, where some of our younger digital-native employees act as mentors to these very senior leaders… it is very exciting for both these groups."*

## Many companies fail to create exciting learning or reskilling programs for their employees. How did you tackle this issue?

We believe learning must be in a self-motivated environment to be most effective. We think of our employees as we would think of consumers – internal customers but the same principles. We therefore aim to create a similar wow effect with learning and culture change as we do with our brands for consumers. Thus, our programs and initiatives internally are also marketed in that fashion to the employee. As a simple example, we would use Instagram or social-style posts rather than just emails, we craft newsletters that are exciting, we track open rates but also customize to various internal segments. Great learning programs have two things that make them exciting and successful – great content presented in compelling

manner. The design must engage, must prompt employees to participate, and then must deliver against expectations. Most important is to build a learning culture – we continuously strive for that. There can never be enough learning.

*We think of our employees as we would think of consumers – internal customers but the same principles."*

## Sustaining the momentum

### In your digital transformation journey, to what extent do you involve partners as opposed to working on your own?

Partners are critical part of the transformation journey. They bring some great capabilities, new knowledge and approaches, and enable a level of external perspective that we cannot get on our own. For me, personally, I spend a lot of time with our partners and agencies.

There is always the question of working with partners compared to doing things in-house. Both approaches have their pros and cons. However, a few strategic and operational filters help us make a decision. Technology expertise is one area where it makes a lot of sense for us to leverage partnerships to accelerate our progress. For instance, voice assistants are a ripe space for experimentation, and a lot of companies are building expertise in them. We are better off accelerating our progress by partnering with them than trying to do it in-house. For instance, start-ups are creating new solutions and services. We have been aggressively engaging with start-ups through our Unilever Foundry, trying to craft new business models, and so on. We have hundreds of projects. On the whole, partnerships will continue to be very important. I would argue even more important than before – particularly when it comes to innovation and technology.

### What would be your recommendations to large organizations like yours as they look to maintain momentum in their digital transformation journeys?

I like to think of it as a simple 2-S framework– speed and stamina. For a successful digital transformation, stamina is just as important as speed because as you go along, hurdles invariably emerge. In the face of these hurdles, organizations must be steadfast and commit to a marathon rather than a sprint. It's easy to get off the mark and go at top speed initially. However, the real challenge is whether the organization, people, and leadership can keep up in terms of stamina and thus keep the momentum.

I believe that around every single aspect of transformation, you have to put on an opportunity lens, not just the barriers or challenges lens. That makes the transformation far more energizing, powerful, and movement oriented. The approach that serves any transformation well – a lot of great progress behind that gives confidence and a lot of change ahead that provides all the excitement.

*For a successful digital transformation, stamina is just as important as speed because as you go along, hurdles invariably emerge."*

# Emotions have the strongest impact on loyalty

| Emotions analyzed to create Emotions Index | Rational elements analyzed to create Rational Index | Brand values analyzed to create Values Index |
|---|---|---|
| - Honesty<br>- Integrity<br>- Trust<br>- Familiarity<br>- Belonging<br>- Gratitude<br>- Compassion<br>- Joy<br>- Surprise<br>- Security | - Price competitiveness<br>- Promotions/offers<br>- Instant customer service<br>- Same-day delivery<br>- Simple, clean, easy to use interface in mobile app/website<br>- Recommendation by friends/family/communities<br>- Loyalty reward points<br>- Age/heritage | - Environmentally friendly<br>- Fair business practices<br>- Fair price<br>- Ethical<br>- Socially responsible |

**0.75**

Correlation coefficient of Emotions Index with loyalty

**0.53**

Correlation coefficient of Rational Index with loyalty

**0.49**

Correlation coefficient of Values Index with loyalty

Source: Capgemini Digital Transformation Institute survey, The Key to Loyalty; August–September 2017, N=9,213 consumers.

# Emotionally engaged consumers spend more

**70%**

of consumers with **high emotional engagement** spend up to two times or more on brands they are loyal to

Source: Capgemini Research Institute survey, The Key to Loyalty, August-September 2017, N=9,213 consumers.

# The road ahead—How can organizations make better emotional connections with consumers?

Drive **"human loyalty"** to create genuine **engagement**

**Rational**

### Rational Drivers

Price
Offer
Time-sensitive
Location
Service

**+**

**Rational**
**Emotional**

### Emotional Drivers

Respect
Reciprocity
Recognition
Reward

### Engaging Experiences

Service onboarding
Personal curation
Inspirational exploration
Dream planning
Rewarding experiences

Source: Capgemini Research Institute analysis.

**Loyalty Deciphered-**
How **Emotions** Drive Genuine Engagement
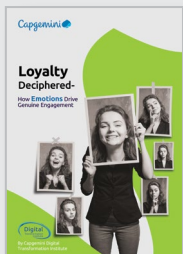
### For more insights, read our report here:

Capgemini Research Institute, "Loyalty Deciphered—How Emotions Drive Genuine Engagement," December 2017.

# Views from a Thought Leader

SINOVATION VENTURES

**Dr. Kai-Fu Lee,**
Sinovation Ventures

## Dr. Kai-Fu Lee: superpowered perspectives from an AI expert, investor, author, and influencer

*Dr. Kai-Fu Lee is the Chairman and CEO of Sinovation Ventures, managing a $2 billion, dual-currency investment fund with over 300 portfolio companies across the technology spectrum in China.*

*He also serves as president of the Sinovation Ventures Artificial Intelligence Institute, a lab for building AI talent and promoting AI engineering and research.*

*Prior to founding Sinovation Ventures in 2009, Dr. Lee was President of Google China. He previously held executive positions at Microsoft, SGI, and Apple. Named one of the 100 most influential people in the world by TIME Magazine and a Wired 25 Icon, Dr. Lee was also the winner of the 2018 Asian Business Leaders Award. He has over 50 million followers on social media and is the author of seven best-selling books, with the most recent New York Times Best Seller "AI Superpowers." Dr. Lee received his bachelor's degree in computer science from Columbia University, and his Ph.D. from Carnegie Mellon University.*

*The Capgemini Research Institute spoke with Dr. Lee to understand more about the importance of AI to digital transformation.*

# AI and organizations

**With the advent of new technologies, such as AI, 3D printing, blockchain, and AR/VR, do you believe that we are at an inflection point where large organizations need to embrace technology to a much greater extent than ever before?**

All the technologies you mentioned will eventually be important. Right now, AI is by far the most important because it is pervasive; it will hit every industry. To my mind, AI is to be applied most immediately to businesses that have a lot of data. And that data can be used to make smart decisions, improve conversion rates and profitability, and lower cost. Soon enough, AI will have perception. Computer vision and speech and machine translation and language are just at the inflection point of becoming mature. We see things, such as autonomous stores and speech interfaces, all beginning to hit the inflection point. Looking slightly beyond is autonomous AI, that is the use of robotics in manufacturing and agriculture as well as in autonomous vehicles.

*Right now, AI is by far the most important [technology] it is pervasive; it will hit every industry. To my mind, AI is to be applied most immediately to businesses that have a lot of data."*

In my book "AI Superpowers," I call them the four waves of AI: Internet AI, Business AI, Perception AI, and Autonomous AI. And, I predict that each of these will have a 10% impact on GDP and a 10% impact on jobs. It could be the biggest technology revolution in the world, larger and faster than the Industrial Revolution. It's not necessarily for everybody though. An organization must have an application scenario where there are measurable objectives as well as a large amount of data to implement AI successfully.

*The four waves of AI: Internet AI, Business AI, Perception AI, and Autonomous AI."*

## How do you define these four waves of AI?

**Internet AI** is pervasive today and is fueled by user-submitted data such as clicks, likes, and comments. For example, a recommendations engine that collects your browser data and offers you customized information based on your behavior is part of Internet AI. In the future, technologies such as natural language processing and computer vision along with data analytics will take Internet AI further to fully personalize the worldwide web.

**Business AI** works with data recorded and submitted during interactions with financial, healthcare, legal, and business organizations. Leveraging data analytics, Business AI can predict your future health and wellness, financial status, and social behaviour – for example, predicting your capacity to repay loans.

**Perception AI** blends digital and physical environments using technologies such as IoT, AR, and VR combined with artificial eyes, ears, and other sensors –for example, paying by scanning your face instead of using a credit card.

Lastly, **Autonomous AI** is the final frontier. Powered by all the sensory and intellectual abilities, machines will be capable of operating on their own as separate entities. This is already in development with the development of self-driving cars from Tesla and others.

## Do you believe that AI will be a critical competitive differentiator in the future?

I think it is more than a differentiator. I think it's going to be a question of life and death. Theoretically, using AI could reduce an organization's cost by half and increase conversion rates twofold. It could increase profitability margins. Those organizations that adopt it will survive and those that don't will just die.

*I think AI is more than a differentiator. I think it's going to be a question of life and death. Those organizations that adopt it will survive and those that don't will just die."*

# Leading the AI race

## When it comes to AI, do you believe that there are leaders in every sector who are already adopting AI significantly and yielding the benefits?

In Internet AI, I think the leaders are clearly established, and new ones could still come up, but they'll be facing an uphill struggle. But in the other three areas – Business, Perception, and Autonomous – I think there are still plenty of opportunities for smaller companies and start-ups. For example, of the 50 AI investments my company Sinovation

*Of the 50 AI investments my company Sinovation Ventures has funded, five are already unicorns valued at $23 billion in total. That's proof that there is no incumbent blocking the potential rise of new companies."*

Ventures has funded, five are already unicorns valued at $23 billion in total. That's proof that there is no incumbent blocking the potential rise of new companies.

## Do you believe that very large organizations understand the importance of AI?

Sure, they do. The IT consulting firms and the tool providers certainly understand it. Salesforce or Microsoft, to name just a few, are integrating AI into their products. And, of course, Google and Amazon are taking a cloud approach to AI. I think that a very important development in the AI space is that the ease of building AI into the applications has increased dramatically in the last two years. I believe technologies such as Google's AutoML and Salesforce Einstein will increase adoption because an organization does not have to hire a super AI scientist. These are packages that engineers who have some AI familiarity can start to implement and quickly see results.

## How can organizations encourage adoption of AI?

The best way to encourage adoption is to demonstrate a ROI that comes directly down to the bottom line. To broaden adoption, you need to convince your organization that you are focusing on areas where there is immediate benefit to the bottom line. Take, for example, a bank. If it can demonstrate its asset allocation and how that will yield better performance, those numbers will speak for themselves. And even conservative organizations, including banks, could try AI on initiatives such as new customer prospecting tools (for example email campaigns) and see if this helps yield increases. If an organization is afraid to integrate their core products with AI, at least they can take areas where there is no risk to their core product.

*To broaden adoption, you need to convince your organization that you are focusing on areas where there is immediate benefit to the bottom line."*

## What do you think are some of the most important things that organizations should bear in mind before they embark on their AI journeys?

If possible, I think organizations should find partners that have the experience, so they can pick the right area to sink their teeth into. I think they

*When it's measurable, the benefits of AI can be demonstrated very quickly – it moves from something abstract and high level to something concrete and value-added."*

should start hiring data science teams and start with some packages that are fairly easy to use, such as Salesforce or Microsoft. To get the journey underway, organizations should pick a specific area with clear metrics where they can very quickly and clearly demonstrate a benefit. Organizations should identify an area in the company where there is a specific function to be maximized, whether it be revenue, usage, or customer satisfaction ratings. When it's measurable, the benefits of AI can be demonstrated very quickly – it moves from something abstract and high level to something concrete and value-added. This would help make the case for adoption.
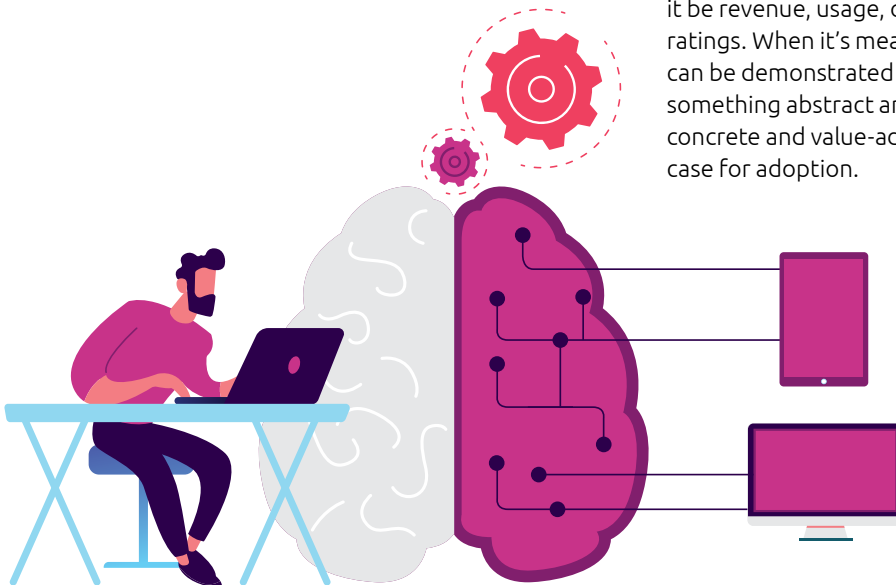
# Attracting AI talent

**There's been a lot of research and discussion on the talent gap for AI scientists. Do you believe that there is indeed a shortage, or is this similar to other new technologies, where supply will increase over time and there is just an initial crunch?**

I think this issue is being resolved on two levels. First, there are many more educational opportunities, including university programs and open courses improving people's AI competencies. Secondly, the tools are becoming easier and less complex to use. With both developments, I think that the issue of the talent gap for AI scientists will be overcome. Certainly, some companies might still believe that they have to hire a famous professor, but to my mind, that is not needed for standard enterprise applications. Of course, AI as a frontier continues to move forward. If an organization wants a complex dialogue application for an autonomous vehicle, they would still need a lot of experts.

# China and the US – the AI superpowers

**In your book, "AI Superpowers," you write about the geographic dimension of AI. What's your take on which country is better positioned with AI – the US or China?**

I think China will be as strong as the US and that's the conclusion I write about. As I mention in my book, the two worlds exist in parallel universes. It's not very easy to cross but, at the same time, there are many very clever uses of AI in China that could be inspirational for American organizations.

> *I think China will be as strong as the US… the two worlds exist in parallel universes. It's not very easy to cross but, at the same time, there are many very clever uses of AI in China that could be inspirational for American organizations."*

I think China is more into revolutionary uses of AI than the US. For example, in China you can get a loan instantaneously by uploading data from your phone if the parameters say that your likelihood to default is low. It is this kind of application that's really going to wipe out a bank's traditional loan functions. There is a whole new set of smart and aggressive entrepreneurs in China who are building solutions

> *I think China is more into revolutionary uses of AI than the US. For example, in China you can get a loan instantaneously by uploading data from your phone if the parameters say that your likelihood to default is low."*

to compete with traditional companies. These new app-based loan companies are attacking personal loans and, soon enough, they will begin to attack the commercial loan space.

## What are the dominant sectors using AI and the most exciting use cases?

The uses of AI are endless and cover many different sectors. Financial services, retail, manufacturing, and agriculture are the most common industries we see. Financial services is the fastest sector to adopt AI because of the wealth of data available and because AI can provide immediate, measurable, and valuable outcomes. My view is that banks, credit card companies, and insurance companies will be eliminated unless they reinvent themselves.

*Financial services is the fastest sector to adopt AI because of the wealth of data available."*

In manufacturing, AI can be used for inspection on a simple assembly line. There are AI technologies that can be used in agriculture and farming (for example, picking fruits) or in food and beverage (for example, washing dishes in restaurants). Autonomous restaurants and autonomous convenience stores that are without human participation are emerging. I believe those are coming next, but penetration might take three or four years.

Healthcare will also be a big one. AI will be used to improve healthcare in many ways, including helping with diagnosis, radiology, patient history, and drug warnings. This will take a little longer because of the impact it has on people's health and lives.

Also, AI in government is going to be very big – for example, AI used by governments to check against tax fraud and using AI in predicting criminal behavior. AI can be used in law to verify evidence or to even provide input to ensure that the judge is being fair and consistent.

## Are there examples of Chinese companies that are already making rapid progress in tackling these use cases?

We have a portfolio company that's building 100 autonomous restaurants in China. Because there are no people involved, their prices are about one-third of McDonald's or Kentucky Fried Chicken. So, that will appeal to people who are cost conscious. The restaurant will be staff-free and leverage apps to provide a futuristic dining experience. When you go into the store, you scan the digital item list and menus to place orders with your phone. In just a few minutes, you see your food and drinks being prepared at robotic stations. Not just basic sandwiches or pizzas, but hot noodles and hot lunches.

*We have a portfolio company that's building 100 autonomous restaurants in China. Because there are no people involved, their prices are about one-third of McDonald's or Kentucky Fried Chicken."*

We have an investment in a convenience store that will use AI for sales forecasting, inventory management, customer traffic and merchandising optimization, and restocking alerts. In a year or two, we will begin implementing sensor-based and computer-vision tracking. The face recognition technology will be able to detect customers' expressions, emotions, and eye contact to glean detailed knowledge of what each customer is thinking and feeling about specific product items in the store, and how that relates to their shopping behavior over time. The plan is to open 1,000 stores in the next three years.

> *In a year or two, we will begin implementing sensor-based and computer-vision tracking. The face recognition technology will be able to detect customers' expressions, emotions, and eye contact to glean detailed knowledge of what each customer is thinking and feeling about specific product items in the store, and how that relates to their shopping behavior over time."*

China is adopting AI a lot faster for a number of reasons. The first is the sheer size of the market, which means that there are more venture capital firms willing to invest because the rewards are larger. Second is the large amount of data that is available because of this size. Third is the fact that China happens to have an underdeveloped infrastructure in several areas where AI can help the country leapfrog. For example, in China's retail sector, you don't have such strong brands as exist in the US, such as Walmart or Costco. It's harder to disrupt these large players in the US. In China, building cost-effective convenience stores and restaurants will quickly generate adoption and even build new brands that were not there before. Similarly, China's banks and hospitals are quite behind. So, again, AI can jump in and elevate the level of service.

## What is to stop these Chinese entrepreneurs who have already perfected their AI solutions from coming into other markets?

That's not likely in the near term because there are major cultural usage and language barriers preventing Chinese AI companies from going abroad. This is a giant market that is not developed today. The priority needs to be to conquer and win in the local market.

## Where do you see Europe in this race?

They are not really in the race. The UK, Switzerland, and France all have very good AI talent, but what's happening is much of this talent is going to the US or working for US-based companies from Europe. I think that US companies have continued to use its magnetic pole to attract the world's smartest people. To my mind, that's a key advantage of the US and so Europe doesn't really have full control of their talent.

Secondly, Europe has fewer high-quality VCs compared to the US, China, and even Singapore. In this type of situation where there are few VCs in a fragmented market, entrepreneurs are less inclined.

# Looking to the future of AI

## Do you see any company that will come in and dominate the AI space as Google has done in search?

No, I do not. I think the strongest company is clearly Google. Google's advantages are leverageable in the internet and cloud space, but they are not as leverageable in many vertical domains. We talked about healthcare and manufacturing and retail. Those are areas in which Google's advantages are weaker. There is opportunity to have many giants, several per vertical domain. I would expect Google to be very successful, but I wouldn't expect them to be dominant.

## So, AI is still open for a variety of startups and other companies to compete?

Right, it is. As I mentioned, our top five investments in AI are valued at $23 billion – and that's just in three years. Imagine the next 10 years at that valuation. Plus, there's more than China, there is the US. I think the opportunities are huge and I definitely wouldn't say that it's at all closed off.
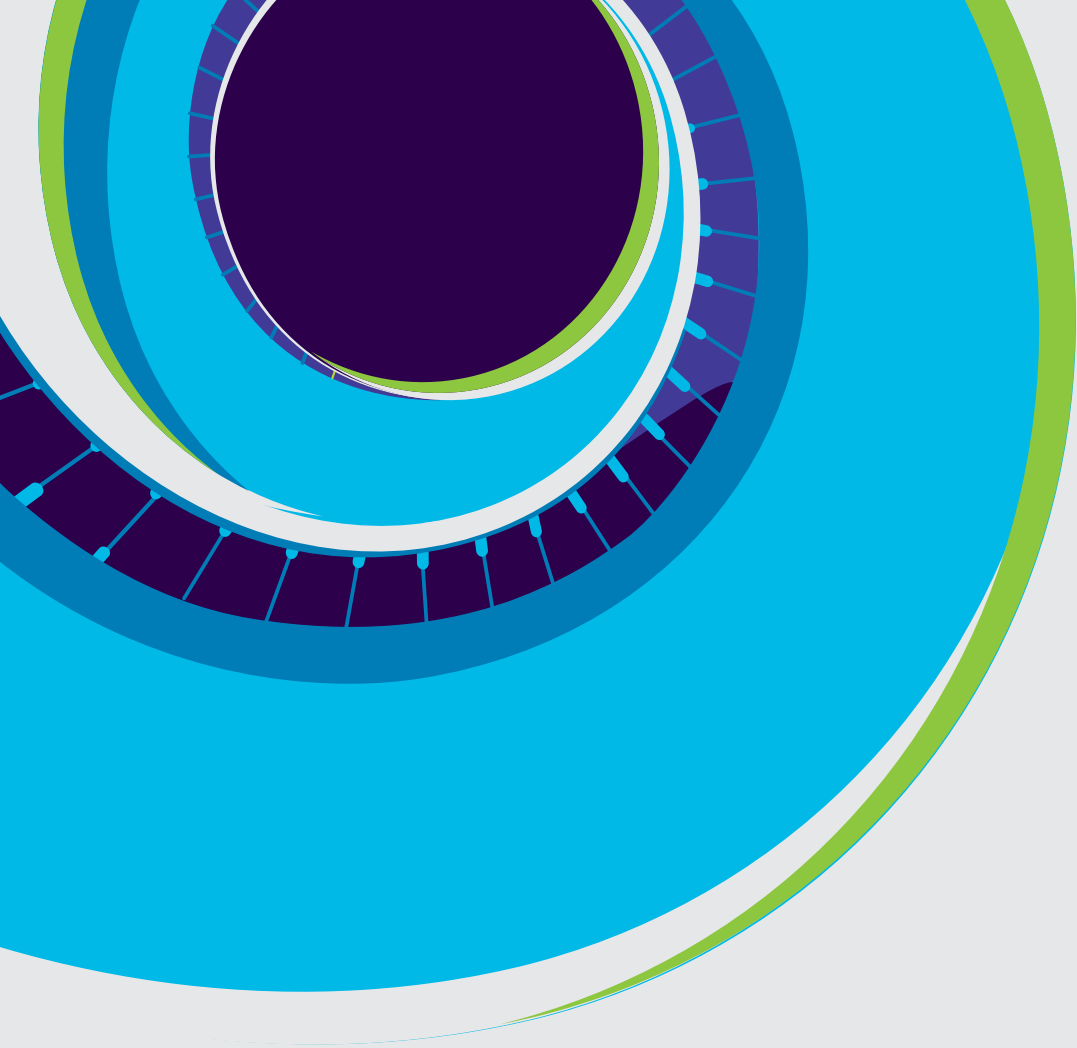
# Capgemini Perspective

# Understanding digital mastery today

## Why companies are struggling with their digital transformations

There is no doubt that organizations understand the importance of digital transformation. Worldwide spending on digital transformation technologies – hardware, software, and services – is expected to cross the $2 trillion mark by 2021.[1] The investment commitment to putting the infrastructure in place is not in question.

But, are organizations turning these investments into successful transformation journeys? In our 2012 research with the MIT Center for Digital Business, we established that a high-performing cohort of organizations – digital masters – outperformed their peers in every industry.[2] Six years on we undertook new research to gauge whether large organizations have mastered the art and the science of digital transformation.

We surveyed more than 1,300 executives in over 750 global organizations and interviewed senior executives responsible for their organizations' digital transformation programs. Six years after our original research, organizations have had time to build capability and experience in driving digital transformation and one would expect the level of digital mastery to have progressed from 2012. However, our research does not find a clear

advancement. Organizations are still struggling to turn their investments into business successes. This might reflect the difficulty for organizations to adapt to the dizzying pace of change in technology innovation (e.g., artificial intelligence, internet of things, automation). Moreover, business model disruptions in many industries are challenging traditional value-chains. But, it could also be that organizations were overly optimistic in 2012 and have now realized the magnitude of the challenge, coupled with rising expectations of markets, employees, and customers.

In this report, we focus on three key areas:

- An assessment of how organizations have progressed with their digital transformations in the last six years
- The major challenges that organizations face as they implement their digital transformations
- Key recommendations for how organizations can sustain their digital transformation journeys based on what digital masters do differently today.

# Many organizations are finding their digital transformation journeys a struggle

In our 2012 research,[3] we established our digital mastery framework. Organizations should progress on two dimensions to be digital masters – digital capabilities and leadership capabilities. Our 2012 definitions are below.

- **Digital capabilities** are the use of technology to change how the company interacts with customers, operates internal processes, or defines its business model.
- **Leadership capabilities** are about creating the necessary conditions required to drive the transformation. In 2012, they included the transformation vision, the governance model to lead the journey, the necessary information technology and business relationships to produce the results, and engaging employees in the journey.
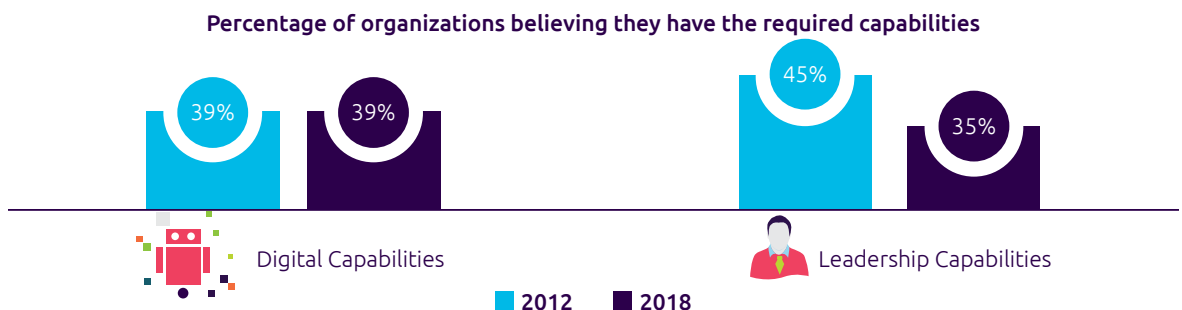
In this section of the report, we make a like-for-like comparison between 2012 dimensions and our 2018 data to gauge progress.

## Only a minority have the digital and leadership capabilities required

Given the pace of change in technology, new and emerging competition, and the increasing expectations of employees and customers, today's organizations face significant challenges compared to 2012. Six years on from our previous research, we found that organizations are struggling with both the digital and leadership capabilities required for success.

On average, 39% of organizations today say they have the digital capabilities required – the same level as in 2012. For leadership capabilities, only 35% of organizations today, on average, say they have the leadership capabilities required, compared to 45% in 2012 (see Figure 1). While expectations have increased, many organizations have not kept pace.

**Figure 1.** Organizations that have the digital and leadership capabilities needed: 2012 versus 2018



Percentage of organizations believing they have the required capabilities

39%   39%   Digital Capabilities        45%   35%   Leadership Capabilities

■ 2012   ■ 2018

**Source:** Capgemini Research Institute, Digital Mastery Survey; April–May 2018, N=1,338 respondents, 757 organizations; Capgemini Consulting and the MIT Center for Digital Business, "The Digital Advantage: How digital leaders outperform their peers in every industry," 2012, N=391 organizations.

*Calculated based on the average percentage of organizations agreeing to the questions in each category (rating of 5, 6, 7 on a scale of 1 to 7); Questions included in this analysis are the same in 2012 and 2018.

1. IDC, "IDC forecasts worldwide spending on digital transformation technologies to reach $1.3 trillion in 2018," December 2017.
2. Capgemini Consulting and the MIT Center for Digital Business, "The Digital Advantage: How digital leaders outperform their peers in every industry," 2012.
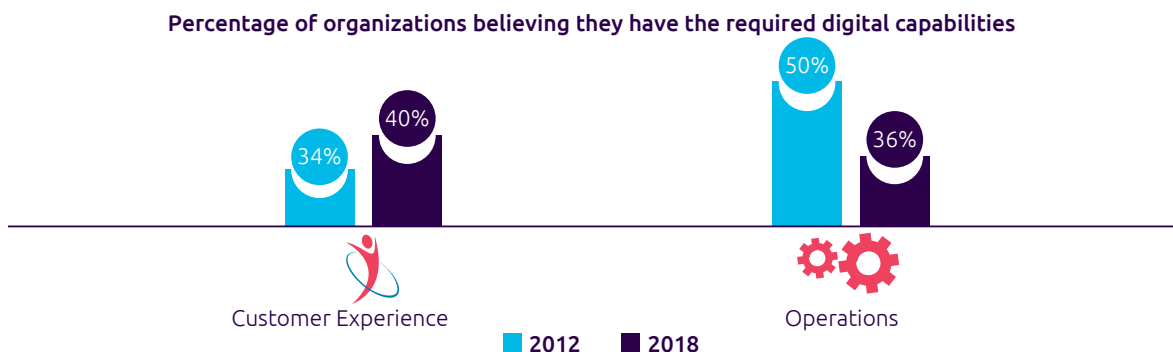3. Ibid.

To explore this finding more deeply, we looked closely at the two dimensions: digital capabilities and leadership capabilities.

## 1. Digital capabilities

To understand how organizations have progressed in terms of building digital capabilities over the past six years, we examined the average ratings of the two included categories – customer experience and operations (see Figure 2).

**Figure 2.** Organizations that believe they have digital capabilities in place: 2012 versus 2018

**Percentage of organizations believing they have the required digital capabilities**



34% 40% Customer Experience

50% 36% Operations

■ 2012 ■ 2018

**Source:** Capgemini Research Institute, Digital Mastery Survey; April–May 2018, N=1,338 respondents, 757 organizations; Capgemini Consulting and the MIT Center for Digital Business, "The Digital Advantage: How digital leaders outperform their peers in every industry," 2012, N=391 organizations.

*Calculated based on the average percentage of organizations agreeing to the questions in each category (rating of 5, 6, 7 on a scale of 1 to 7); Questions included in this analysis are the same in 2012 and 2018.

## Organizations making headway on customer experience

Organizations made the most significant progress on customer experience, which in the 2012 definition encompassed things like: analytics, social media, location-based marketing, mobile channels, and connected products.

For example, 43% of organizations today are using mobile channels to sell products and services, compared to 23% in 2012. Moreover, nearly 40% of organizations are improving their knowledge of markets and customers through devices embedded in products, compared to 17% in 2012. These gains are not surprising given the widespread use of mobile channels and apps among consumers

and advancements in internet of things (IoT) technologies.

Sephora, the French-founded cosmetics company, has made significant progress in optimizing its customer experience and blending physical and digital. It opened its first digitally-enabled store in Paris in 2015, and it offers all the perks of online shopping combined with hands-on experimentation, like sampling products and participating in beauty workshops. Sephora's use of technologies like virtual try-on tools, skin scanning devices, and digital shopping carts are not only inspiring and educating customers, but also giving them the confidence to purchase.[4] The North Face, an American outdoor product company, personalizes product recommendations through IBM Watson technology which has helped to drive customer engagement.[5]

**36%** Percentage of organizations who said they excelled in operations

## Operations is challenging to execute

In 2018, a little over a third of organizations agree that operations – which comprises aspects such as, digital design of products and services, the ability to adapt operational processes quickly, real-time monitoring, and the ability of employees to share knowledge, collaborate digitally and perform their work from any location – is an area they excelled in. While there were small gains from 2012 to 2018 in the percentage of organizations that design their products digitally (38% to 40%), many organizations seem to struggle in other areas:

- Fewer organizations agree that they are monitoring operations in real time (35% in 2018 compared to 48% in 2012).
- Fewer organizations agree that they are modifying operational processes to adapt quickly to external changes (29% in 2018 versus 34% in 2012).
- Fewer organizations are providing the tools and capabilities that their employees might expect. For example, only 38% of organizations say that their employees can collaborate digitally with other employees, compared to 70% in 2012. And, just 33%
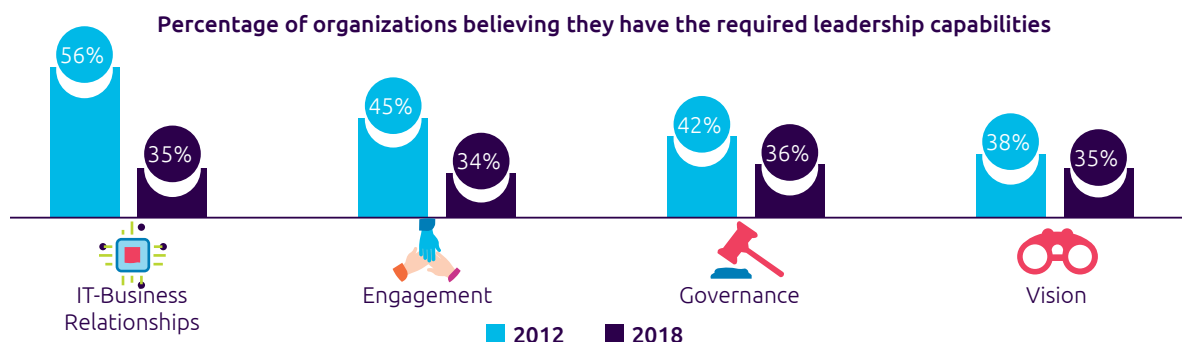
of organizations agree that digital technologies improve communication between senior executives and employees versus 62% in 2012.

Implementation challenges and the increased complexity of technology appear to be hindering organizations' ability to make progress in operations. The movement in collaboration tools and capabilities might suggest that employees adopted tools and platforms with enthusiasm at the beginning but stopped using them. Furthermore, availability does not necessarily translate to actual use, particularly among senior executives who are already time-pressured.

### 2. Leadership capabilities

As Figure 3 shows, mastery of leadership capabilities has not kept pace with ambitions across all dimensions since 2012. Thus, organizations do not appear to be fully leveraging the potential of digital transformation. Organizations might be realizing that the challenge is much more difficult than they originally anticipated.

**Figure 3.** Organizations that believe they have leadership capabilities in place: 2012 versus 2018



**Percentage of organizations believing they have the required leadership capabilities**

IT-Business Relationships: 56% (2012), 35% (2018)
Engagement: 45% (2012), 34% (2018)
Governance: 42% (2012), 36% (2018)
Vision: 38% (2012), 35% (2018)

■ 2012  ■ 2018

**Source:** Capgemini Research Institute, Digital Mastery Survey; April–May 2018, N=1,338 respondents, 757 organizations; Capgemini Consulting and the MIT Center for Digital Business, "The Digital Advantage: How digital leaders outperform their peers in every industry," 2012, N=391 organizations.

*Calculated based on the average percentage of organizations agreeing to the questions in each category (rating of 5, 6, 7 on a scale of 1 to 7); Questions included in this analysis are the same in 2012 and 2018.

4. Forbes, "Creating more personal connections at retail," August 2017.
5. Medium, "How the North Face is using artificial intelligence to close the gap between the in-store and online experience," November 2017.

> **"Achieving the balance between business and technology is a difficult game" - Enrico Maria Bagnasco, head of Technology Innovation at Telecom Italia**

## IT and business relationships have not kept pace with need

While the relationship between the CIO and other members of the leadership team is critical in a digital age, there appears to still be a disconnect.

- For example, in 2012, 65% of organizations felt that the CIO and senior business executives have a shared understanding of the role of IT in their organization, compared to 37% in 2018. Enrico Maria Bagnasco, head of Technology Innovation at Telecom Italia echoes the sentiment, *"There are always new ideas in the market. You must be proactive rather than market-reactive, and there is pressure on the technical team to deliver. Achieving the balance between business and technology is a difficult game."* [6]
- In 2012, over half (59%) of organizations felt that the CIO and senior business executives have a shared understanding of how IT can be used to increase productivity of the organization's operations, versus 35% in 2018.
- In 2012, 53% of organizations agreed that the CIO and senior business executives have a common view of IT investment priorities, compared to 36% in 2018. These trends may suggest that optimization is still occurring in silos or that business leaders are impatient with the pace of IT and are spinning up shadow IT (i.e., IT devices, software, and services outside the ownership control of the IT organizations) to lead their initiatives. In fact, it is estimated that 38% of technology purchase is managed, defined and controlled by business leaders (up from 28% in 2015). [7, 8]

## Engagement is a key challenge

It does not appear that many organizations are bringing their employees along with them on their digital transformation journeys and creating the necessary culture to make that possible. For example, today, fewer organizations agree that there are possibilities for everyone in the firm to take part in the conversation around digital initiatives (36% in 2018 compared to 49% in 2012). *"This is the most intimidating part for many companies, [companies] need to enable employees to participate,"* says Tariq M. Shaukat, President of the Customer Team at Google Cloud. *"You need to create an environment where leadership is available for people to ask questions and get feedback. By giving employees the permission to speak, to collaborate, and to contribute, organizations end up moving people towards a more digital culture."* [9] We explore this challenge in more detail later in this report.

## Vision is still not a core focus

Aligning the organization around a common vision is a key first step in articulating the digital transformation journey. Today, few organizations have that clarity, with only 31% agreeing that senior executives share a common vision of how the business should change through digital technologies (compared to 44% in 2012). As Ethan Bernstein, assistant professor, Harvard Business School says, *"Vision, values, and strategy help senior management ensure that the collective attention of the employees is focused around the organization's raison d'être."* [10] In addition, only 36% of organizations believe that senior executives have a radical digital transformation vision that is a departure from past practices (30% in 2012). Not only that, only 34% of organizations say that senior executives have a digital transformation vision that crosses internal organizational units, compared to 41% in 2012.

## Governance still presents challenges

A strong governance structure will help to translate the vision into action; however, organizations remain challenged even on that front.

6. Capgemini Research Institute, Digital Mastery Interview with Enrico Maria Bagnasco, Head of Technology Innovation, Telecom Italia, May 2018.
7. Gartner, "Make the best of shadow IT," January 2017

- In 2012, 38% of organizations felt that roles and responsibilities for digital initiatives were clearly defined within the company, versus 32% in 2018.
- In 2012, 40% of organizations agreed that processes exist to ensure that all digital initiatives are aligned with corporate objectives, compared to 35% in 2018.
- Organizations have made progress on ensuring digital initiatives are assessed through a common set of key performance indicators (26% of organizations in 2012 versus 33% in 2018).

Overall, our research suggests that the early enthusiasm for digital transformation in 2012 has been dampened by difficulties encountered in implementation. Organizations have made progress in customer experience. But, the lack of key competencies and increased complexity of the technology appear to be slowing down progress in

operations. On the leadership front, organizations remain challenged to drive substantial progress. Six years on, they might have realized just how difficult it is to create an aligned organization and a strong governance model that supports the vision, and to ensure employees are engaged in the journey.

**31%** Percentage of organizations who say senior executives share a common vision of how the business should change through digital technologies

8. Gartner, "Bring shadow IT out of the dark," June 2015.
9. Capgemini Research Institute, "Digital Transformation Review 10th Edition – The Digital Culture Challenge: All On Board," 2017.
10. Ibid.

**36%** Percentage of organizations that say there are possibilities for everyone to take part in the conversation around digital initiatives

# Employees are not being invited on the digital transformation journey

Our 2018 research reveals that the people dimension is a significant barrier to digital transformation progress. Leadership is failing to get their employees to collaborate, to actively involve them to achieve their digital transformation objectives, or to invest in their personal development.

## Organizations do not make employees partners in the transformation program

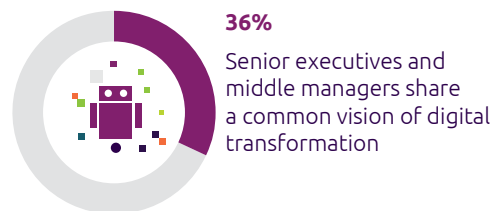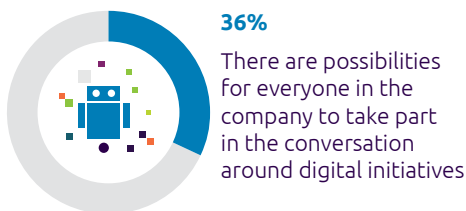Organizations often start digital initiatives without the buy-in of employees:

• Only around one third (36%) of organizations say both senior executives and middle managers share a common vision of digital transformation

• Moreover, only 36% of organizations say it is possible for everyone in the company to take part in the conversation around digital initiatives (see Figure 4).

It is important to make employees part of the transformation process – providing mechanisms for them to voice their opinions and secure their feedback. It is also critical for sourcing new ideas.

*"The board and the CEO need to back the digital transformation program completely,"* says Mats Munkhammar, senior vice president and CIO/IT director at Green Cargo, a Swedish logistics company. *"Secondly, you must get the firm excited about the program and secure their involvement. You need to have a clear plan on how to do it or else you will not be able to convince the organization."*[11]

**Figure 4.** A minority of organizations allow employees to be part of digital initiatives



**36%** There are possibilities for everyone in the company to take part in the conversation around digital initiatives

**36%** Senior executives and middle managers share a common vision of digital transformation

Source: Capgemini Research Institute, Digital Mastery Survey; April–May 2018, N=1338 respondents, 757 organizations.
*Based on the percentage of organizations agreeing to the question (rating of 5, 6, 7 on a scale of 1 to 7).

## Organizations do not leverage analytics to understand their skill needs

2017 Capgemini research showed that the majority of organizations agree that the lack of digital talent hinders their transformation efforts.[12] In addition to understanding current skill needs, organizations must plan for the future. With advancements in digital technology and analytics, talent management processes and structures should equally change. For example, one might expect to see more scientific approaches in the way people are managed and skill needs are identified. But our survey shows that only one in four organizations use data and analytics to understand their employees' preferences (e.g.,

11. Capgemini Research Institute, Digital Mastery Interview with Mats Munkhammar, SVP and CIO/IT director, Green Cargo, May 2018.
12. Capgemini Research Institute, "The Digital Talent Gap: Are companies doing enough?" October 2017.

career development, training) or to identify the skills needed both today and into the future.

**Figure 5.** Few organizations use data and analytics to identify skill sets needed

**27%**
We use HR analytics to identify current and future skills needed

**26%**
We use HR analytics to understand the needs and preferences of our employees

## Organizations are not upskilling employees

To reduce skills shortages, organizations need to put effort into attracting, developing, and retaining digital talent. In Capgemini's 2017 digital talent research, over half (58%) of digital talent said that their next job change will be a result of the new organization offering better skill development.[13] In our current research, only 39% of organizations say they actively recruit and hire new talent with strong digital skills and 38% say they have a formal program for digitally reskilling employees. A recent study found that 74% of companies are only investing $500 per employee on learning and development.[14] Jeremy Walsh, senior vice president at Learning House, a sponsor of the study said, *"It's just ridiculous to see that amount of money being spent,"* he said. *"I think we will start to see a shift in how much [companies] are willing to invest in skilling and reskilling."*[15]

**Figure 6.** Organizations are not actively working toward narrowing the digital talent gap
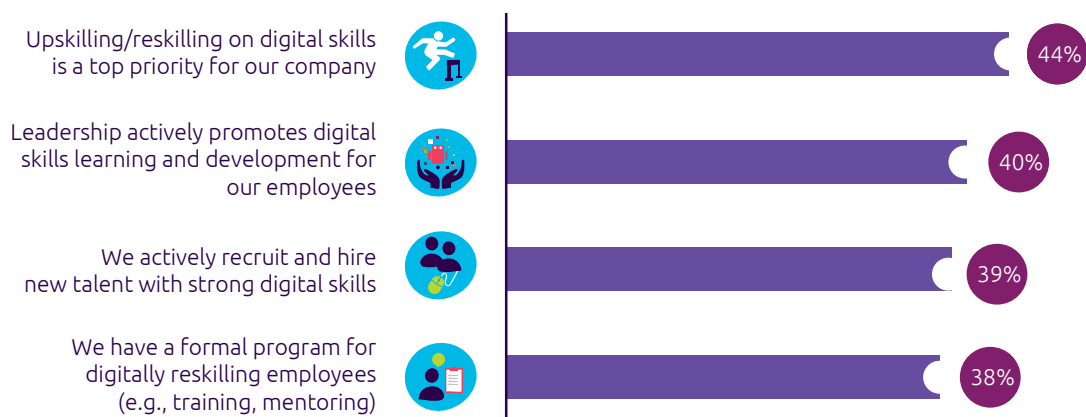
| | |
|---|---|
| Upskilling/reskilling on digital skills is a top priority for our company | 44% |
| Leadership actively promotes digital skills learning and development for our employees | 40% |
| We actively recruit and hire new talent with strong digital skills | 39% |
| We have a formal program for digitally reskilling employees (e.g., training, mentoring) | 38% |

13 Ibid.
14. The Learning House, Inc. and Future Workplace, "Closing the Skills Gap," 2018.
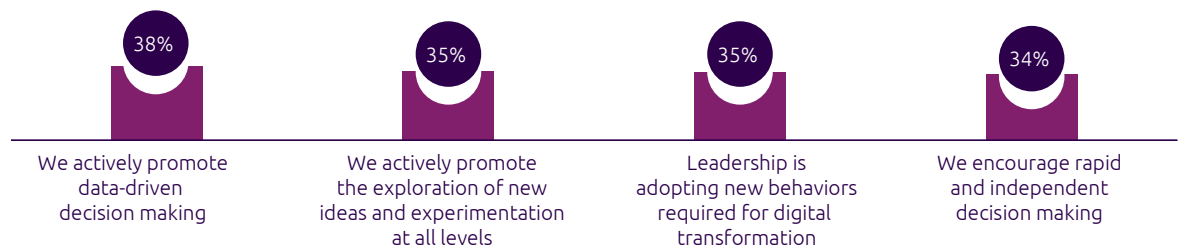15. Ibid.

## Organizations are not paying enough attention to the crucial ingredient – digital culture

2017 Capgemini research found that a majority of organizations (60%) point to culture as the number-one hurdle to digital transformation.[16] By digital culture, Capgemini means seven attributes: agility and flexibility, collaboration, customer centricity, data-driven decision making, digital-first mindset, innovation, and open culture.[17] *"Culture is the glue that either keeps us doing things well or keeps us doing things poorly,"[18]* according to Ethan Bernstein, assistant professor, Harvard Business School. *"Culture evolution is a critical building block of a digital transformation, almost a prerequisite,"* says Pete Blackshaw, global head of Digital and Social Media at Nestlé. *"Larger organizations can be very codified in their ways of working and calcified in their habits. You therefore need to liberate the thinking, soften the silos, restructure the incentives, and ultimately take much bigger leaps forward."[19]* However, our survey shows that only a minority of organizations are displaying the attributes required (see Figure 7).

**Figure 7.** Most organizations fail to promote a digital culture



| 38% | 35% | 35% | 34% |
|-----|-----|-----|-----|
| We actively promote data-driven decision making | We actively promote the exploration of new ideas and experimentation at all levels | Leadership is adopting new behaviors required for digital transformation | We encourage rapid and independent decision making |

**Source:** Capgemini Research Institute, Digital Mastery Survey; April–May 2018, N=1338 respondents, 757 organizations.
*Based on the percentage of organizations agreeing to the question (rating of 5, 6, 7 on a scale of 1 to 7).

Collaboration is one key component of digital culture. Vala Afshar, chief digital evangelist, explains the culture at Salesforce, *"We are first and foremost an incredibly social company, and this is one of the key determinants of our culture. We, for example, use Chatter – our internal collaboration tool – more than we use email. Our social nature means that we have a culture of transparency, collaboration, and continuous learning."[20]*

But as Figure 8 shows, fewer than 40% of organizations say that employees can collaborate digitally with other employees as needed. In addition, only a third of organizations say digital technologies improve communication between leadership and employees. With increasing complexity and changing expectations toward communication and involvement, collaborating and communicating digitally accelerate the speed of change and engagement and increase transparency in the organization.

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16. Capgemini Research Institute, "The Digital Culture Challenge: Closing the employee-leadership gap," June 2017.
17. Ibid.

Employees can collaborate digitally with other employees as needed — 38%

Employees actively share their knowledge through collaborative digital platforms (e.g., Slack, Jira, Skype) — 35%

Digital technologies improve communication between senior executives and employees — 33%
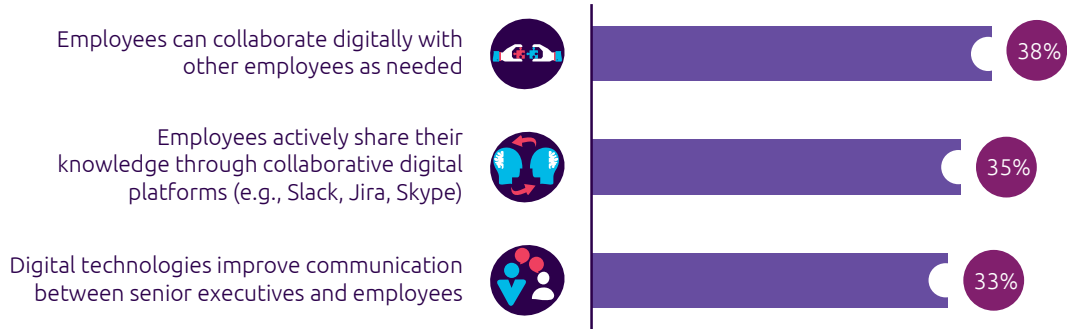
# What can we learn from digital masters to sustain digital transformation?

Digital transformation programs often fail because they lose momentum. The world has changed significantly, but it seems just as difficult today as it was in 2012 to be successful in digital transformation. Organizations still need to pay attention to the same dimensions that constitute success, such as customer experience, operations, vision, or, governance. Organizations must also place particular emphasis on talent and culture, which are two major impediments to achieving digital mastery.

We analyzed what digital masters – the cohort of high-performing organizations in our survey – do differently to identify best practices across both dimensions of digital and leadership capabilities

and offer recommendations for organizations to sustain their digital transformations. This section of the report only includes questions that were not included in the digital mastery model. In other words, we wanted to be careful to not use the same questions to classify digital masters and to explain their practices.

**35%** Percentage of organizations that agree their leadership is adopting new behaviors required for digital transformation

18. Ibid.
19. Capgemini Research Institute, "Digital Transformation Review 10th Edition – The Digital Culture Challenge: All On Board," 2017.
20. Ibid.

# Know your customers more intimately

Digital masters have a better understanding of their customers. Given that customer preferences change so fast in a digital world, organizations need to continuously monitor their knowledge of the market. Close to 70% of digital masters use analytics to better segment their customers and more than three out of five digital masters regularly conduct market research to gauge their customers' needs (see Figure 9). Nearly 60% of digital masters also offer an integrated cross-channel experience, using digital technologies. Only 22% of beginners can say the same. Sprint, the US-based telecom, created a Hadoop-based data lake to analyze customer data, to improve the way it recommends products to customers.[21]

**Figure 9.** Digital masters know the pulse of their customers better
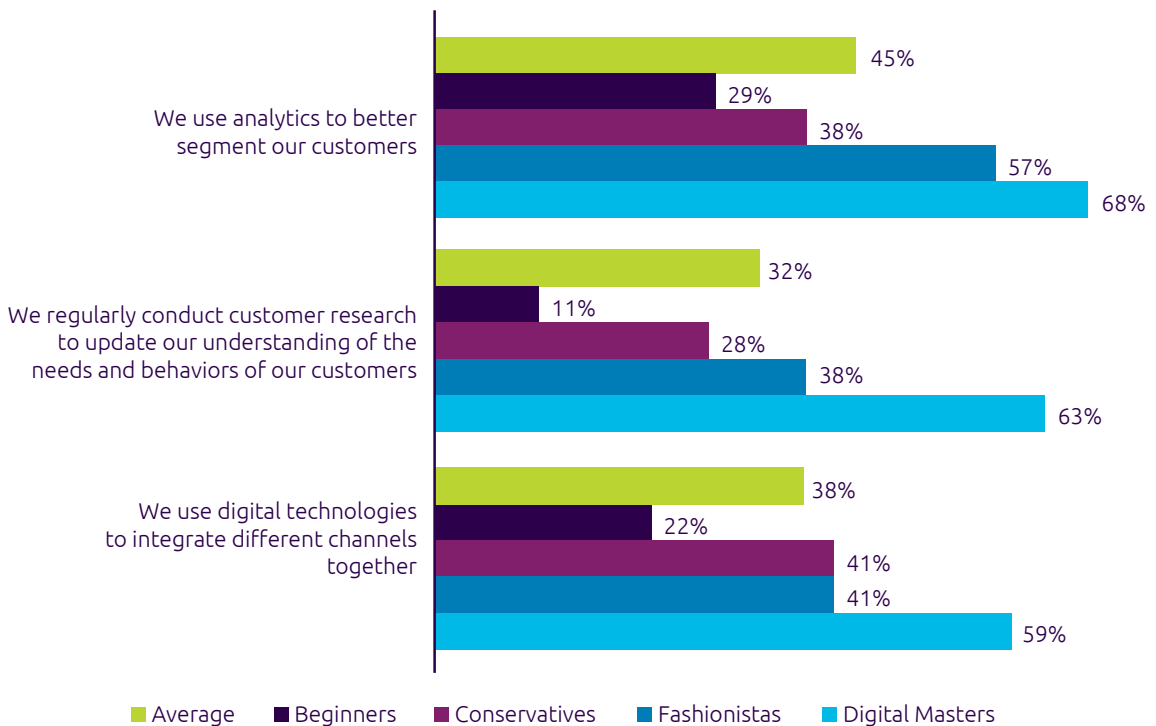


Source: Capgemini Research Institute, Digital Mastery Survey; April–May 2018, N=1338 respondents, 757 organizations.
*Based on the percentage of organizations agreeing to the question (rating of 5, 6, 7 on a scale of 1 to 7).

21 CIO, "16 real-world digital transformation success stories," February 2018.

## Align customer experience and internal operations

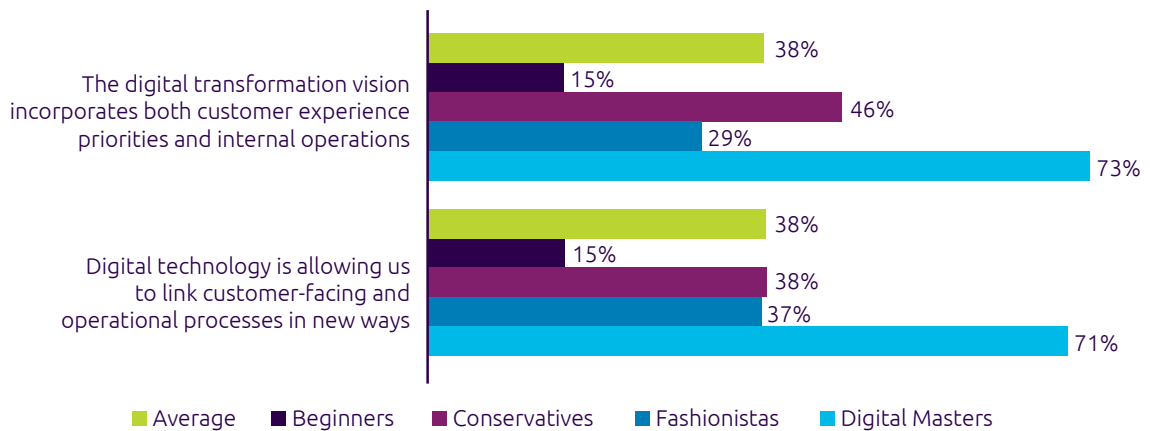Digital masters align their operations to meet customer demands. They realize the importance of organizing consistently around the needs of the customer. As Figure 10 shows, 73% of digital masters incorporate both customer experience

and operations priorities into their vision and 71% use digital technology to link customer-facing and operational processes in new ways. The Lego Group links customers directly to their product design process. Through its Lego Ideas website, Lego allows users to design their products, and then the company builds an actual Lego product from the most popular design.[22]

**Figure 10.** Digital masters ensure their operations are customer centric and linked to the vision

The digital transformation vision incorporates both customer experience priorities and internal operations
- Average: 38%
- Beginners: 15%
- Conservatives: 46%
- Fashionistas: 29%
- Digital Masters: 73%

Digital technology is allowing us to link customer-facing and operational processes in new ways
- Average: 38%
- Beginners: 15%
- Conservatives: 38%
- Fashionistas: 37%
- Digital Masters: 71%

■ Average  ■ Beginners  ■ Conservatives  ■ Fashionistas  ■ Digital Masters
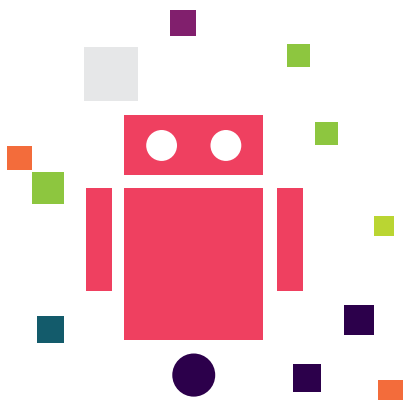
**71%** Percentage of digital masters that use digital technology to link customer-facing and operational processes in new ways

22 FastCompany, "The secret to Lego's social media success is in the creative power of crowds," June 2017.

## Stay abreast of innovations in your market

Digital masters constantly explore emerging technologies and business models. They are always on the look-out for new ideas. Two in three digita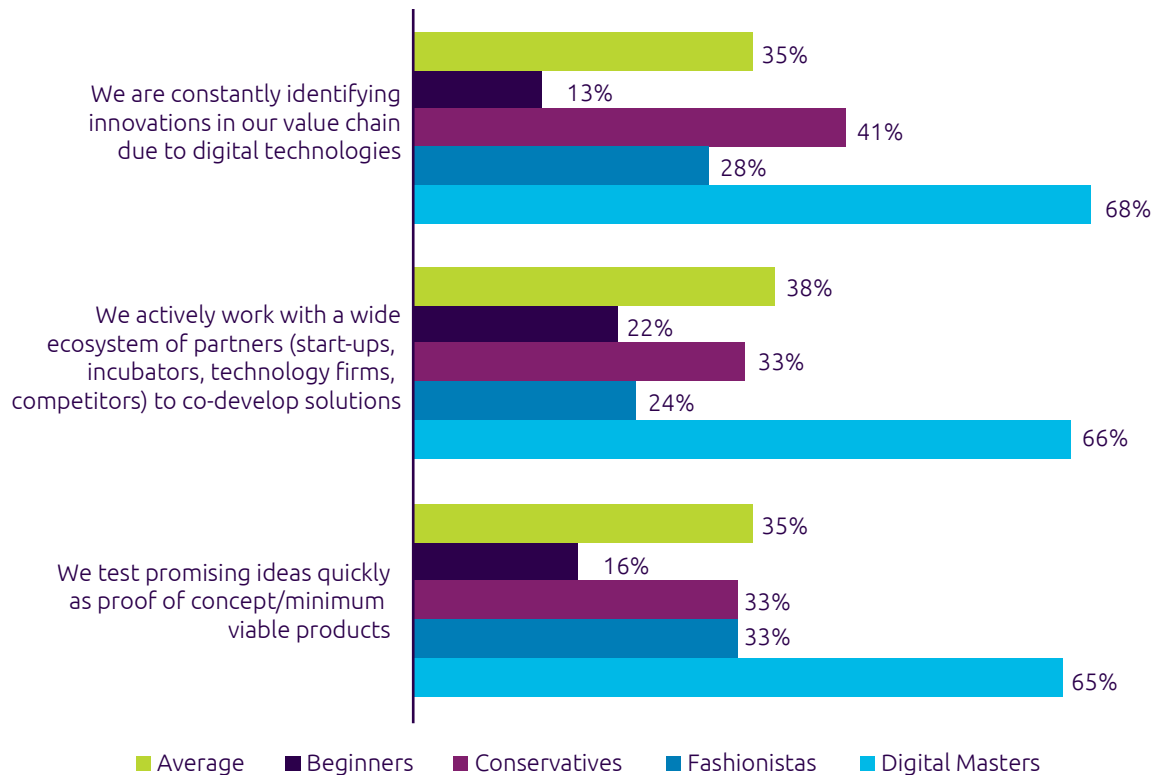l masters claim they are looking for innovations in their value chains. To accomplish this, digital masters (66%) work with a wide ecosystem of partners, compared to only 22% of beginners. Digital masters also test promising ideas quickly (see Figure 11).

**Figure 11.** Digital masters constantly identify innovations and test ideas

We are constantly identifying innovations in our value chain due to digital technologies
- Average: 35%
- Beginners: 13%
- Conservatives: 41%
- Fashionistas: 28%
- Digital Masters: 68%

We actively work with a wide ecosystem of partners (start-ups, incubators, technology firms, competitors) to co-develop solutions
- Average: 38%
- Beginners: 22%
- Conservatives: 33%
- Fashionistas: 24%
- Digital Masters: 66%

We test promising ideas quickly as proof of concept/minimum viable products
- Average: 35%
- Beginners: 16%
- Conservatives: 33%
- Fashionistas: 33%
- Digital Masters: 65%

■ Average  ■ Beginners  ■ Conservatives  ■ Fashionistas  ■ Digital Masters

**Source:** Capgemini Research Institute, Digital Mastery Survey; April–May 2018, N=757 organizations; N=244 Digital Masters.
*Based on the percentage of organizations agreeing to the question (rating of 5, 6, 7 on a scale of 1 to 7).

## Set a vision and tie it to strategy and governance

Digital masters have aligned their strategy and KPIs with their vision. To drive an organization-wide change effort, Leadership should also explain a clear vision of where they want the organization to go. Such a vision should directly align with the business strategy. They also need to explain the importance and the need for the transformation program across the firm. While digital initiatives are often supervised by senior management, it is middle
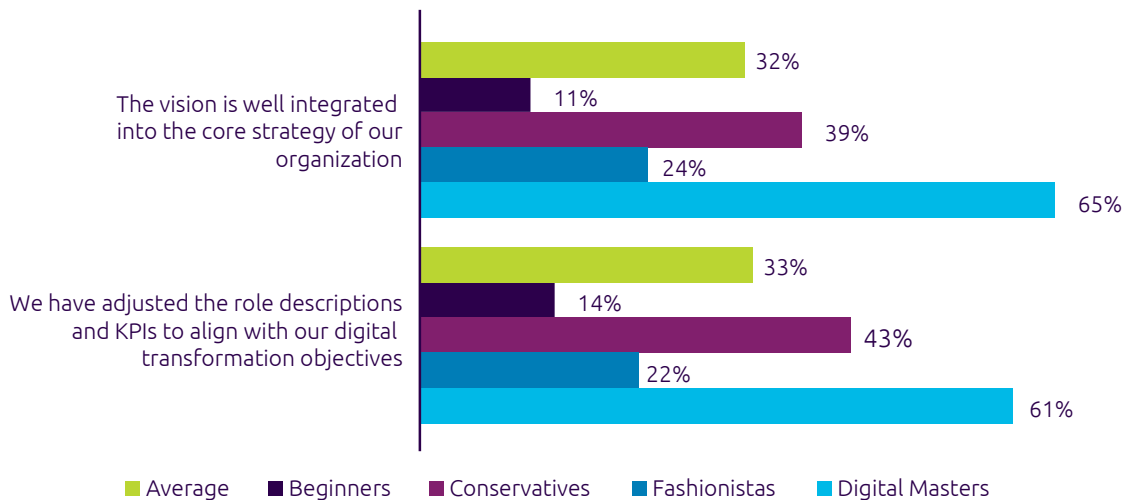
management that is typically involved in the day-to-day execution. Organizations must also ensure these employees are accountable by aligning roles and KPIs to the digital transformation objectives.

Close to two in three digital masters agree that the vision for their digital transformation is well integrated into their core strategy. For example, when Under Armour, a US footwear and apparel manufacturer, set a new vision to transform itself into a digital health and fitness company from an athletic apparel company, they developed a strategy to acquire technology-based fitness companies. As

a result, Under Armour quickly mastered the digital capabilities needed to transform successfully.[23]

Sixty-one percent of digital masters also adjust their role descriptions and KPIs to align with their transformation objectives. Mark Jamison, global head of New Product Development at Visa, Inc. says, *"Successful companies understand the purpose of their existence. They really understand what their purpose is, the 'why,' and they don't get caught up over the long term in the 'what.' I call it 'freedom within a framework,' a strategy that tells you where you are going."[24]*

**Figure 12.** Digital masters have a strong governance program backing their vision



| | Average | Beginners | Conservatives | Fashionistas | Digital Masters |
|---|---|---|---|---|---|
| The vision is well integrated into the core strategy of our organization | 32% | 11% | 39% | 24% | 65% |
| We have adjusted the role descriptions and KPIs to align with our digital transformation objectives | 33% | 14% | 43% | 22% | 61% |

**Source:** Capgemini Research Institute, Digital Mastery Survey; April–May 2018, N=757 organizations; N=244 Digital Masters.
*Based on the percentage of organizations agreeing to the question (rating of 5, 6, 7 on a scale of 1 to 7).

> *Successful companies understand the purpose of their existence. They really understand what their purpose is, the 'why,' and they don't get caught up over the long term in the 'what.' I call it 'freedom within a framework,' a strategy that tells you where you are going."*

**Mark Jamison,** Global head of New Product Development at Visa, Inc.

23 Forbes, "Under Armour is now the largest digital health and fitness company on earth," September 2017
24 Capgemini Research Institute, "Digital Transformation Review 9th Edition – The Digital Strategy Imperative: Steady Long-Term Vision, Nimble Execution," 2016.
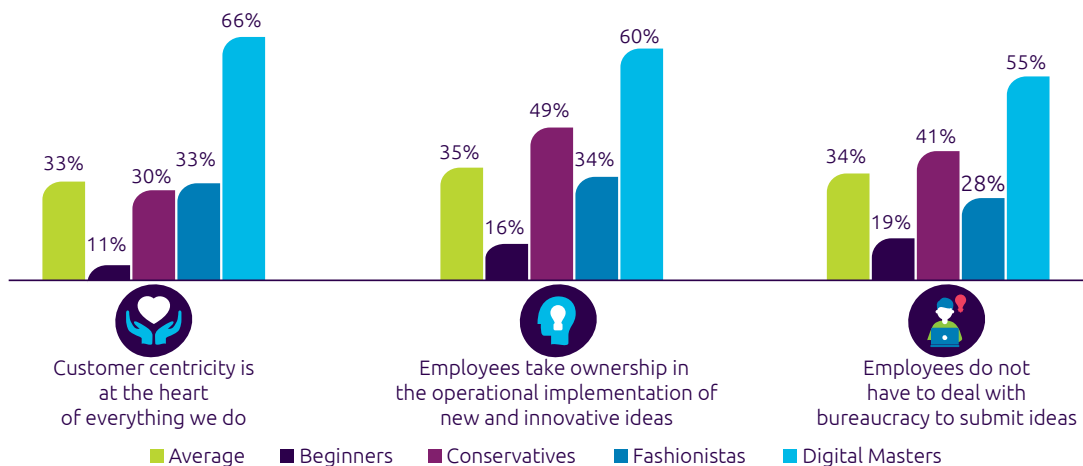
**69%** Percentage of digital masters that know which new skills they need to develop in the next 3–5 years

## Empower employees and put customers first

Digital masters work on setting up a digital culture. Organizations cannot truly transform themselves without transforming their culture. As Ian Rogers, Chief Digital Officer for LVMH says, *"The big moment for an organization is when they have embraced the fact that digital transformation isn't a technical issue, but a cultural change."*[25] Digital masters establish a digital culture in their organizations by focusing on data-driven decision making, experimentation, and customer-centricity, among others. Nearly

two in three digital masters agree that customer centricity is at the heart of everything they do, compared to just 11% of beginners. Sixty percent of digital masters say their employees take ownership in the operational implementation of new and innovative ideas compared to just 16% of beginners (see Figure 13). Australia Post, the government postal service, drove cultural change by creating a new division – Digital Delivery Centre (DDC). The DDC leads innovation and integrates digital practices and agile approaches, rapid prototyping and design thinking into the organization's traditional processes, culture, and infrastructure.[26]

**Figure 13.** Digital masters empower their employees and focus on the customer



Customer centricity is at the heart of everything we do: Average 33%, Beginners 11%, Conservatives 30%, Fashionistas 33%, Digital Masters 66%

Employees take ownership in the operational implementation of new and innovative ideas: Average 35%, Beginners 16%, Conservatives 49%, Fashionistas 34%, Digital Masters 60%

Employees do not have to deal with bureaucracy to submit ideas: Average 34%, Beginners 19%, Conservatives 41%, Fashionistas 28%, Digital Masters 55%

■ Average   ■ Beginners   ■ Conservatives   ■ Fashionistas   ■ Digital Masters

**Source:** Capgemini Research Institute, Digital Mastery Survey; April–May 2018, N=757 organizations; N=244 Digital Masters.
*Based on the percentage of organizations agreeing to the question (rating of 5, 6, 7 on a scale of 1 to 7).

To bring out the required culture change, organizations can reward the behaviors that comprise their unique digital culture, like data-driven decision making or digital-first mindset. These rewards could be financial and non-financial such as recognition or privileges.[27] *"You have to create an environment where there are incentives and rewards for collaboration as well as no penalty for someone speaking their mind,"*[28] says Vala Afshar of Salesforce.

Continuous feedback is also important to culture change. Mats Munkhammar of Green Cargo explains the importance of feedback when driving a cultural change. He says: *"To help bring about a culture shift, we must ensure we are giving good feedback on our employees' performance especially when we expect them to do things in a different way than they are doing today. We need to encourage the new behaviors for this new way of working."*[29]

25 Capgemini Research Institute, "The Digital Culture Challenge: Closing the employee-leadership gap," June 2017.
26 Forrester, "Case Study: Australia Post embraces digital business transformation," 2017
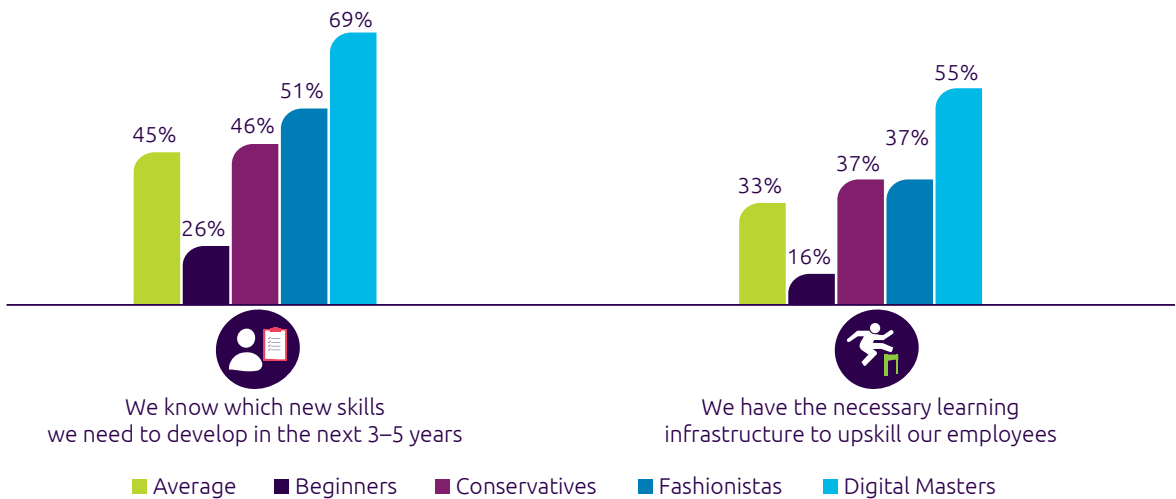
## Proactively narrow the digital talent gap

Digital masters focus on talent development. Organizations need to take digital talent seriously and equip themselves with the talent and skills to succeed. 2017 Capgemini research revealed that over half (54%) of organizations agreed that the digital talent gap is hampering their digital transformation programs.[30] Digital masters are being proactive in understanding their needs and upskilling their employees.

Nearly 70% of digital masters say that they know what new skills they need to develop in the future compared to 26% of beginners. Over half (55%) of digital masters say they have the learning infrastructure to upskill their employees compared to just 16% of beginners (see Figure 14). Darren Shimkus, general manager, Udemy, a learning platform, emphasizes the importance of understanding skill needs from the employees. *"Corporate learning programs were all based on what the company thought an employee should know,"* he says. *"Now we are seeing much more employee-driven learning. Employees can decide. 'Do I need to learn the principles of data science to do my job? Do I need to learn digital marketing campaigns to do my job?' Employees are the ones who really understand what skills they need in order to accomplish their goal or to get to the next level in their career."[31]*

**Figure 14.** Digital masters develop their employees and plan for the future



**We know which new skills we need to develop in the next 3–5 years**
Average 45%, Beginners 26%, Conservatives 46%, Fashionistas 51%, Digital Masters 69%

**We have the necessary learning infrastructure to upskill our employees**
Average 33%, Beginners 16%, Conservatives 37%, Fashionistas 37%, Digital Masters 55%

Legend: ■ Average ■ Beginners ■ Conservatives ■ Fashionistas ■ Digital Masters

**Source:** Capgemini Research Institute, Digital Mastery Survey; April–May 2018, N=757 organizations; N=244 Digital Masters.
*Based on the percentage of organizations agreeing to the question (rating of 5, 6, 7 on a scale of 1 to 7).

To ensure a focus on talent development and appeal to digital talent, organizations should also create an environment that prioritizes and rewards learning and establish a supportive and cooperative atmosphere. This support could mean providing digital talent the required tools to collaborate, have a flexible workplace, or an open and flat culture. As Gert Stuerzebecher, partner at DHR International

27 Westerman, George, Bonnet, Didier, and McAfee, Andrew. "Leading Digital: Turning Technology into Business Transformation," Harvard Business Press, 2014.
28 Capgemini Research Institute, "Digital Transformation Review 10th Edition – The Digital Culture Challenge: All On Board," 2017
29 Capgemini Research Institute, Digital Mastery Interview with Mats Munkhammar, SVP and CIO/IT director, Green Cargo, May 2018.
30 Capgemini Research Institute, "The Digital Talent Gap: Are companies doing enough?" October 2017.
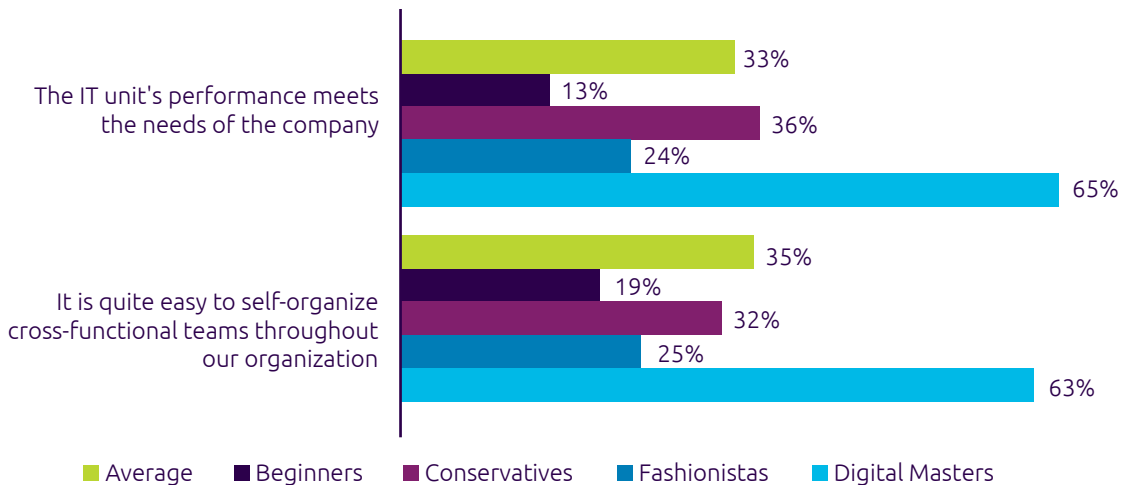31 Ibid

Neumann, a global executive search firm says, *"Some companies do not give their digital experts the power to revolutionize. Therefore, resistance is built up against these people, which limits their success. Young digital talent are ambitious and want to work in a certain atmosphere. If organizations are too old-fashioned, digital talent will not succeed."*[32]

## Break silos between business and technology

Digital masters' business and technology functions work together. The business and IT teams both play key roles in digital transformation, thus is it very important for the CIO, IT, and business teams to be aligned with the objectives of the program. This is certainly the case for Atif Rafiq of Volvo who combines consumer-facing innovation and technology with the digitization of the internal enterprise in his joint CIO/CDO role. From his vantage point, Rafiq is better positioned to connect the dependencies between the two, such as platforms that serve both consumer and enterprise use cases like the connected car platform. He says, *"By combining the consumer and enterprise digitization efforts in my role, we aim to leverage common capabilities more effectively."* [33]

**Figure 15.** Digital masters are satisfied with their IT team's performance and can organize across silos



| | Average | Beginners | Conservatives | Fashionistas | Digital Masters |
|---|---|---|---|---|---|
| The IT unit's performance meets the needs of the company | 33% | 13% | 36% | 24% | 65% |
| It is quite easy to self-organize cross-functional teams throughout our organization | 35% | 19% | 32% | 25% | 63% |

**Source:** Capgemini Research Institute, Digital Mastery Survey; April–May 2018, N=757 organizations; N=244 Digital Masters.
*Based on the percentage of organizations agreeing to the question (rating of 5, 6, 7 on a scale of 1 to 7).

32 Ibid
33 Capgemini Research Institute, "Digital Transformation Review 11th Edition – Artificial Intelligence Decoded," 2018.

# Conclusion

Despite six years after our original research, we find it is just as hard today as it was in 2012 to make digital transformation a success. While we see progress on customer experience, organizations have not kept pace on building the necessary capabilities in operations, IT-business relationships, vision, engagement, and governance. Today, many organizations might face the realities of the complexities of their journeys and realize just how challenging successfully transforming can be. Organizations have not moved forward fast enough. We believe this to be the case for a few reasons:
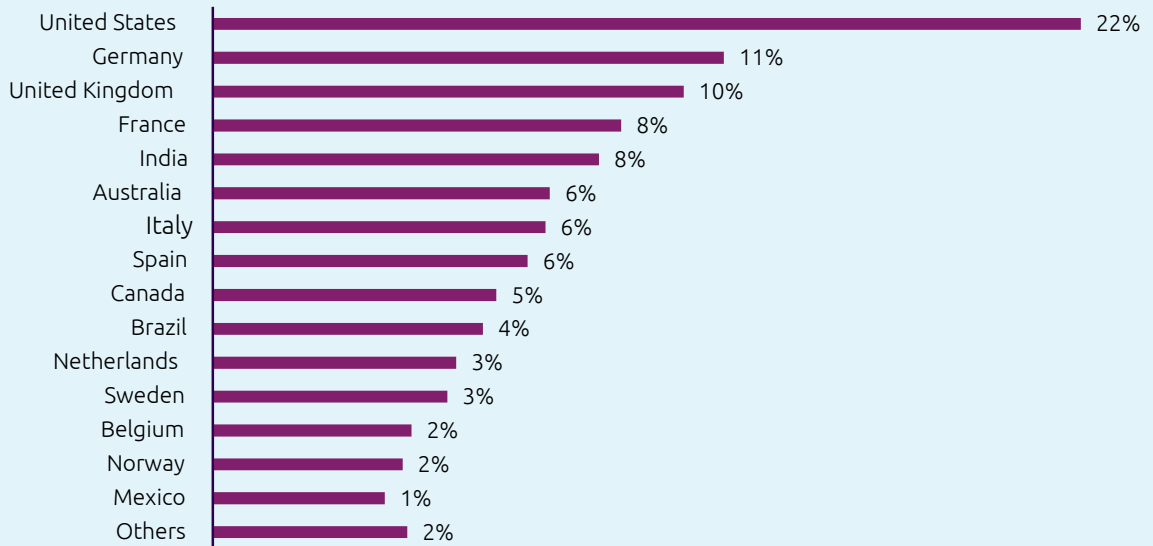
- It is difficult for organizations to adapt to the dizzying pace of technology innovation (e.g., artificial intelligence, internet of things, automation)
- Organizations might have been overly optimistic in 2012 and have now realized the magnitude of the challenge
- There are business model disruptions in many industries which are challenging traditional value-chains
- The rising expectations of markets, employees, and customers put significant pressure on organizations.
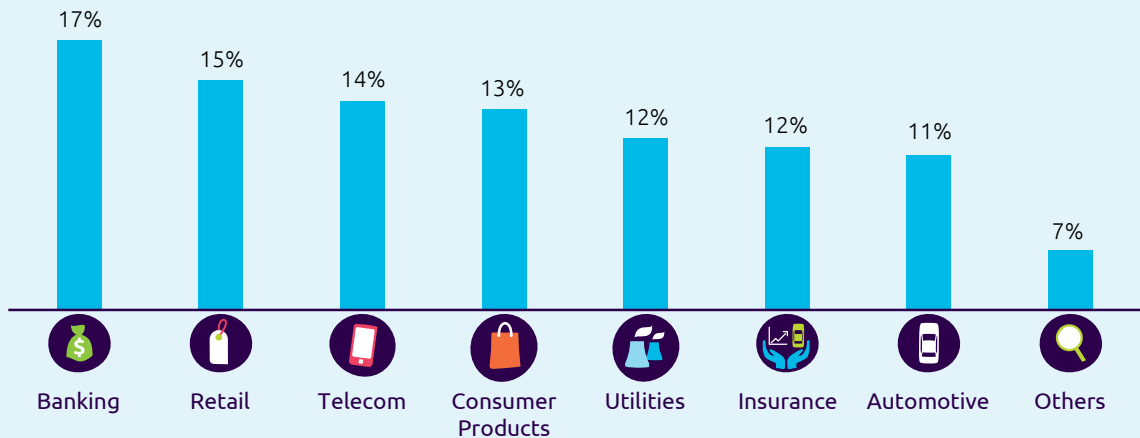
# Research Methodology

We surveyed 1,338 business leaders at the manager level or above at 757 organizations. Seventy one percent of organizations had reported revenue of more than $1 billion in FY 2017. The global survey took place from April to May 2018. More detail is below.
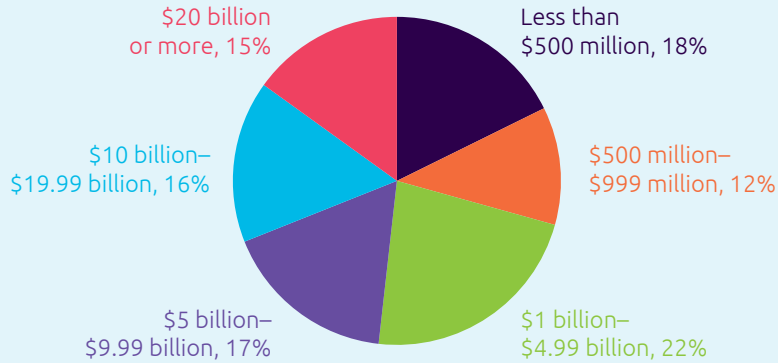
## Organizations by country of headquarters

| Country | Percentage |
|---|---|
| United States | 22% |
| Germany | 11% |
| United Kingdom | 10% |
| France | 8% |
| India | 8% |
| Australia | 6% |
| Italy | 6% |
| Spain | 6% |
| Canada | 5% |
| Brazil | 4% |
| Netherlands | 3% |
| Sweden | 3% |
| Belgium | 2% |
| Norway | 2% |
| Mexico | 1% |
| Others | 2% |

**Source:** Capgemini Research Institute, Digital Mastery Survey; April–May 2018, N=1,338 respondents, 757 organizations.

## Organizations by industry

| Industry | Percentage |
|---|---|
| Banking | 17% |
| Retail | 15% |
| Telecom | 14% |
| Consumer Products | 13% |
| Utilities | 12% |
| Insurance | 12% |
| Automotive | 11% |
| Others | 7% |

**Source:** Capgemini Research Institute, Digital Mastery Survey; April–May 2018, N=1,338 respondents, 757 organizations.

## Organizations by revenue



$20 billion or more, 15%

Less than $500 million, 18%

$500 million– $999 million, 12%

$10 billion– $19.99 billion, 16%

$5 billion– $9.99 billion, 17%

$1 billion– $4.99 billion, 22%

**Source:** Capgemini Digital Transformation Institute, Digital Mastery Survey; April–May 2018, N=1,338 respondents, 757 organizations.

## Respondents by designation
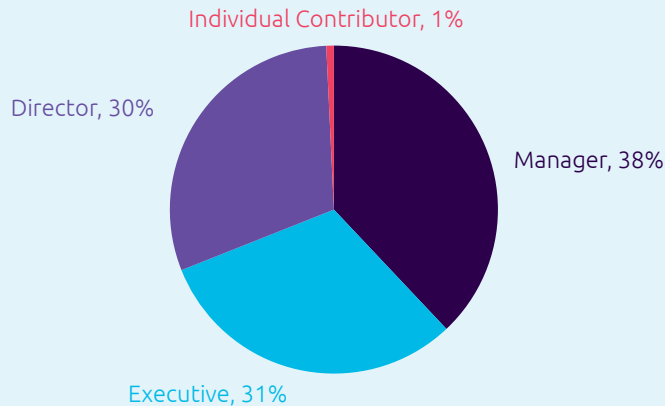


Individual Contributor, 1%

Director, 30%

Manager, 38%

Executive, 31%

**Source:** Capgemini Research Institute, Digital Mastery Survey; April–May 2018, N=1,338 respondents, 757 organizations.

### A note about the analysis:

The digital mastery matrix (Figure 5) was constructed using 77 of our survey questions out of a total of 116 questions.

- Section 1 entitled "Many organizations are finding their digital transformation journeys a struggle" only includes the 43 questions that were asked in the exact same manner in 2012 and 2018.

- Section 2 entitled "Employees are not being invited on the digital transformation journey" only includes questions that were used in building the digital mastery model.
- Section 3 entitled "What can we learn from digital masters to sustain digital transformation?" only includes questions that were not used in building the digital mastery model.

# Digital Transformation Review

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