Embracing a Digital Future

Vanson Bourne research findings & benchmark methodology

DELL Technologies

Contents

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Research methodology

Vanson Bourne

BENCHMARK

Respondents scored according to responses to four key questions.
Businesses then split into five maturity groups.

4,000 QUANTITATIVE
Reponses from Director, C-Suite, mid-size to enterprise w/key functions

- Finance
- Sales
- IT/Tech
- Customer services
- Marketing
- Production & Manufacturing
- Owner/ Executive
- R&D
- Digital
- Customer Experience
- Logistics and Supply Chain

12 INDUSTRIES

- Automotive
- Financial Services
- Public Healthcare
- Private Healthcare
- Technology and Telecoms
- Insurance
- Life Sciences
- Manufacturing
- Media and Entertainment
- Oil and Gas
- Retail and Consumer

16 COUNTRIES

AMERICAS
USA, Canada, Brazil, Mexico

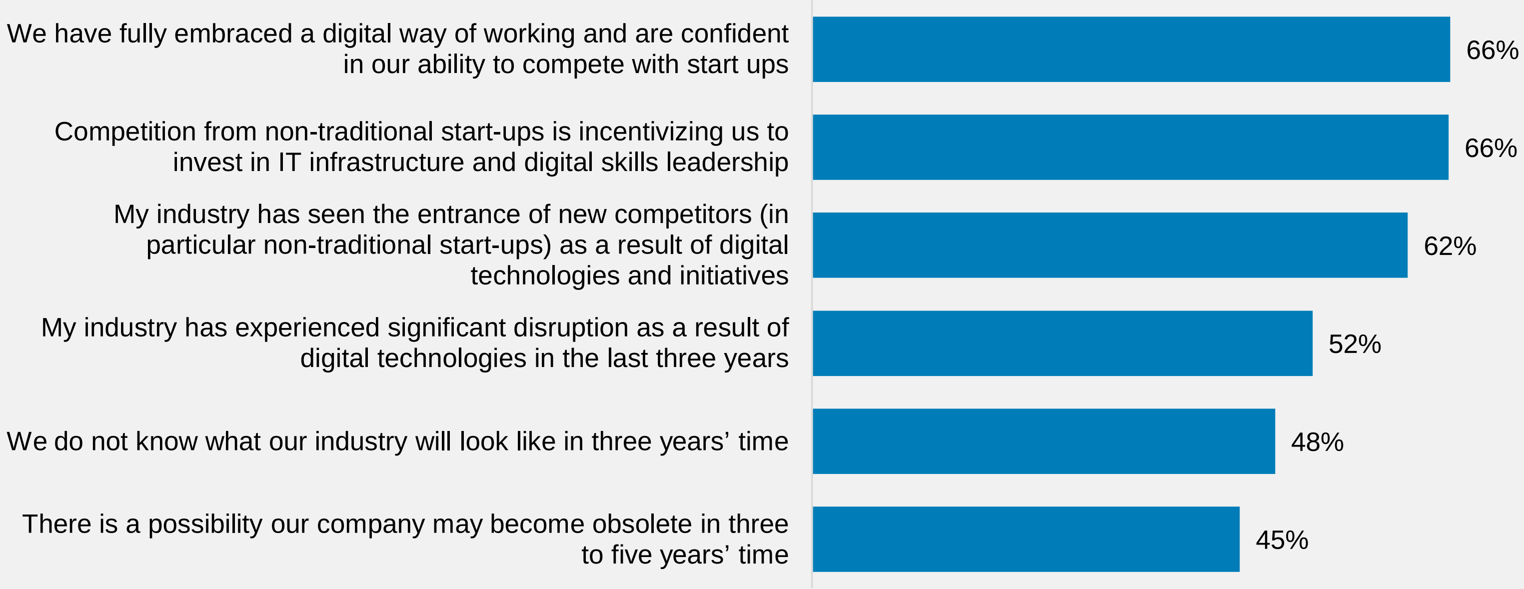
APJ
Australia, China, India, Japan

EMEA
France, Germany, Italy, Switzerland, The Netherlands, UAE/Saudi Arabia, United Kingdom

Section 2

Pressures to transform & disruptive trends

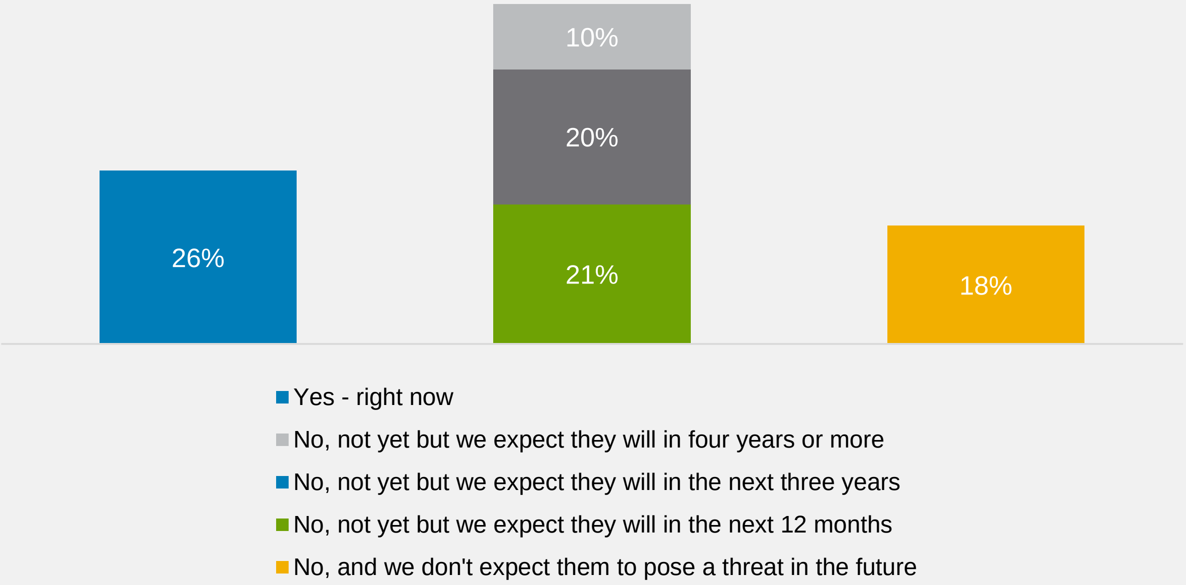
The impact of disruption



Analysis of respondents who agree with the above statements when it comes to their own organization and industry. Base: all respondents (4000)

Do digital start-ups pose a threat?

Around **8 in 10 (78%)** respondents say that digital start-ups pose a threat to their organization, either now or in the future



“Do non-traditional start-ups built in the digital age pose a threat to your business?” Base: all respondents (4000)

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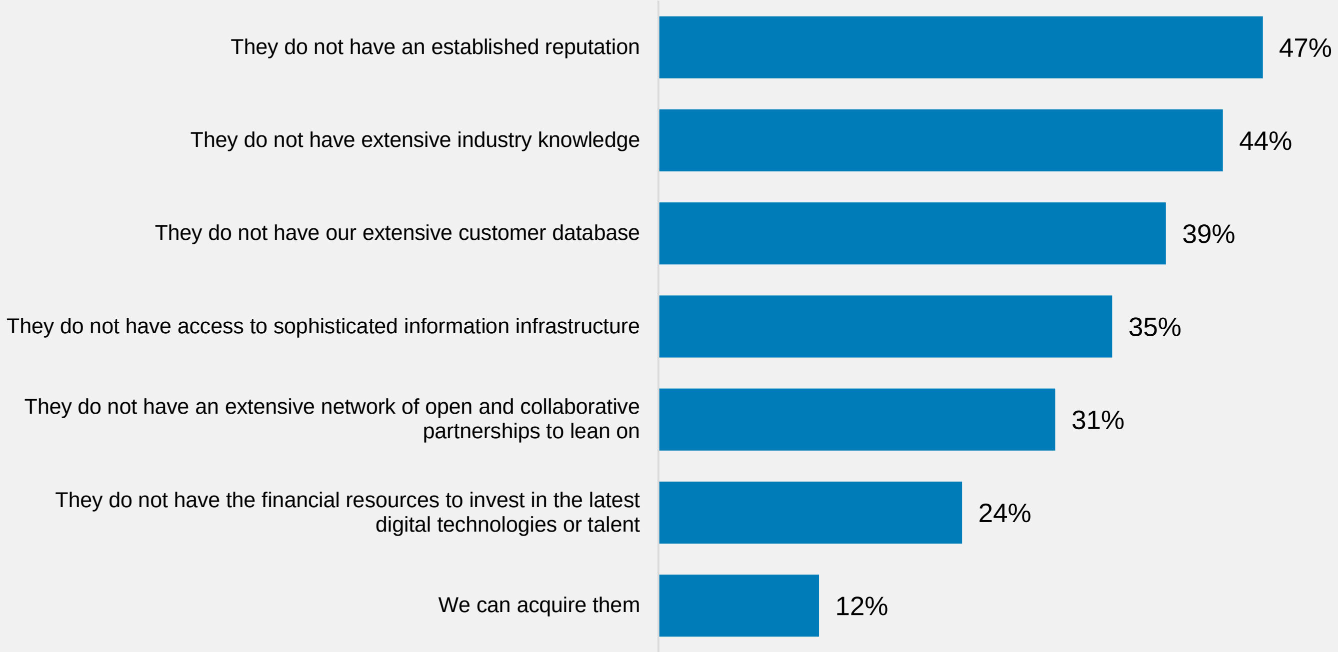
Reasons to be cheerful or naïve?

Of respondents who say that digital start-ups do not pose a threat…

…around half (47%) claim it's because they don't have an established reputation; 44% credit a lack of extensive industry knowledge



"Why don't non-traditional start-ups built in the digital age currently pose a threat to your organization?"
Base: only respondents who say that non-traditional start-ups do not yet pose a threat/do not pose a threat/don't know (2947)

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Reasons to be fearful

Of respondents who say that digital start-ups pose a threat…
there are a number of reasons why these nimbler competitors have the advantage:

48%
are early adopters of smart technologies

41%
believe they're more agile in nature and free of legacy technology

40%
say they are run by millennials & better able to predict future customer demands

29%
say they are obsessed with data to pre-empt/solve challenges and inform R&D

"Why do (or will) non-traditional start-ups built in the digital age pose a threat to your organization?"
Base: only respondents who say that non-traditional pose a threat or will do in the future (3120)

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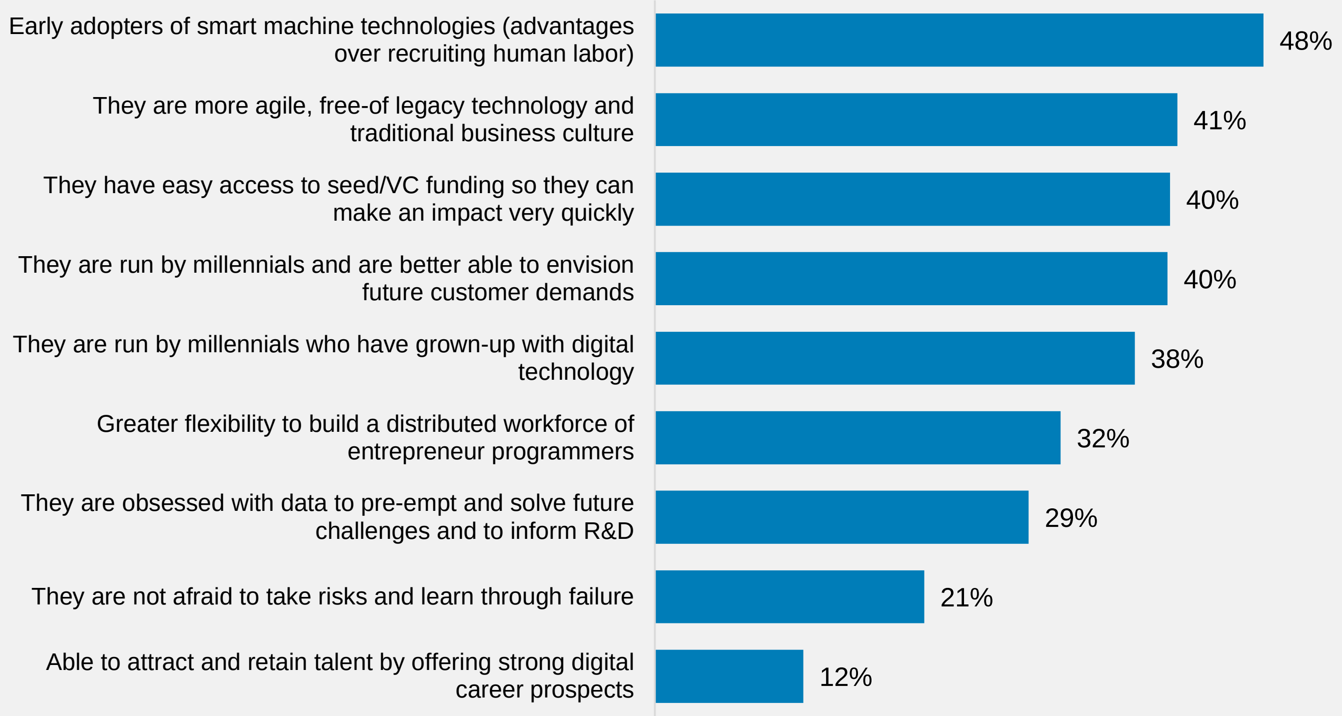
Reasons to be fearful



“Why do (or will) non-traditional start-ups built in the digital age pose a threat to your organization?”
Base: only respondents who say that non-traditional pose a threat or will do in the future (3120)

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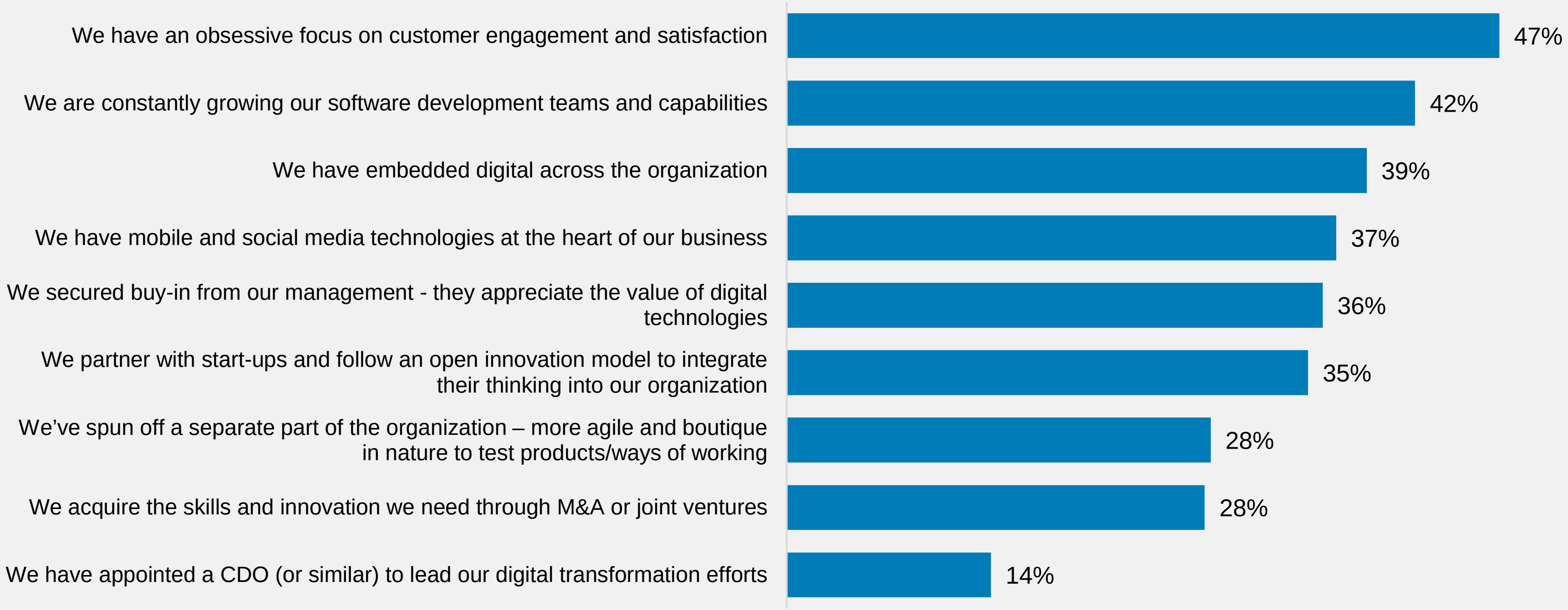
Countering the threat



"What is your organization doing to counter the threat from the non-traditional start-up?" Base: all respondents (4000)

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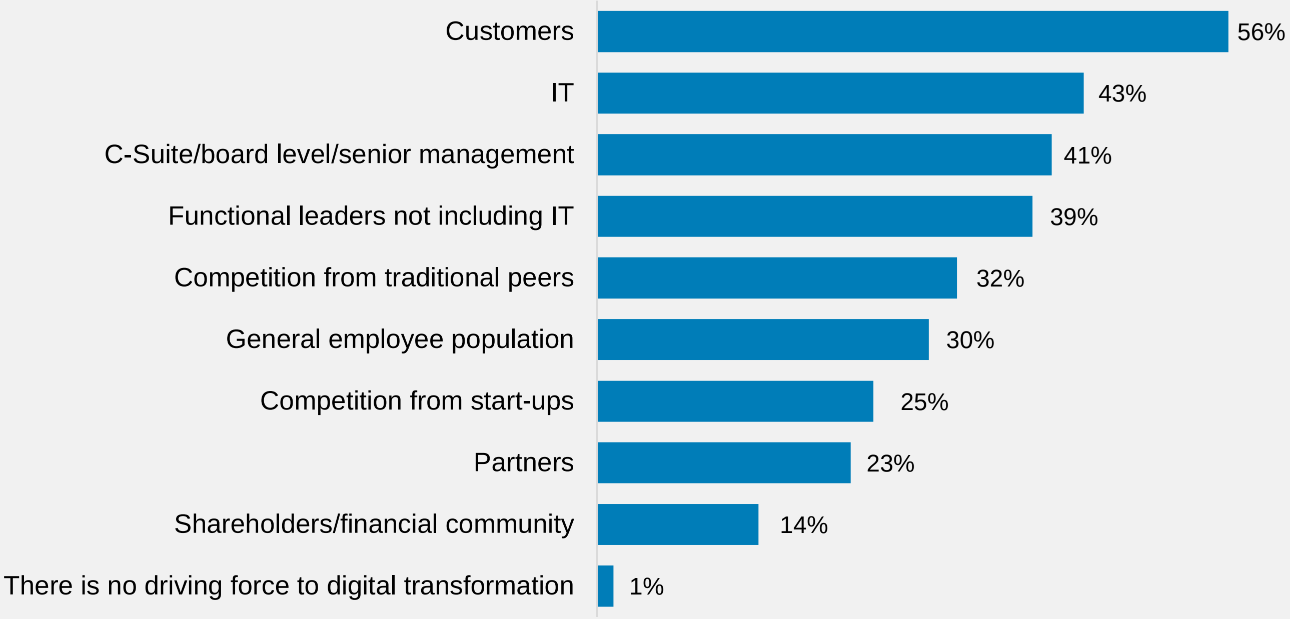
Main influencers driving digital transformation

56%
say customers are
the driving force

For 2/5 of businesses digital drivers are coming From IT (43%), the C-suite (41%) or other functional leaders (39%)



"Who are the main influencers driving your organization to become a more digital business?" Base: all respondents (4000)

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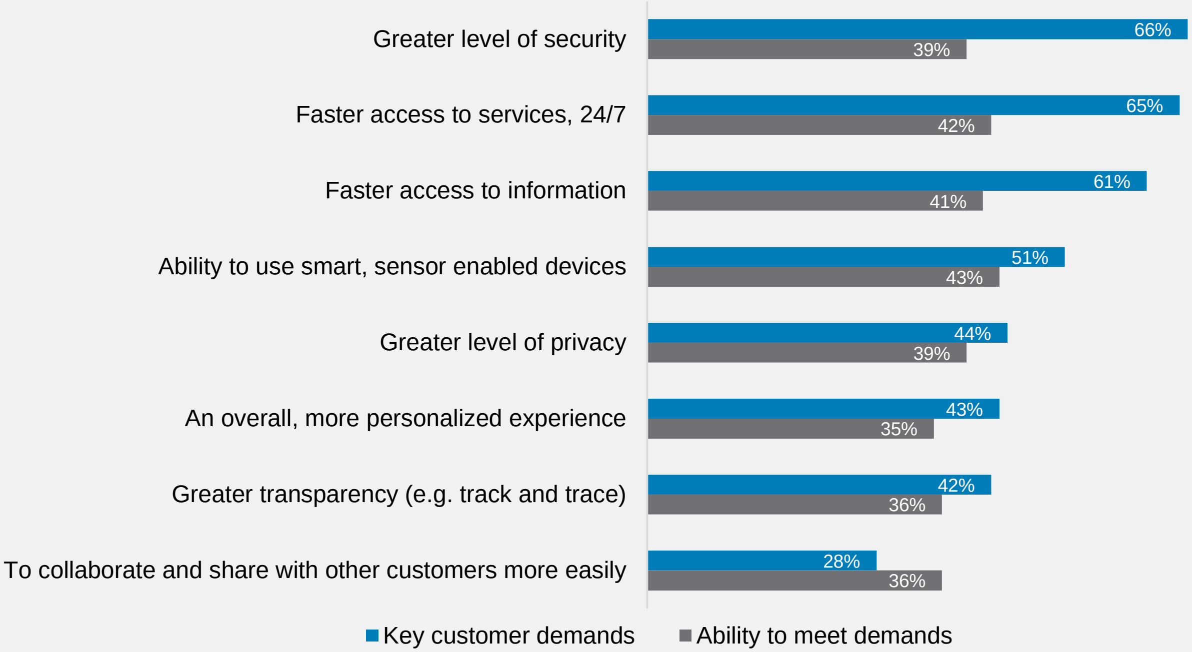
Top customer demands

2/5

or fewer are completely able to meet customer digital demands



"Today's community of connected digital citizens, increasingly expects more from the businesses they transact with. What are the top customer expectations that your organization experiences?" – Table: those completely able to meet customer expectations/demands Base: all respondents (4000)

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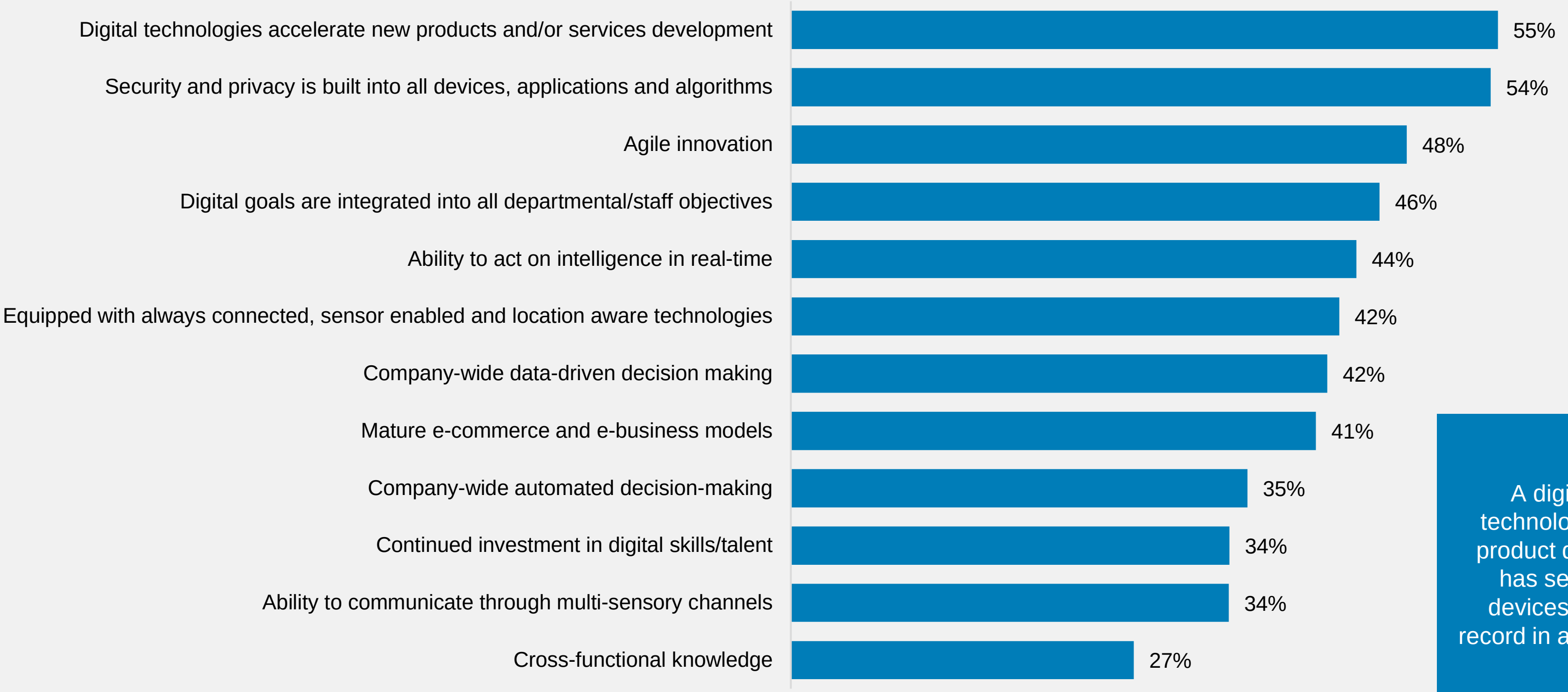
Section 3

What does a successful digital business look like?

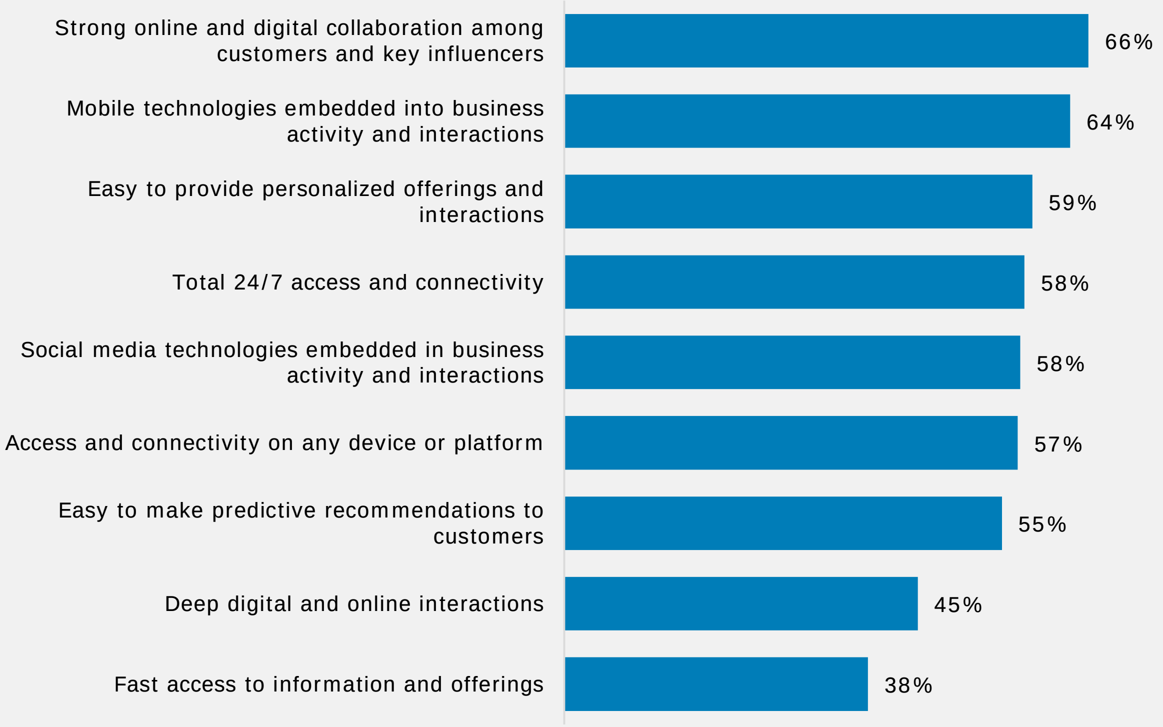
DNA of a best-in-class digital business



A digital business has technology that accelerates product development (55%), has security built into all devices (54%) and a track record in agile innovation (48%)

“What does a best-in-class digital business look like?” Base: all respondents (4000)

DNA of a best-in-class digital business



A digital business collaborates with customers, is mobile at the core and offers personalized services

“Thinking about customers, employees and other stakeholders, do you agree with the following statements about what a best-in-class digital business looks like?” Base: all respondents (4000)

Section 4

How are organizations doing it?

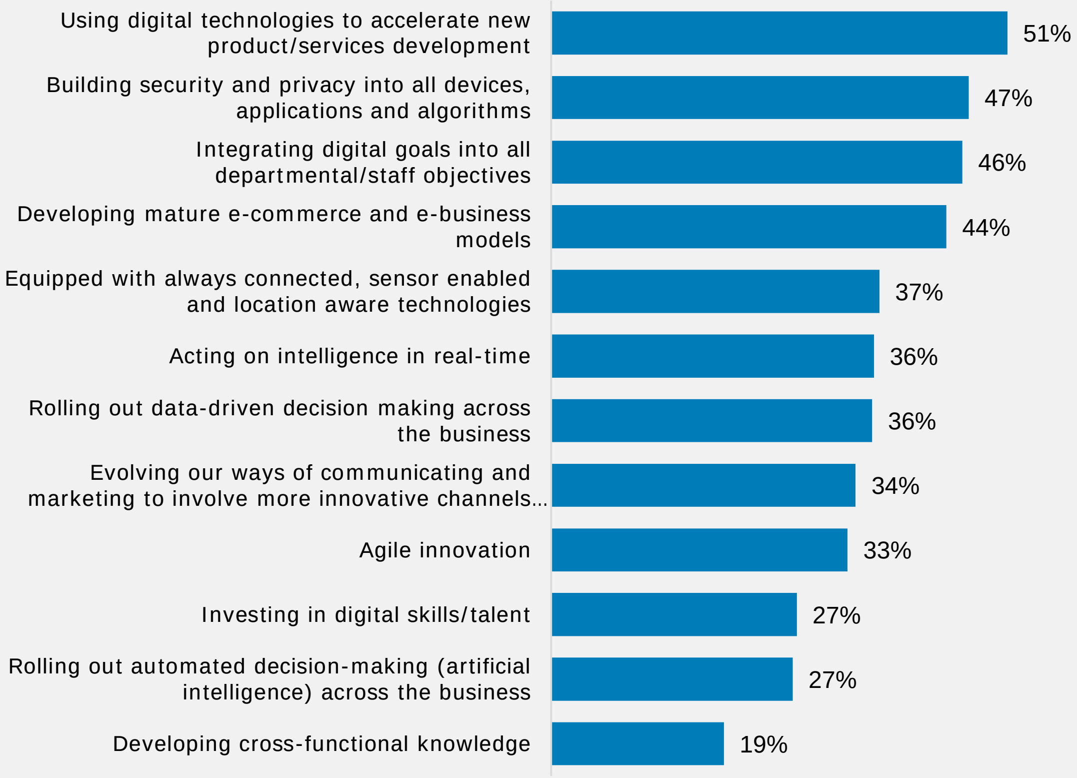
How organizations are going digital

46%

are integrating digital goals into departmental and staff objectives

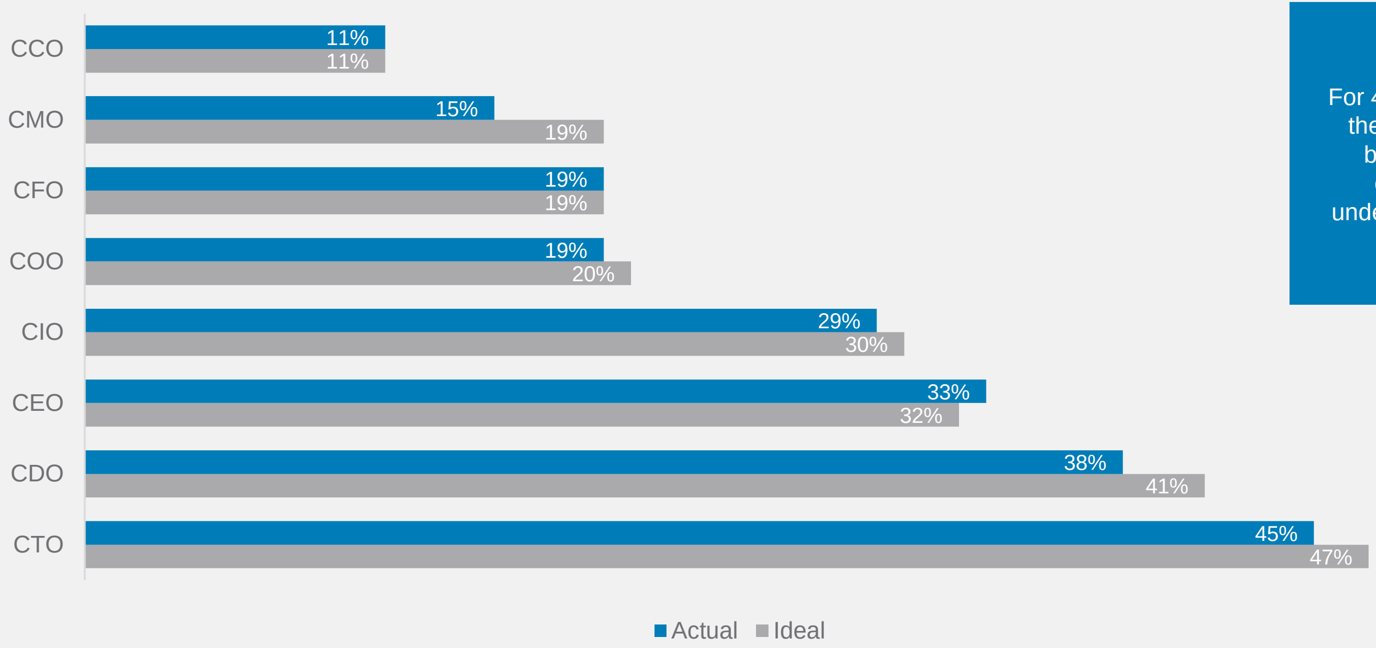
51%

Over half of businesses are using digital technologies to accelerate product/service development



“Thinking about what a digital business looks like, which of the following is your organization doing?” Base: all respondents (4000)

Ideal vs. actual leaders of digital transformation

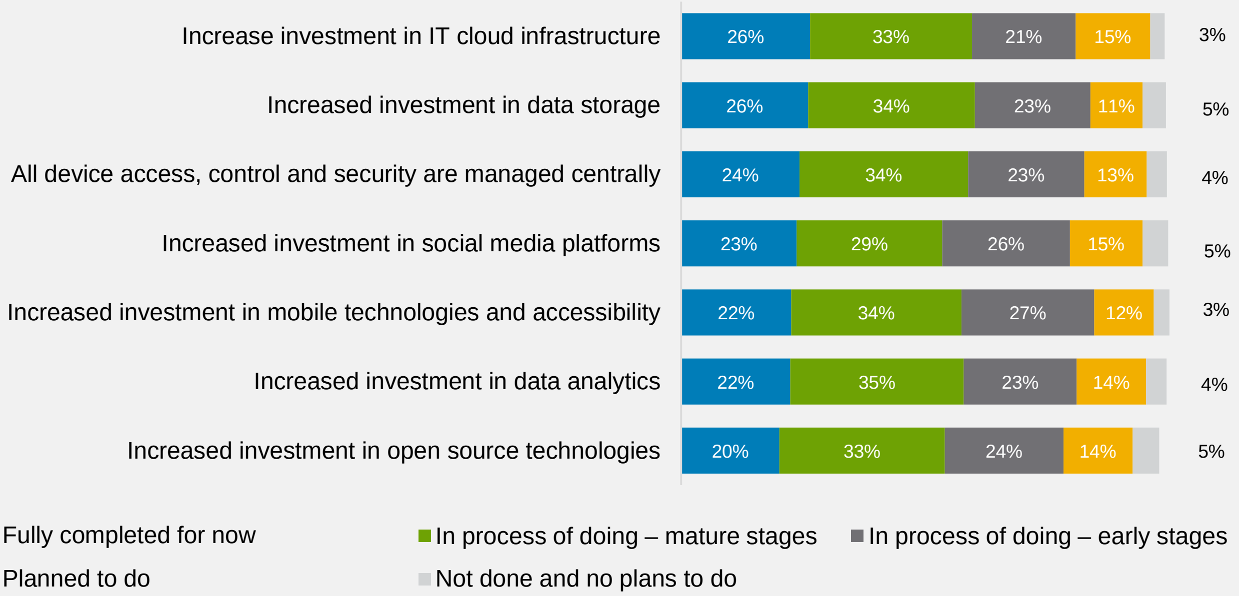


For 45%, the CTO is leading the digital transformation but 38% have already employed a CDO to undertake this responsibility

Analysis comparing respondents' views on who is leading vs. who ideally should lead their organization's digital transformation Base: all respondents (4000)

Extent of IT strategic support for digital

Only around a quarter say their organization has fully completed its investment in IT cloud infrastructure (26%) data storage (26%) & data analytics (22%)



“In terms of your organization's existing IT strategy, to what extent are you doing the following to support your digital business transformation?”
Base: all respondents (4000)

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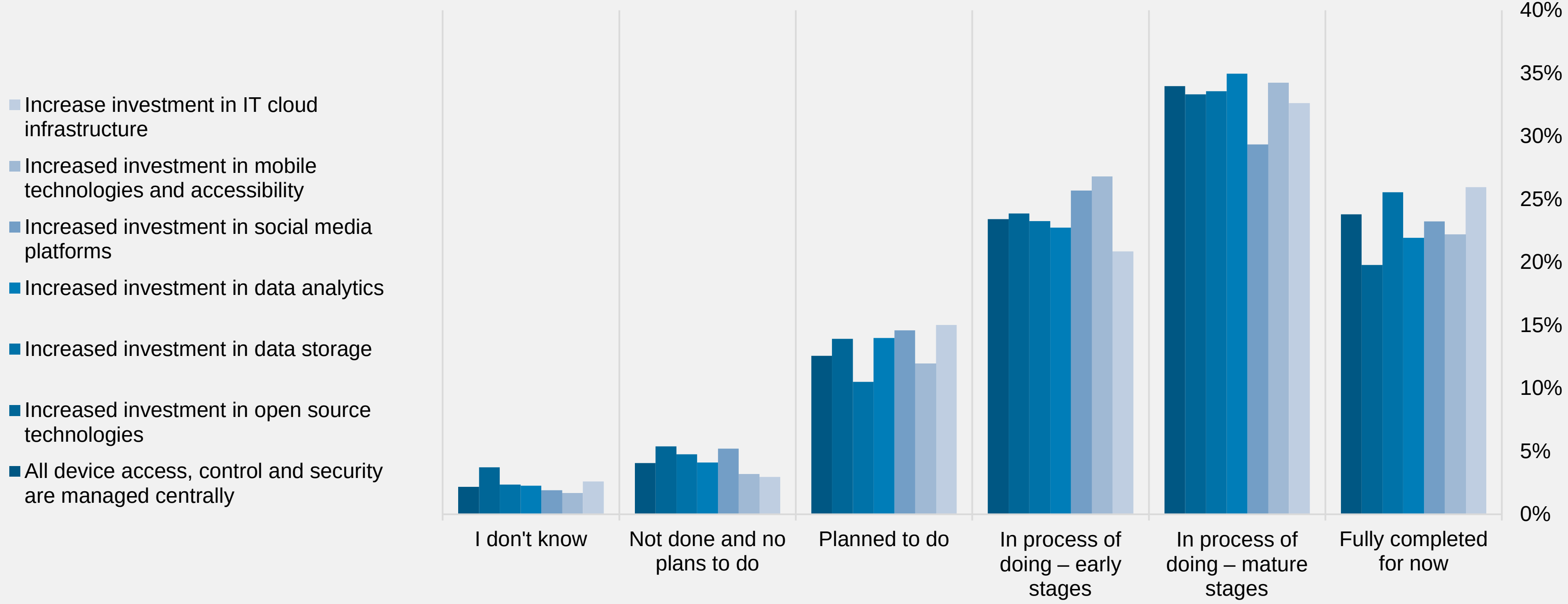
Digital investment progress curve



“In terms of your organization's existing IT strategy, to what extent are you doing the following to support your digital business transformation?” Base: all respondents (4000)

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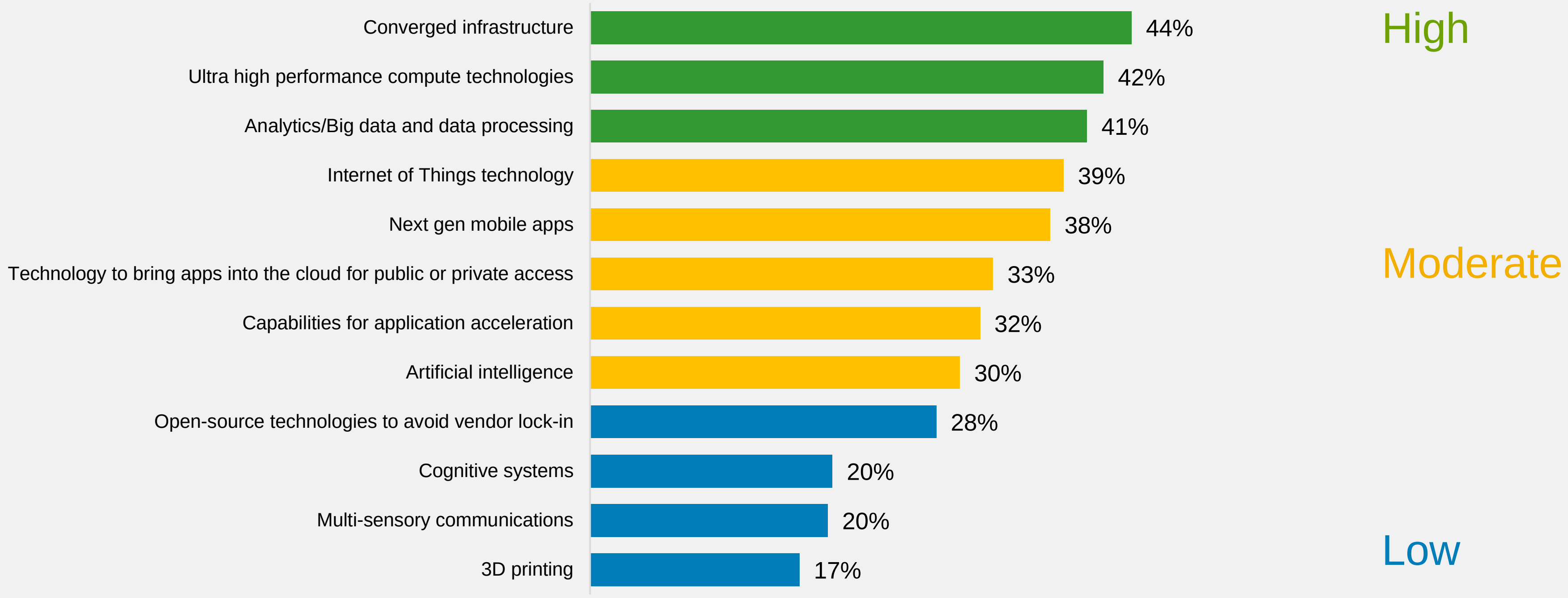
Investment plans – Next 1-3 years



“What new innovations or solutions is your organization investing in over the next 1-3 years to enable digital business?” Base: all respondents (4000)

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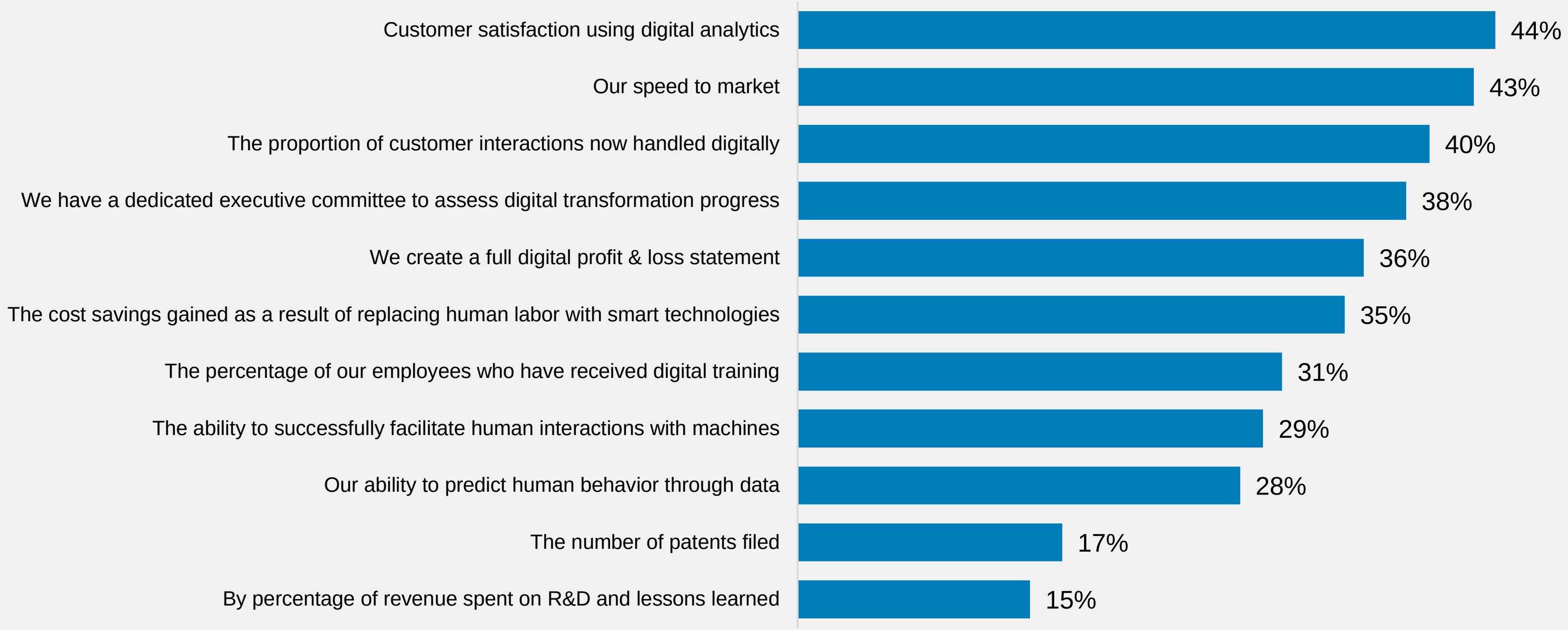
Measuring digital performance



“How do you measure the progress and performance of your organization’s digital transformation efforts?” Base: all respondents (4000)

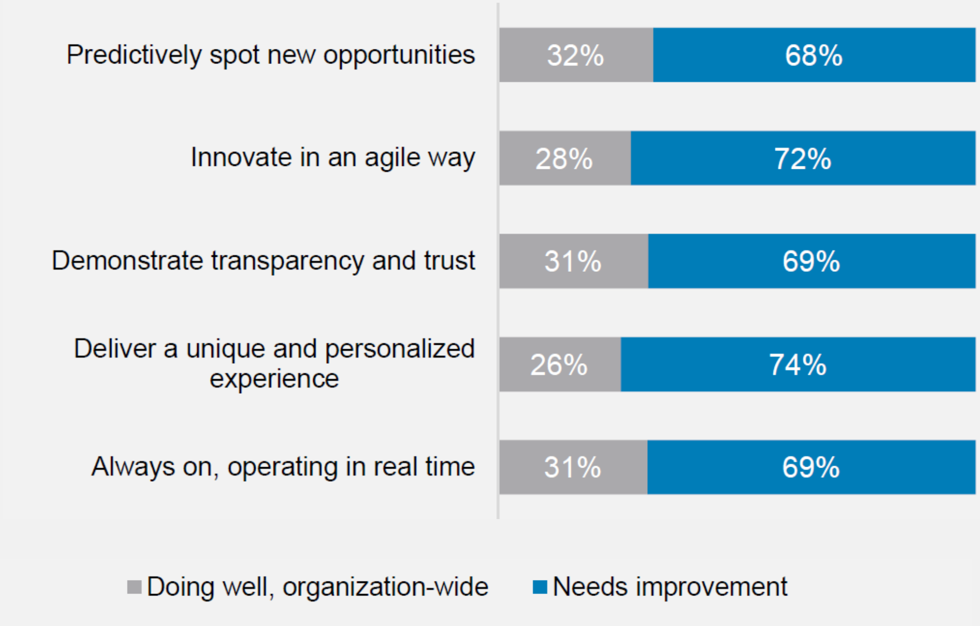
Section 5

How are organizations measuring up?

Implementing digital attributes

Predictively spotting new opportunities is a priority for six in ten respondents (59%)

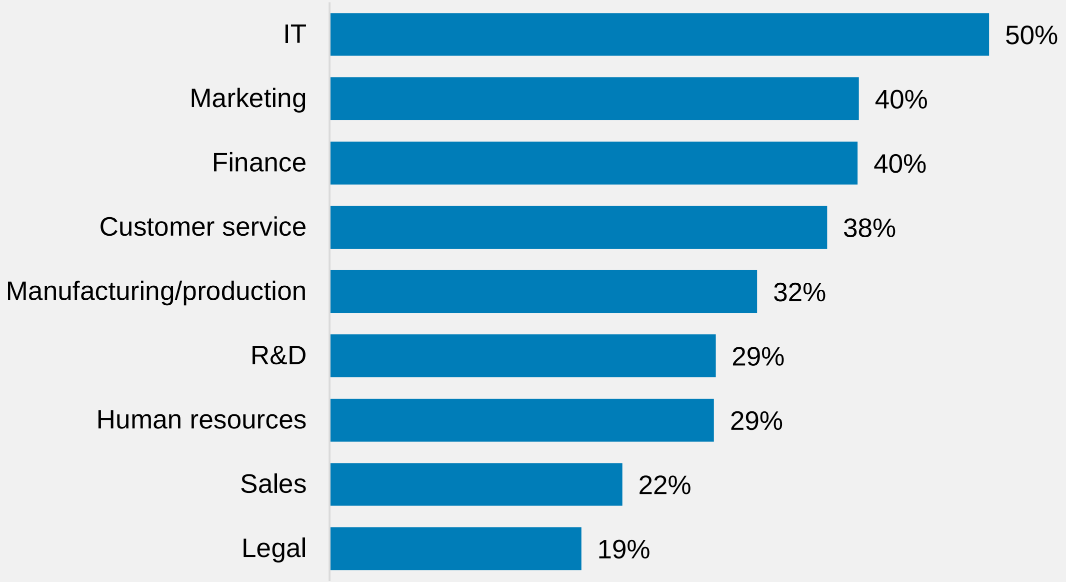
But only around three in ten (32%) are doing well, organization-wide



In 2015, business leaders noted these five attributes defined a digital business.

How attributes performed by business function

50% believe their IT dept. is adequately addressing digital attributes; marketing and finance teams follow closely behind



“You have indicated that your organization is addressing some of the attributes in pockets of your organization. In which specific areas is this taking place?”
Base: only respondents whose organization is addressing at least one digital attribute in pockets of the organization (3150)

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Digital transformation approach

Analysis of respondents who agree with the above statements when it comes to their own organization's digital transformation. Base: all respondents (4000)

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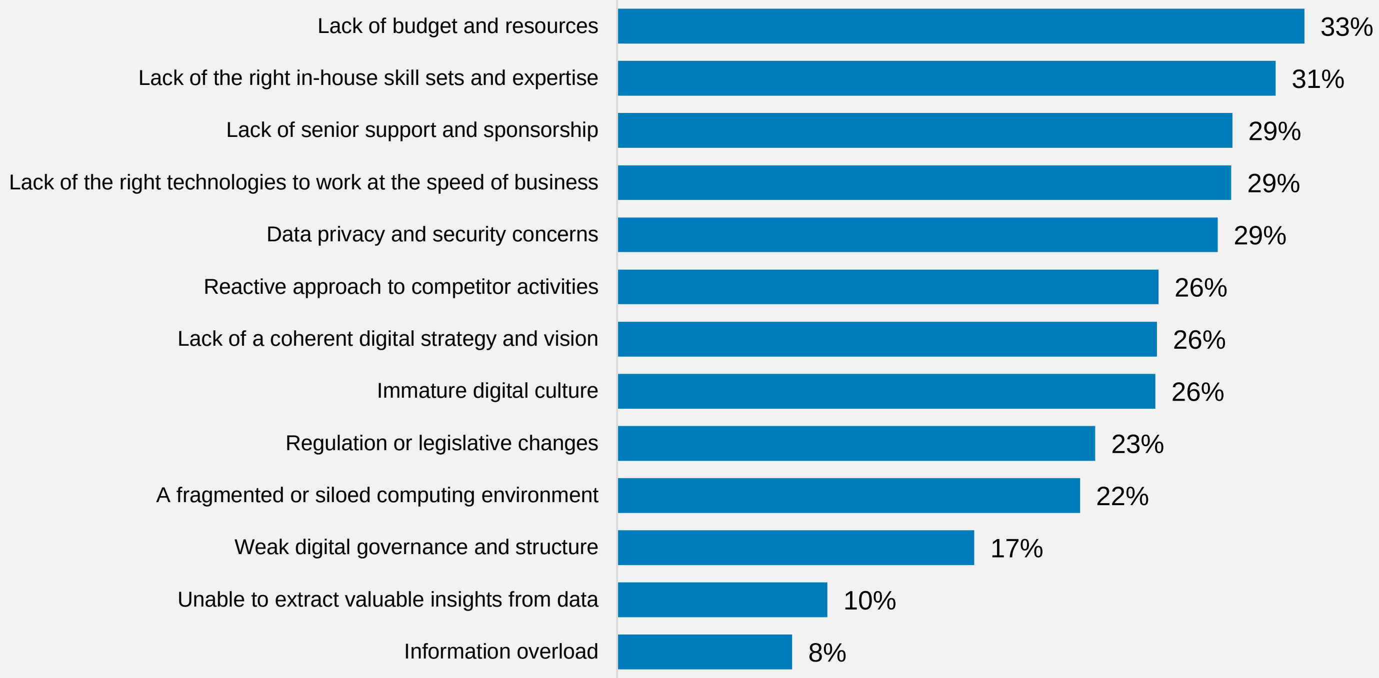
Barriers to digital progress



“In general, what are the biggest barriers to progress with digital business projects in your organization?” Base: all respondents (4000)

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Section 6

Digital Transformation Index

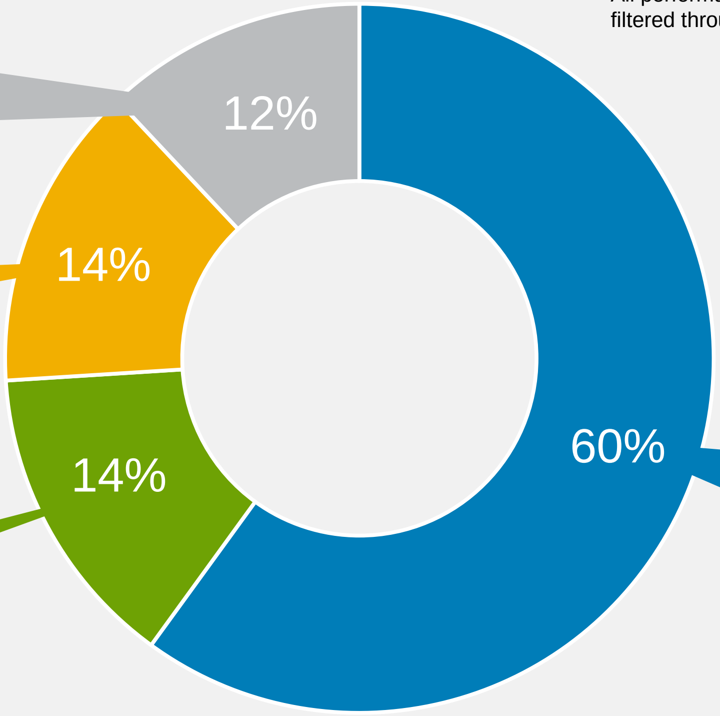
Question weighting

Methodology: Index based on respondents' performance and progress against digital business attributes they agreed were imperative; current and planned investments for digital transformation.

All performance related questions from research were filtered through, and 1000 points allocated across the curve.

What new innovations or solutions is your organization investing in over the next 1-3 years to enable digital business?

In terms of your organization’s existing IT strategy, to what extent are you doing the following to support your digital business transformation?



Thinking about what a digital business looks like, which of the following is your organization doing?

How would you categorize how your organization is addressing each of the below digital attributes in order to stay competitive and succeed in this increasingly digital world?

Benchmark questions and scores

S NUMBER=DATA SUMMARY SHEET REFERENCE

How would you categorize how your organization is addressing the provision of digital skills and training to stay competitive and succeed in this increasingly digital world?

- Predictively spot new opportunities
- Innovate in an agile way
- Demonstrate transparency and trust
- Deliver a unique and personalized experience
- Always on, operating in real time

For each of the above, respondents selected one of the below statements (score in brackets):

Doing well, organization-wide (100)
Doing well, in pockets of the organization (30)
Not doing well, organization-wide (20)
Not doing well, in pockets of the organization (10)
Research/ planning stage (5)
No plans (0)
I don't know (0)

Maximum score = 600

Thinking about what a digital business looks like, which of the following is your organization doing?

- Integrating digital goals into all departmental/staff objectives
- Developing mature e-commerce and e-business models
- Using digital technologies to accelerate new product/services development
- Equipped with always connected, sensor enabled and location aware technologies
- Building security and privacy into all devices, applications and algorithms
- Rolling out data-driven decision making across the business
- Rolling out automated decision-making (artificial intelligence) across the business
- Acting on intelligence in real-time
- Evolving our ways of communicating and marketing to involve more innovative channels such as multi-sensory
- Agile innovation – software developers can begin coding and securely launch new applications within much shorter cycles
- Investing in digital skills/talent
- Developing cross-functional knowledge

Respondents scored 15 for each outcome selected (in bold) and 5 for each foundational element selected

Maximum score = 140

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Benchmark questions and scores

S NUMBER=DATA SUMMARY SHEET REFERENCE

In terms of your organization's existing IT strategy, to what extent are you doing the following to support your digital business transformation?

- Increase investment in IT cloud infrastructure
- Increased investment in mobile technologies and accessibility
- Increased investment in social media platforms
- Increased investment in data analytics
- Increased investment in data storage
- Increased investment in open source technologies
- All device access, control and security are managed centrally

For each of the above, respondents selected one of the below statements (score in brackets):

Fully completed for now (20)
In process of doing – mature stages (10)
In process of doing – early stages (5)
Planned to do (1)
Not done and no plans to do (0)
I don't know (0)

Maximum score = 140

What new innovations or solutions is your organization investing in over the next 1-3 years to enable digital business?

- A converged infrastructure that simplifies data management and allows information to flow quickly across platforms
- Analytics/Big data and data processing
- Next generation mobile applications
- Ultra high performance compute technologies for rapid digital communication/data access/data processing
- Capabilities for application acceleration
- Open-source technologies to avoid vendor lock-in
- Technology to bring apps into the cloud for public or private access
- Internet of Things technology
- 3D printing
- Artificial intelligence
- Multi-sensory communications
- Cognitive systems

Respondents scored 10 for each element selected

Maximum score = 120

MAX TOTAL SCORE = 1000

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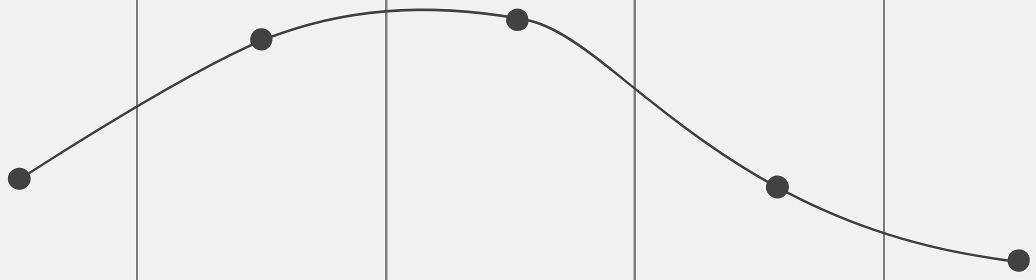
Digital Transformation Index

Digital Laggards	Digital Followers	Digital Evaluators	Digital Adopters	Digital Leaders
Do not have a digital plan; limited initiatives and investments in place	*Very few digital investments; tentatively planning for the future*	*Gradually embracing digital transformation and planning for the future*	*Have a mature digital plan, investments and innovations in place*	*Digital transformation is ingrained in the DNA of the business*
15% of total respondents	**32%** of total respondents	**34%** of total respondents	**14%** of total respondents	**5%** of total respondents



Benchmark – Overall maturity distribution

VARIABLES	DIGITAL LAGGARDS	DIGITAL FOLLOWERS	DIGITAL EVALUATORS	EARLY ADOPTERS	DIGITAL LEADERS
ATTRIBUTE PERFORMANCE	Not done, in planning	Limited to pockets, poorly done	Spread more widely yet not done well	Done well in pockets	Well done and organization wide
DIGITAL INITIATIVES	Limited	A small number	4-5 initiatives	5-6 initiatives	8+ adopted
ADOPTED CURRENTLY	Little or none	In planning or early stages	Early to mid stages	In mature stage, few fully completed	Most fully completed
IT STRATEGY & DIGITAL INVESTMENT	Very few in line	A handful in scope	3-4 innovations in scope for future investment	Growing number of innovations (4-6)	8+ in line for future investment
INNOVATION & FUTURE INVESTMENT	15%	32%	34%	14%	5%

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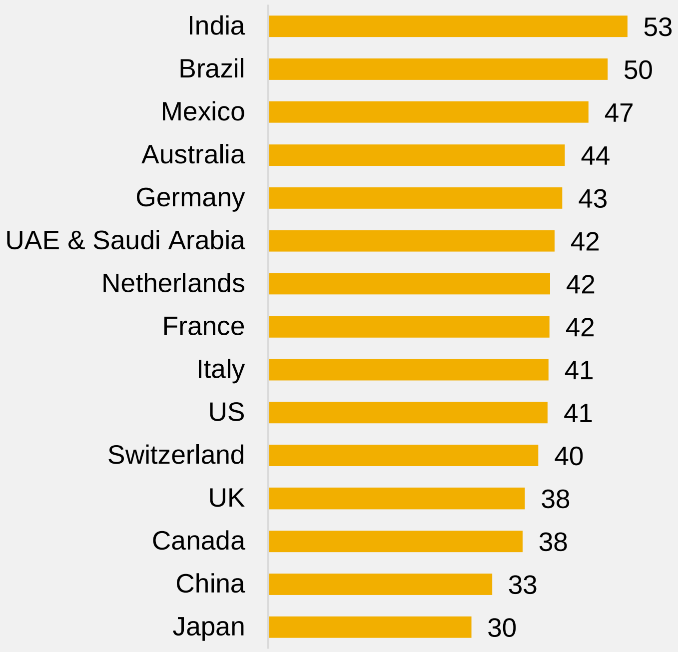
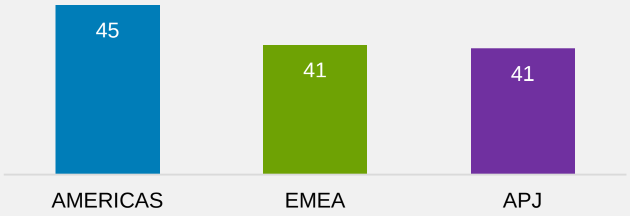
Maturity by country and region

Average score out of 100

Country



Region



Developed vs. Emerging

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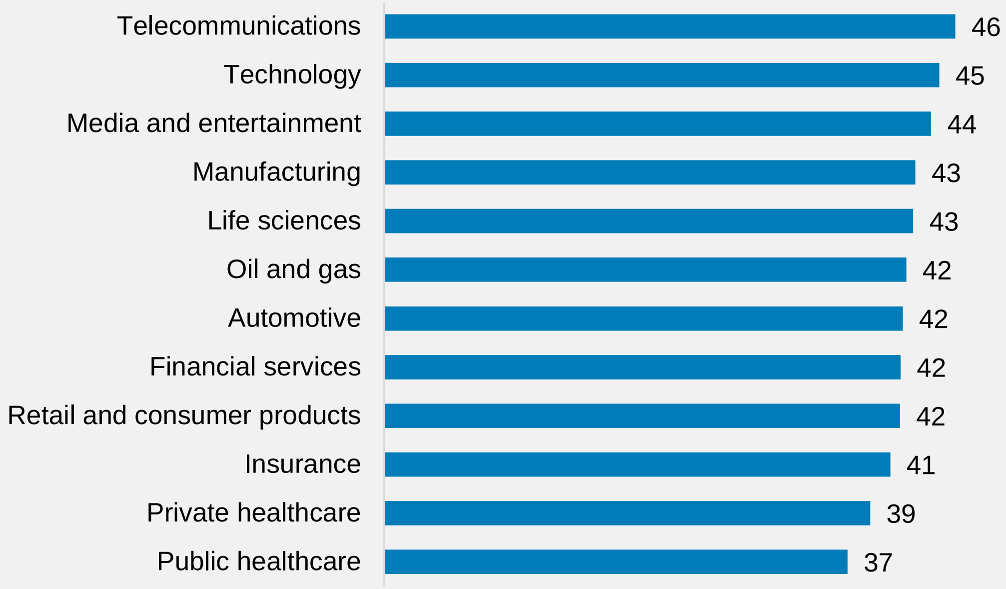
Maturity by vertical

Average score out of 100



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Best and worst performers

Countries	Industry/Verticals	
India	Telecoms	MOST MATURE
Brazil	Technology	
Mexico	Media and entertainment	
Canada	Insurance	LEAST MATRURE
China	Private healthcare	
Japan	Public healthcare	

Section 7: Appendix

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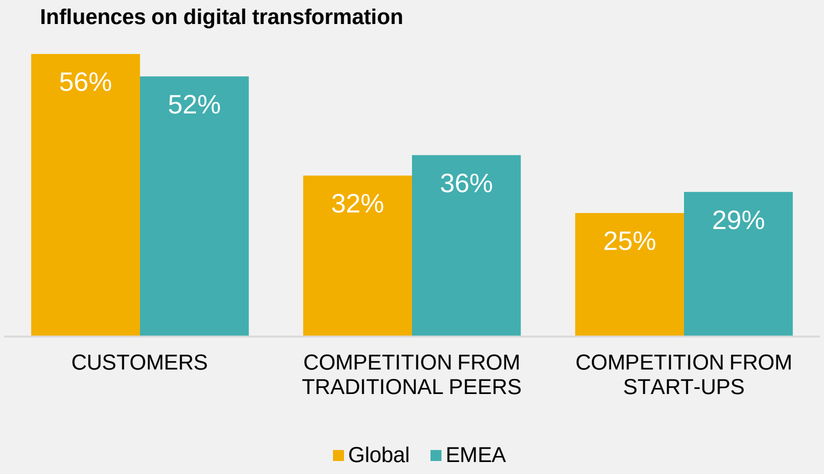
Key regional differences

EMEA variances

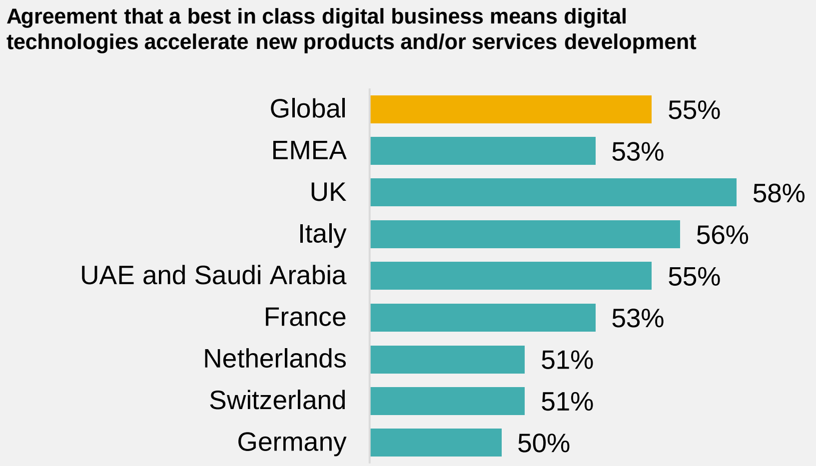
Where are digital demands coming from?

Customers (52%) remain the key influence but competition from peers (36%) and start-ups (29%) play an increased role



What does a digital business look like?

UK respondents most likely to believe that best in class means digital technologies accelerating new products (58%)



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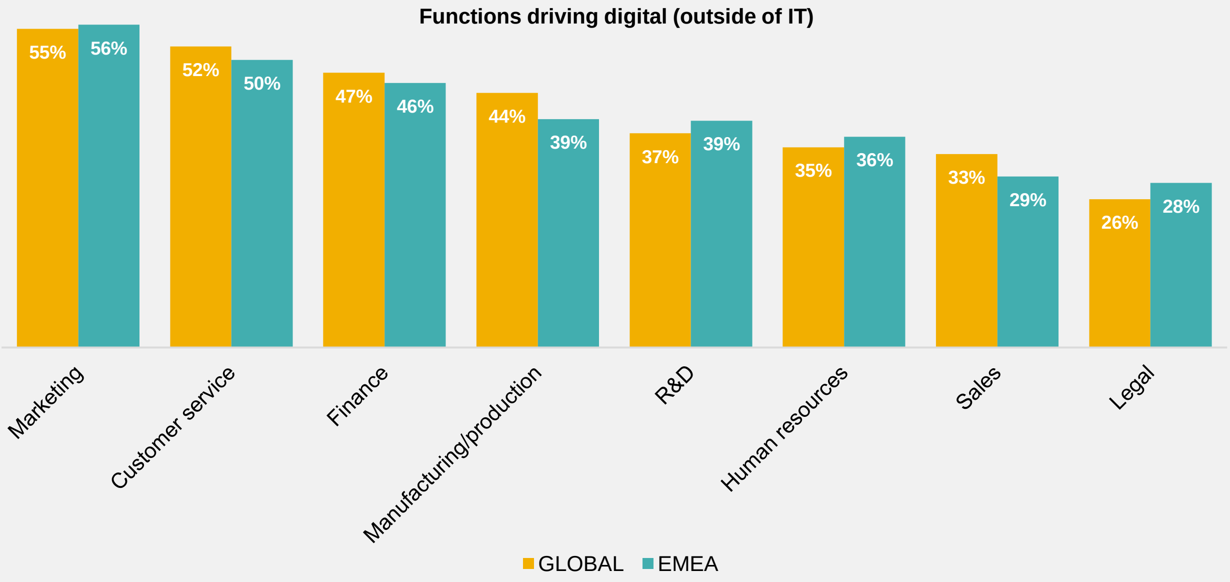
EMEA variances

How are organizations doing it?

Outside IT, the marketing (56%) function is most likely to drive digital programs; the manufacturing sector (39%) is least likely to be involved (compared to the global average)



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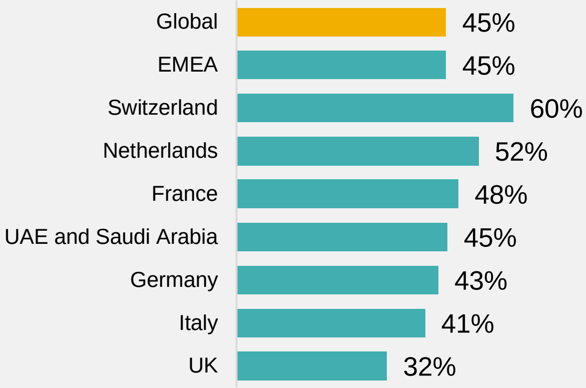
EMEA variances

The future and disruptive trends

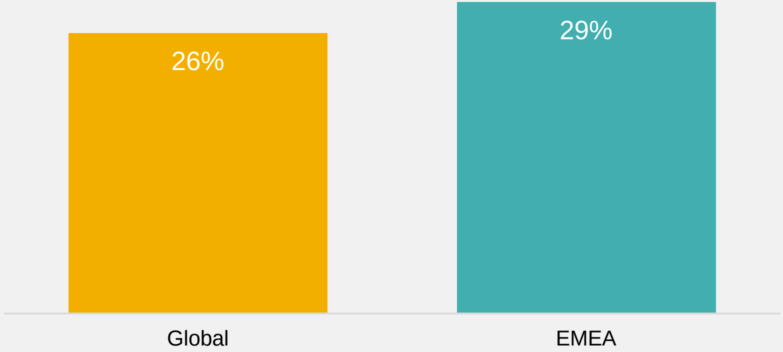
Switzerland (60%) and Netherlands (52%) respondents are even more concerned that their organization may become obsolete in 3-5 years' time

Agreement with the statement: 'There is a possibility our company may become obsolete in three to five years' time'



A greater number of EMEA respondents believe that non-traditional start-ups pose an immediate threat (29%)

Respondents who believe non-traditional start-ups pose an immediate threat to their organization

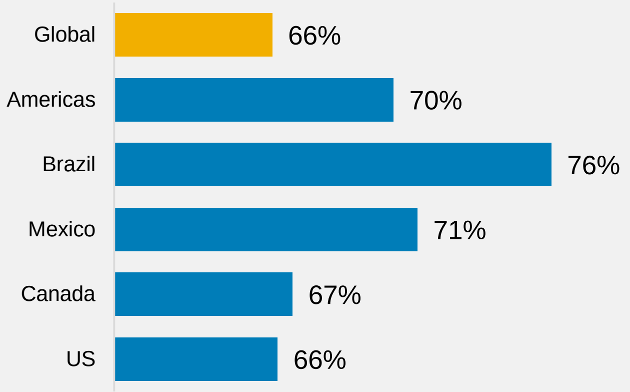


Americas variances

Where are digital demands coming from?

In the Americas, security is the key customer demand (70%) for even more organizations – particularly in Brazil (76%) and Mexico (71%)

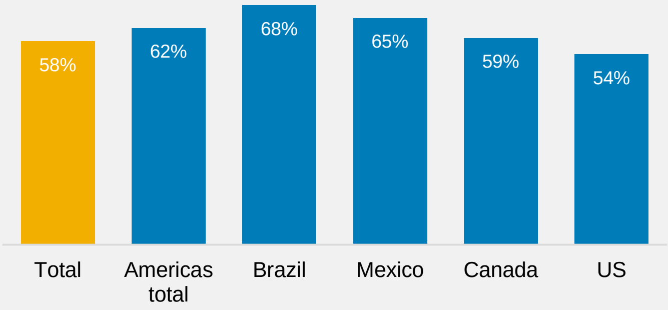
Greater level of security as a key customer demand



What does a digital business look like?

There is a higher focus on 24/7 access and connectivity, compared to the global average – particularly for respondents in Brazil (68%) and Mexico (65%)

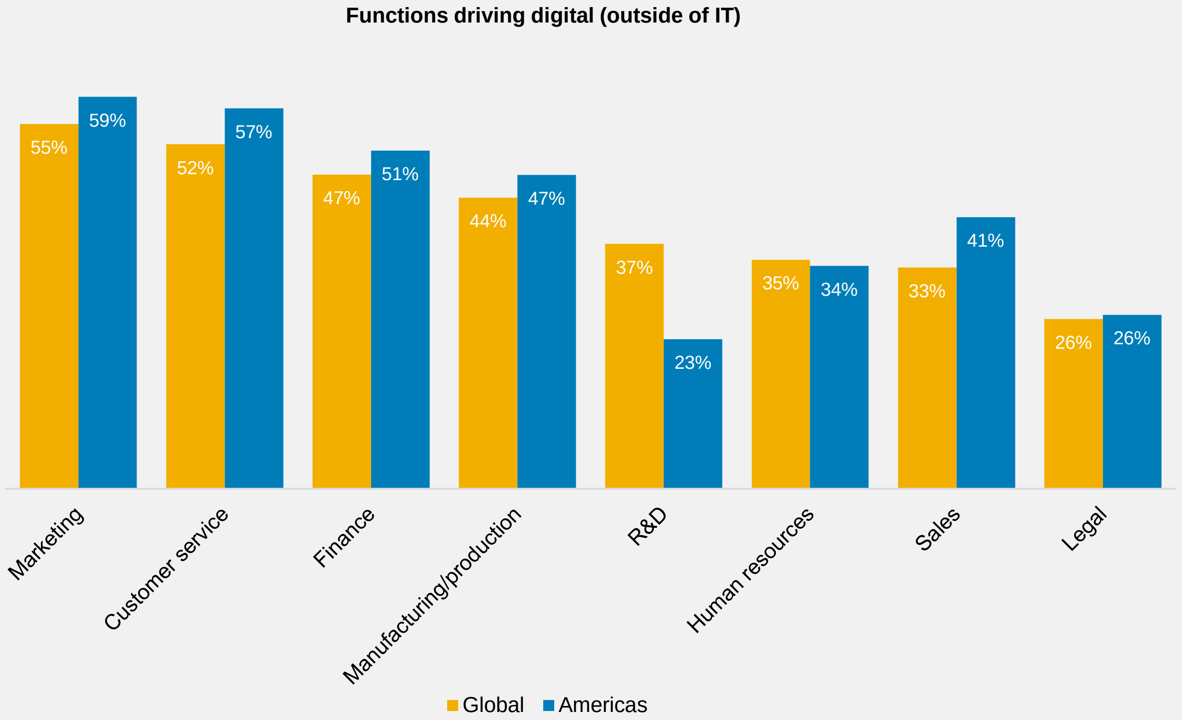
Total 24/7 access and connectivity is a key element of what a best in class digital business looks like



Americas variances

How are organizations doing it?

Other than the IT department, Marketing (59%), Customer Service (57%) and Sales (41%) functions are more likely to drive organizations' digital transformation



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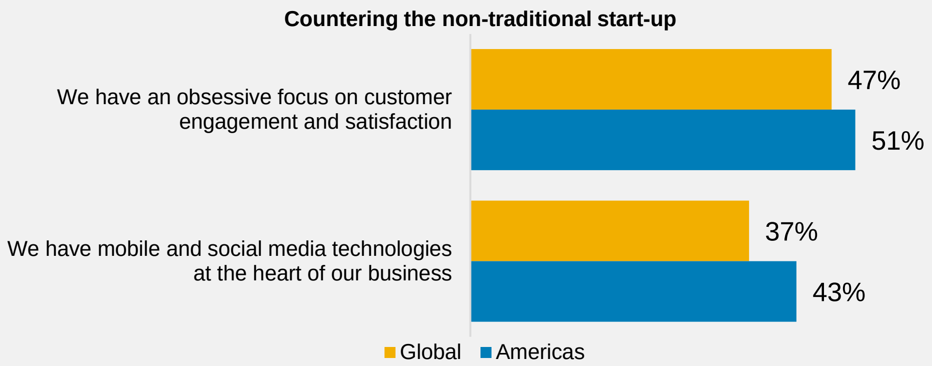
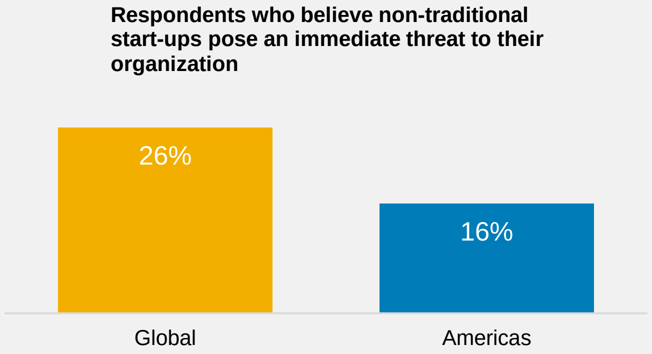
Americas variances

The future and disruptive trends

Top means of countering a digital start-up

Much less likely to report that non-traditional start-ups pose a current threat to their organization (16%). But most likely to forecast a threat from digital start-ups further down the line.





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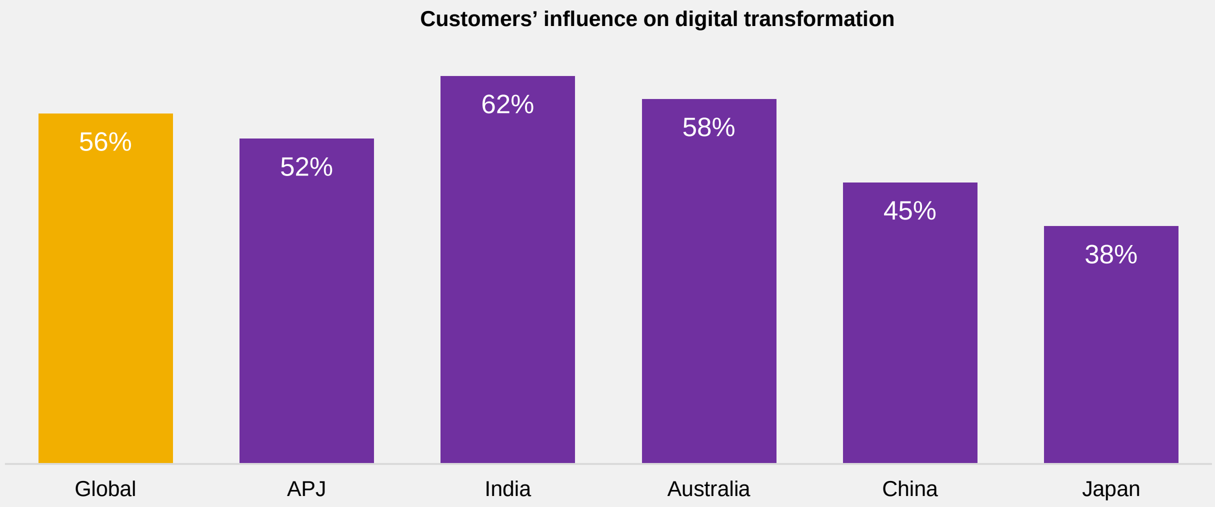
APJ variances

Where are digital demands coming from?

In contrast to the other countries, fewer Japanese respondents report that their organizations' digital transformation is driven by customers (38%)



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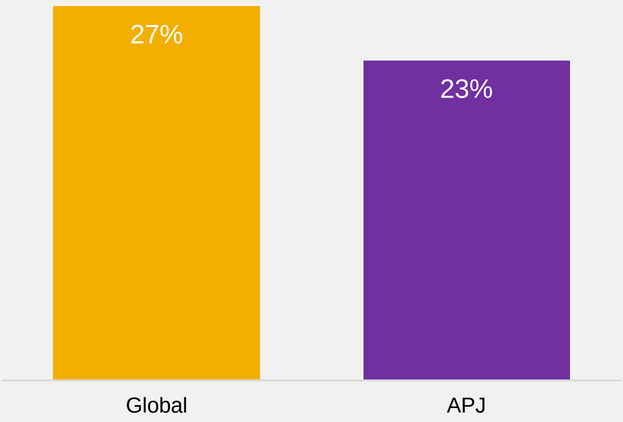
APJ variances

How are organizations doing it?

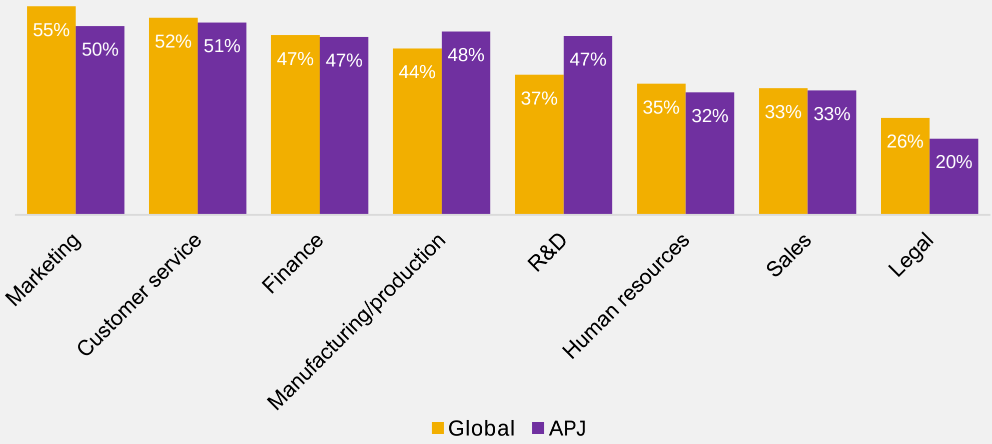
Least likely to invest in digital skills (23%) compared to the global average

Investing in digital skills/talent to drive digital transformation



Outside of IT, a greater spread of functions are involved in digital including Customer Service (51%), Finance (47%), Manufacturing (48%) and R&D (47%)

Functions driving digital (outside of IT)



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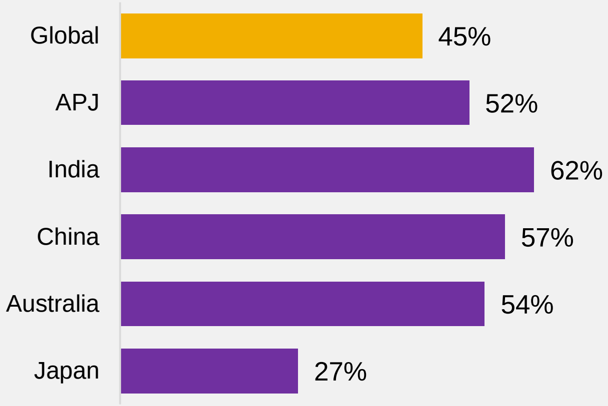
APJ variances

The future and disruptive trends

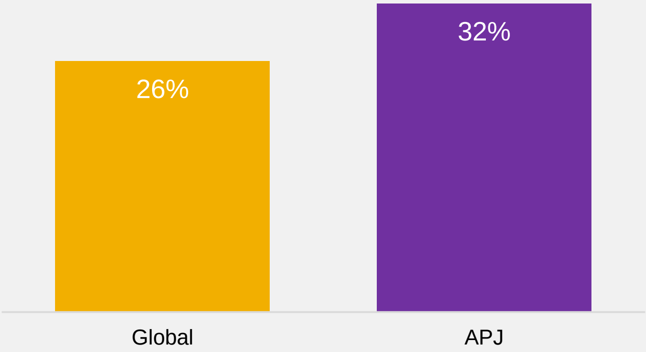
Majority (52%) are concerned about their organization becoming obsolete over the next 3-5 years

Agreement with the statement: 'There is a possibility our company may become obsolete in three to five years' time'



Around a third (32%) believe that non-traditional start-ups pose a threat.

Respondents who believe non-traditional start-ups pose an immediate threat to their organization



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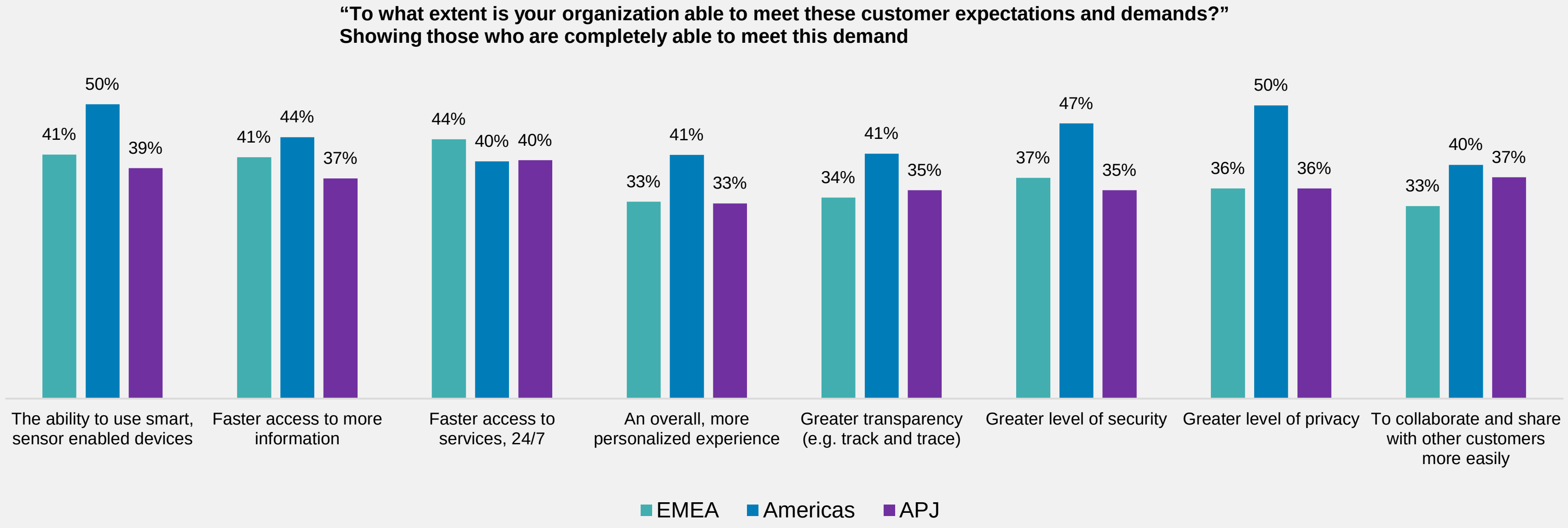
Regional variances

What does a digital business look like?

Respondents from organizations in the Americas appear to have greater confidence in customer digital demands being completely met: in particular privacy (50%), security (47%) and the ability to use smart devices (50%)



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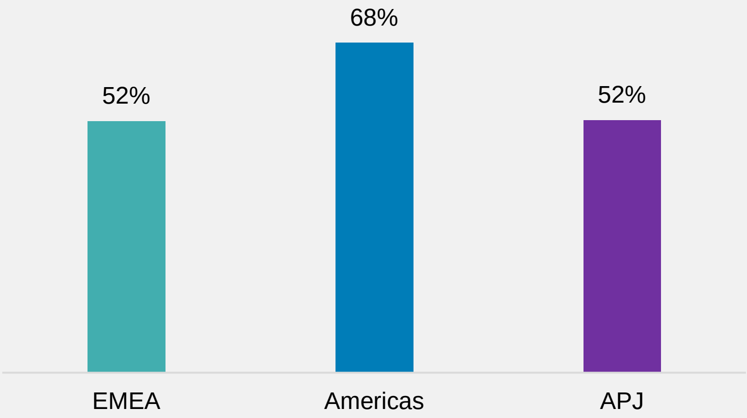
Regional variances

What does a digital business look like?

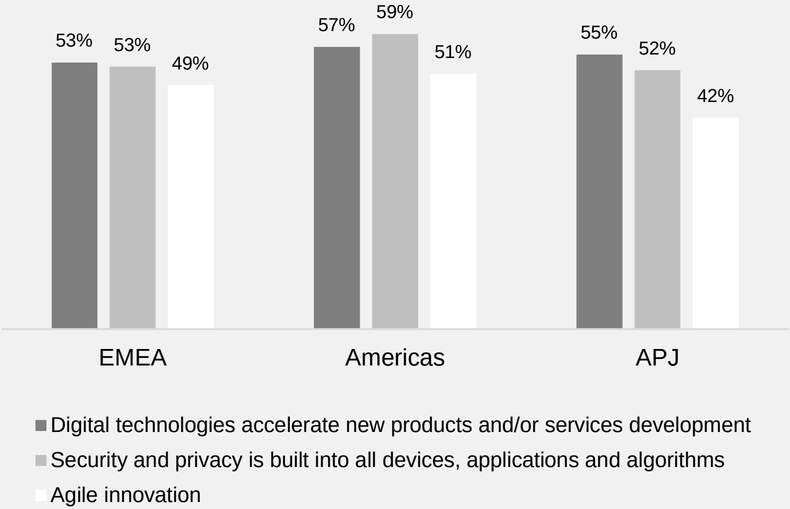
Even greater numbers of Americas respondents see customers (68%) as their main digital influence

Fewer respondents in APJ regard agile innovation (42%) as part of what a best in class digital business looks like

Customers are the main influencers driving our organization to become a more digital business



What does a best-in-class digital business look like? (%age who ranked these in their top 5)



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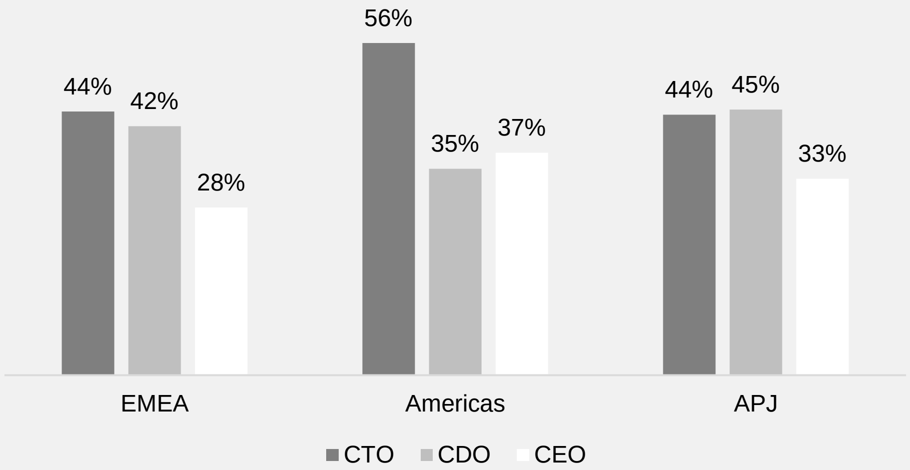
Regional variances

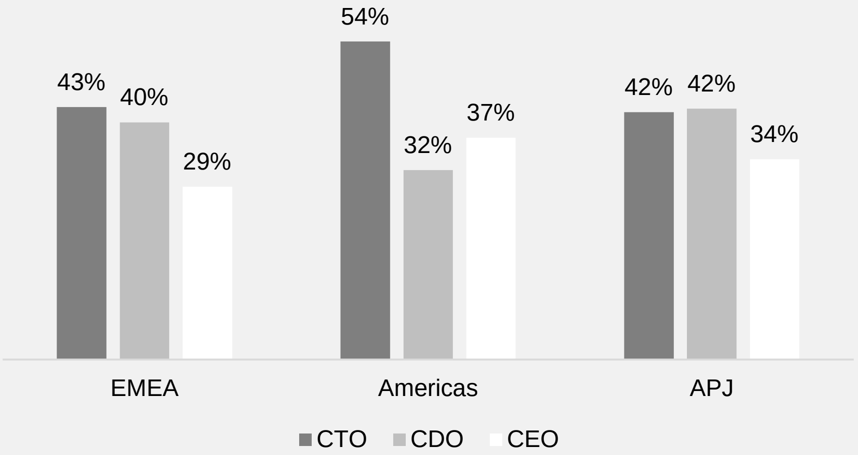
How are organizations doing it?

Organizations in the Americas are much more likely to believe the CTO (56%/54%) should lead digital transformation efforts. There is a greater likelihood the CDO will be involved in EMEA (42%/45%) and APJ (45%/42%),

In your opinion, who ideally should lead digital transformation efforts?



Who is leading (or will lead) your organization's digital transformation?



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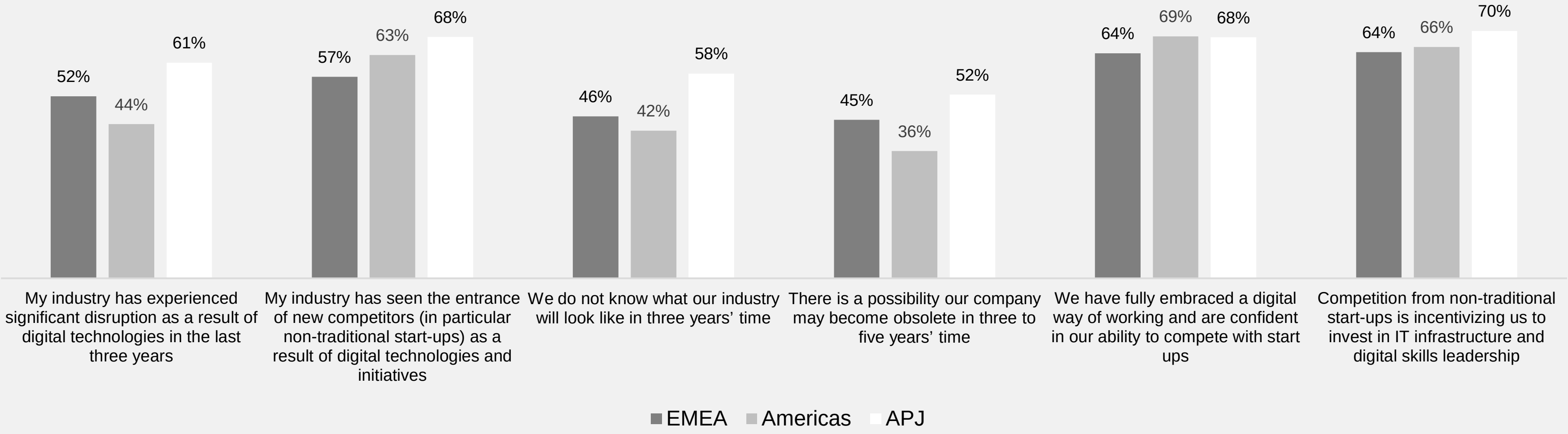
Regional variances

The future and disruptive trends

Looking ahead, APJ respondents are more likely to articulate concerns for the future – over half don't know what their industry will look like (58%) or even whether their organization will still be here (52%). As a result, more claim that disruption is incentivizing them to invest in IT infrastructure and digital skills (70%)

Percentage who agree with the following statements about their industry/organization

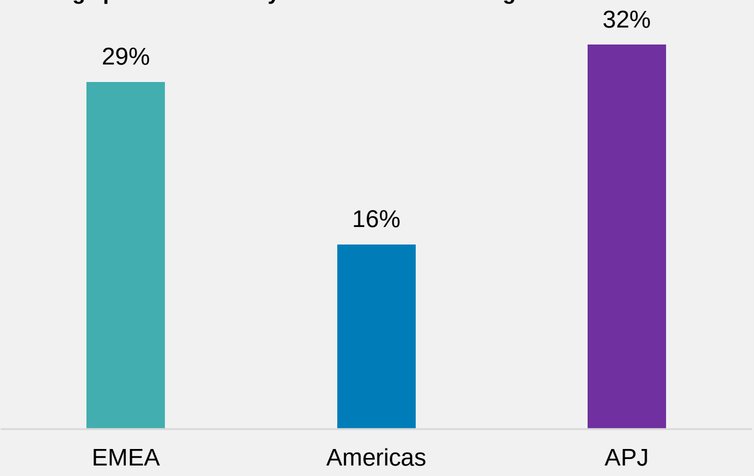


Regional variances

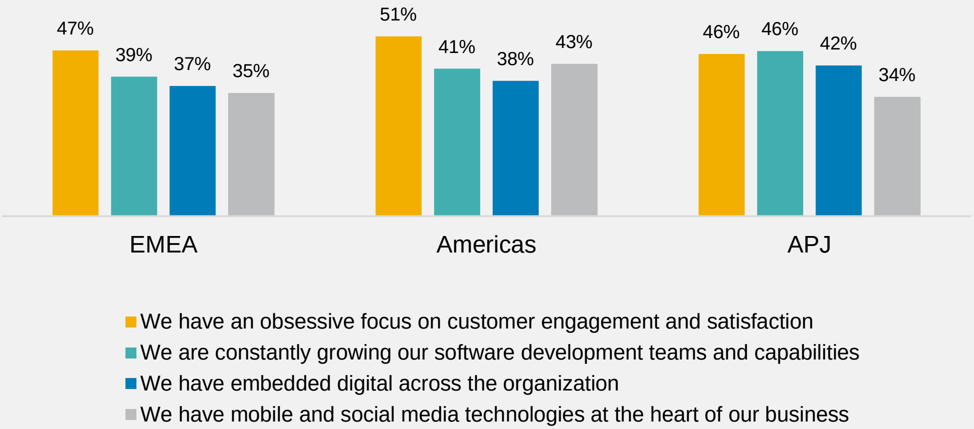
The future and disruptive trends

APJ (32%) and EMEA (29%) respondents are much more likely to see non-traditional start-ups as an immediate threat. To counter the threat, organizations in the Americas are most likely to focus obsessively on customer engagement (51%) and APJ organizations are more active in growing their software development capabilities (46%)

Do non-traditional start-ups built in the digital age pose a threat to your business? Yes - right now



What is your organization doing to counter the threat from the non-traditional start-up?



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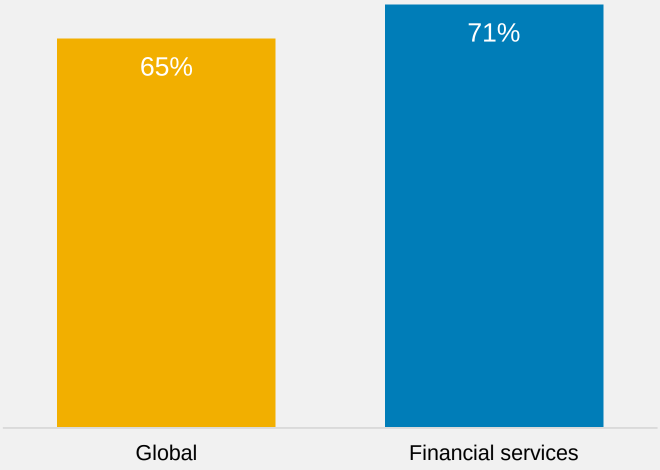
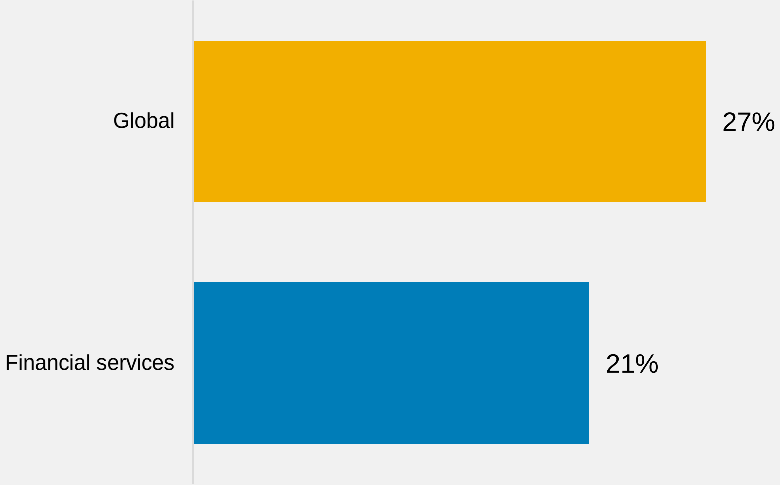
Key sector differences

Financial services

Customer demand for faster access to services, 24/7



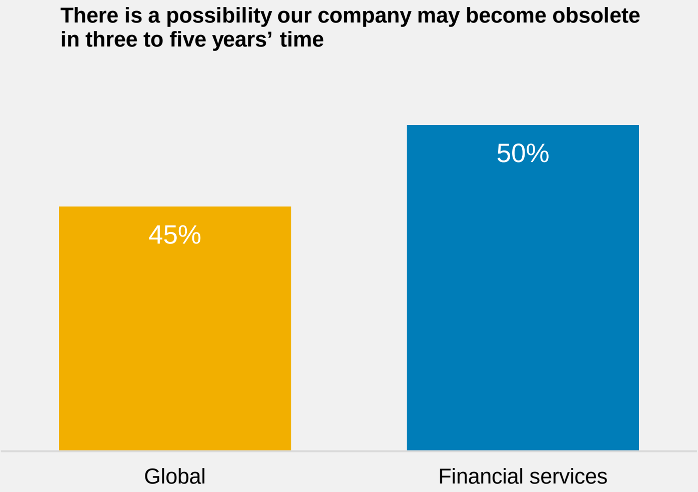
Investing in digital skills/talent



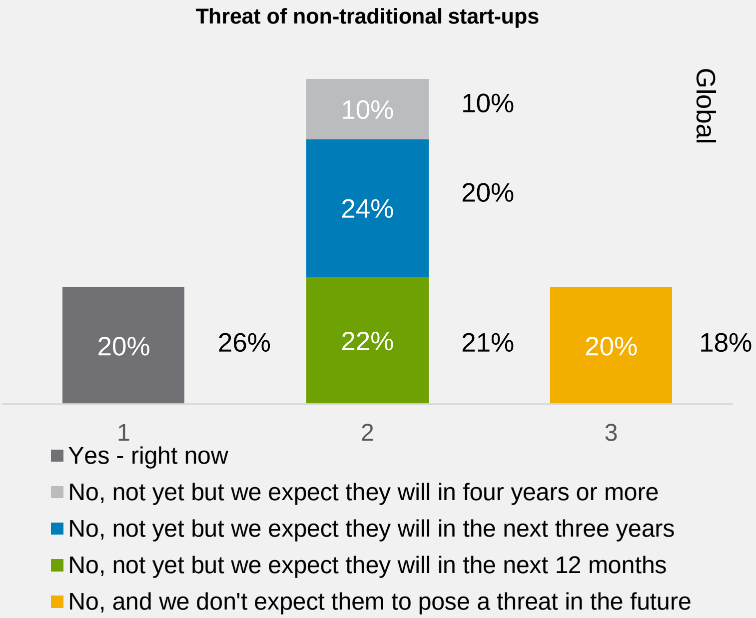
More respondents from financial services organizations say that customers are demanding faster access to services, 24/7

Respondents’ organizations from financial services are least likely to be investing in digital skills (21%)

Financial services



Half (50%) of respondents from financial services organizations agree that their company may become obsolete in 3 to 5 years' time

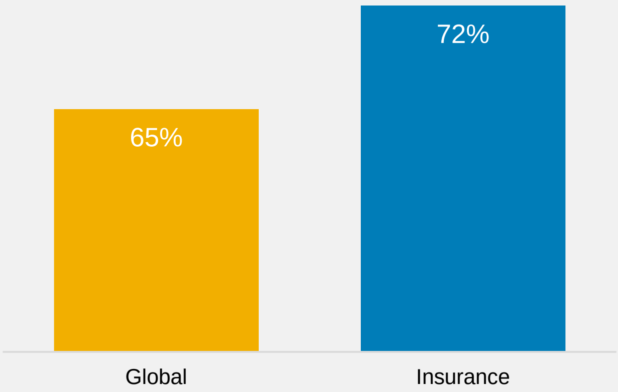


Respondents in financial services are least likely to say that non-traditional start-ups pose a threat (20%) to their organization

Insurance

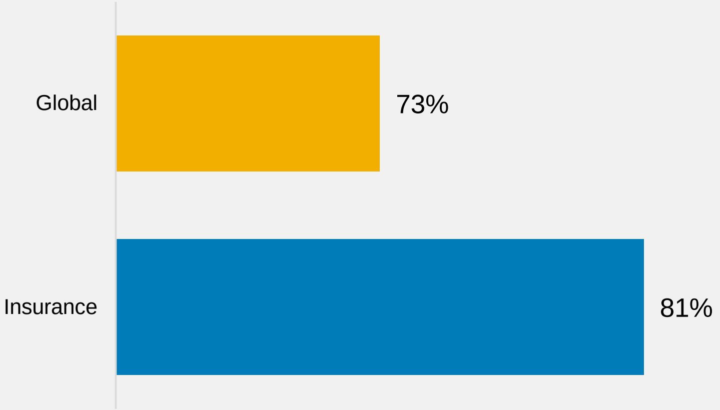
Customers in insurance (72%) organizations are more likely to demand faster access to services

Customer demand for faster access to services, 24/7



Respondents in the insurance sector are more likely to agree that a centralized strategy should be a priority (81%)

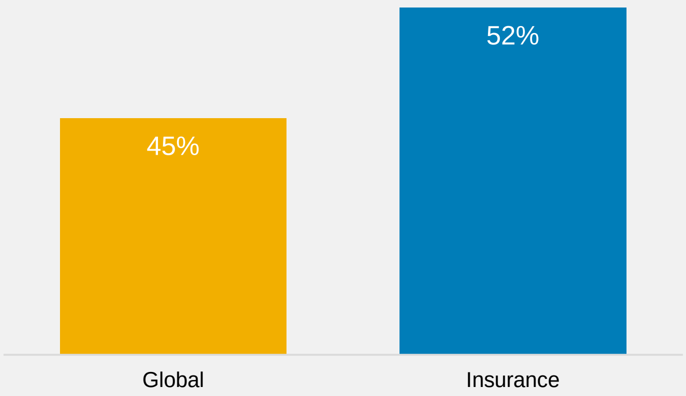
Centralized technology strategy should be more of a priority



Insurance

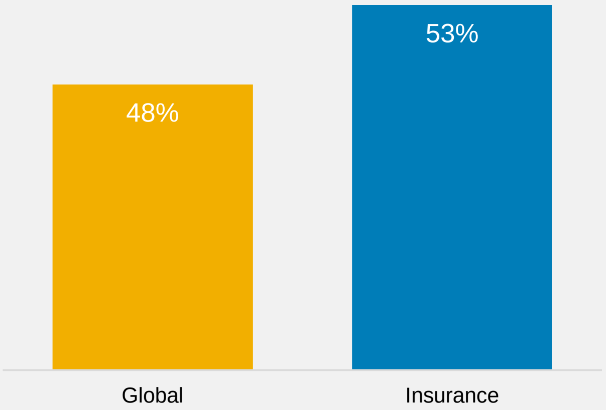
More than half (52%) of respondents from insurance organizations agree that their company may become obsolete in three to five years' time

There is a possibility our company may become obsolete in three to five years' time



The majority of respondents in the insurance organization (53%) do not know what their industry will look like in 3 years' time

We do not know what our industry will look like in three years' time



Automotive, Financial Services, Public healthcare, Private healthcare, Technology, Insurance, Life sciences, Manufacturing, Media & entertainment, Oil & Gas, Retail, Telecommunications, Other commercial

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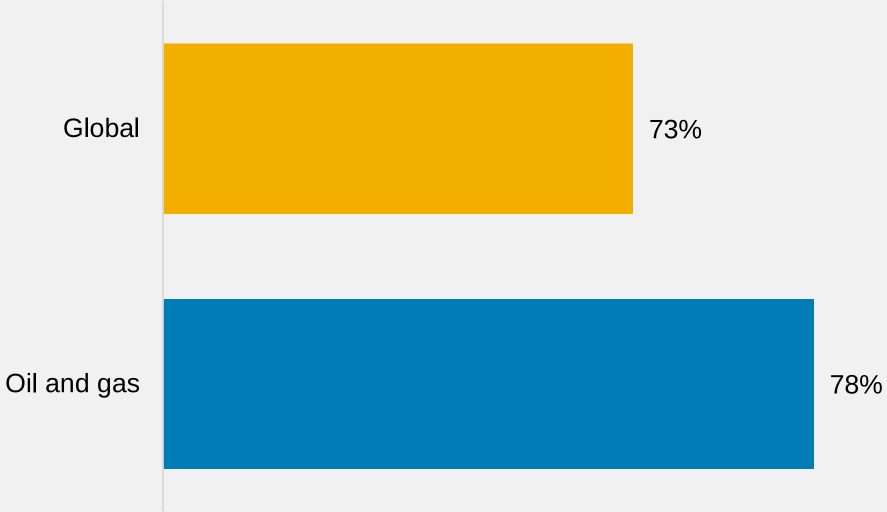
Oil and Gas

Respondents from the Oil and Gas sector most likely to agree that digital transformation could be more widespread in their organization (78%)

Digital transformation could be more widespread throughout the organization



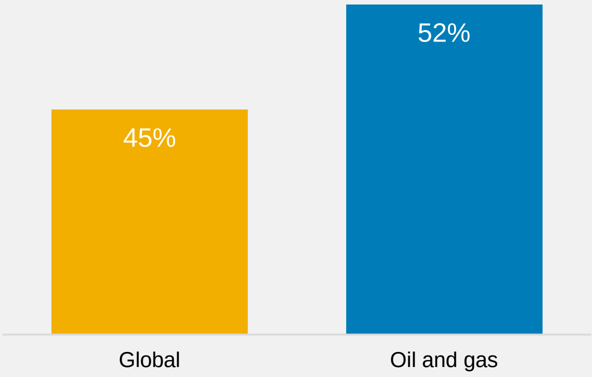
Automotive, Financial Services, Public healthcare, Private healthcare, Technology, Insurance, Life sciences, Manufacturing, Media & entertainment, Oil & Gas, Retail, Telecommunications, Other commercial

Oil and Gas

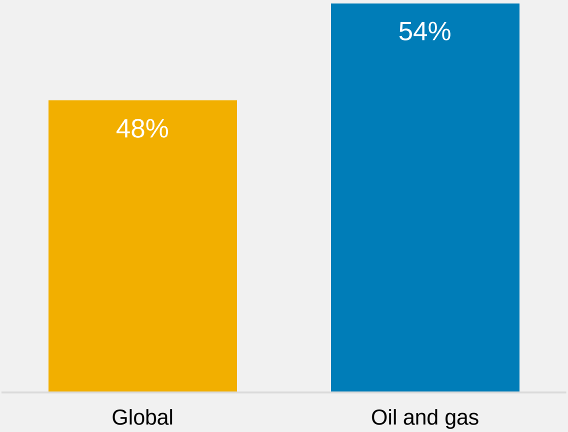
Oil and gas respondents most likely to agree that their organization could become obsolete in three to five years' time (52%)

Majority of oil and gas sector respondents (54%) do not know what their industry will look like in 3 years' time

There is a possibility our company may become obsolete in three to five years' time



We do not know what our industry will look like in three years' time



Automotive, Financial Services, Public healthcare, Private healthcare, Technology, Insurance, Life sciences, Manufacturing, Media & entertainment, Oil & Gas, Retail, Telecommunications, Other commercial

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Technology

81% of respondents from technology organizations believe their strategy and vision could be improved

Our strategy and vision could be improved

36% of technology respondents report that their organizations face a lack of budget and resources as a barrier to digital business – higher than the global average

Lack of budget and resources

Automotive, Financial Services, Public healthcare, Private healthcare, Technology, Insurance, Life sciences, Manufacturing, Media & entertainment, Oil & Gas, Retail, Telecommunications, Other commercial

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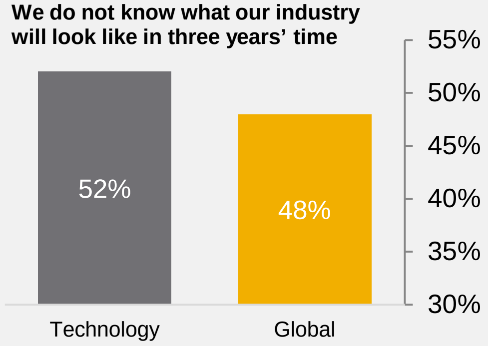
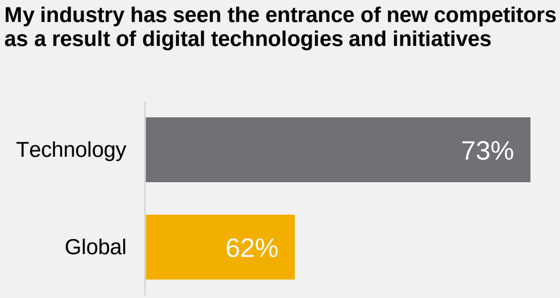
Technology

52% of technology respondents do not know what their industry will look like in three years' time (52%)

Technology respondents are more likely to agree that their industry has seen new competitors (73%) of late





Automotive, Financial Services, Public healthcare, Private healthcare, Technology, Insurance, Life sciences, Manufacturing, Media & entertainment, Oil & Gas, Retail, Telecommunications, Other commercial

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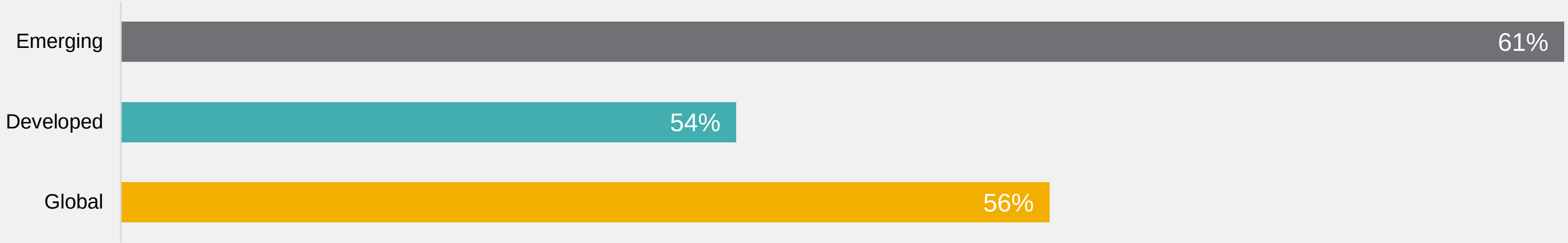
Developed vs. emerging differences

Developed vs. emerging

Where are digital demands coming from?

Organizations in emerging markets are most likely to have customers as their main influence driving digital transformation (61%)

Customers as a key influence on digital transformation

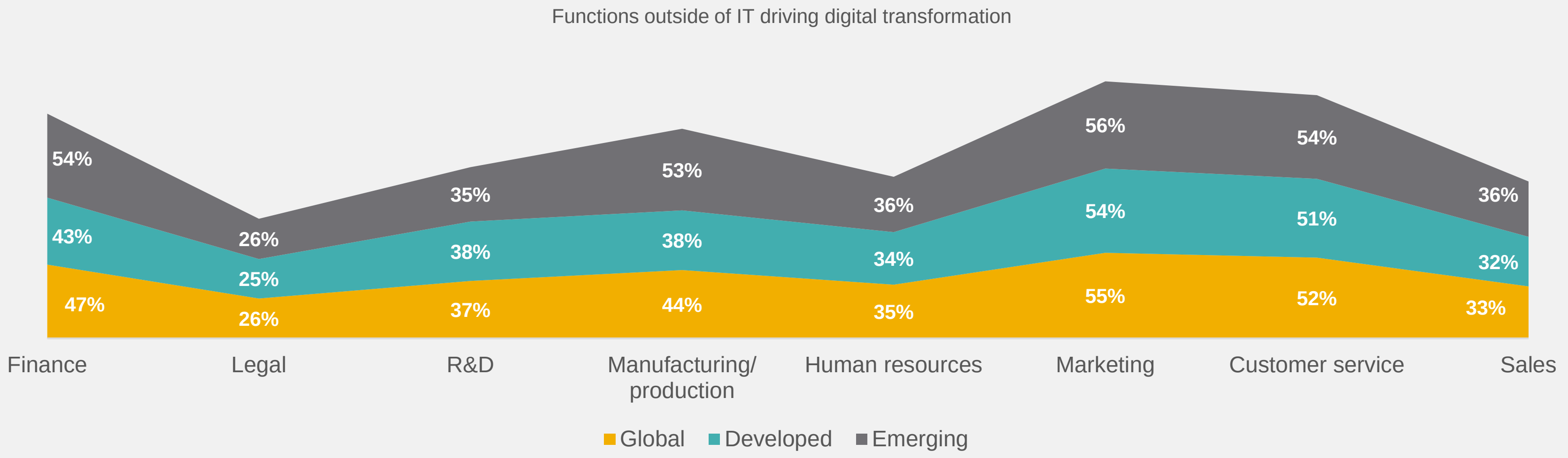


Developed: UK, France, Germany, Italy, Switzerland, Netherlands, US, Canada, Australia, Japan
Emerging: UAE and Saudi Arabia, Mexico, Brazil, India, China

Developed vs. emerging

Where are digital demands coming from?

In emerging markets, finance (54%) and manufacturing (53%) are much more likely to be driving digital transformation outside of the IT department



Developed: UK, France, Germany, Italy, Switzerland, Netherlands, US, Canada, Australia, Japan
Emerging: UAE and Saudi Arabia, Mexico, Brazil, India, China

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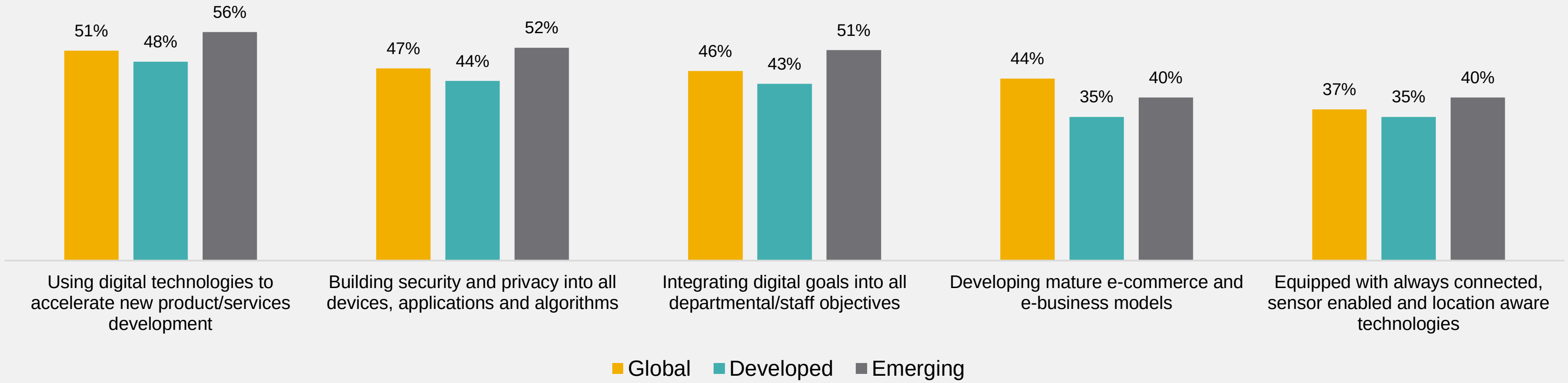
Developed vs. emerging

How are organizations doing it?

As part of their digital transformation approach, emerging markets are more likely to be using digital technologies to accelerate development (56%), build security into all devices (52%) and integrate digital goals in objectives (51%)

Thinking about what a digital business looks like, which of the following is your organization doing? Showing global top five elements



Developed: UK, France, Germany, Italy, Switzerland, Netherlands, US, Canada, Australia, Japan
Emerging: UAE and Saudi Arabia, Mexico, Brazil, India, China

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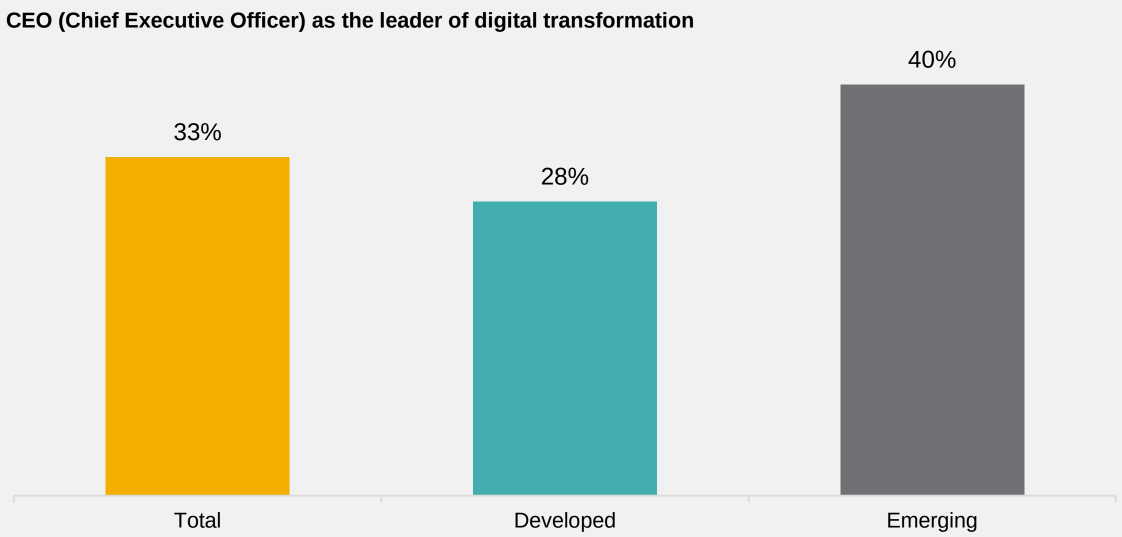
Developed vs. emerging

How are organizations doing it?

The CEO is much more likely to be leading digital transformations in emerging markets (40%) compared to developed markets (28%)



Developed: UK, France, Germany, Italy, Switzerland, Netherlands, US, Canada, Australia, Japan
Emerging: UAE and Saudi Arabia, Mexico, Brazil, India, China

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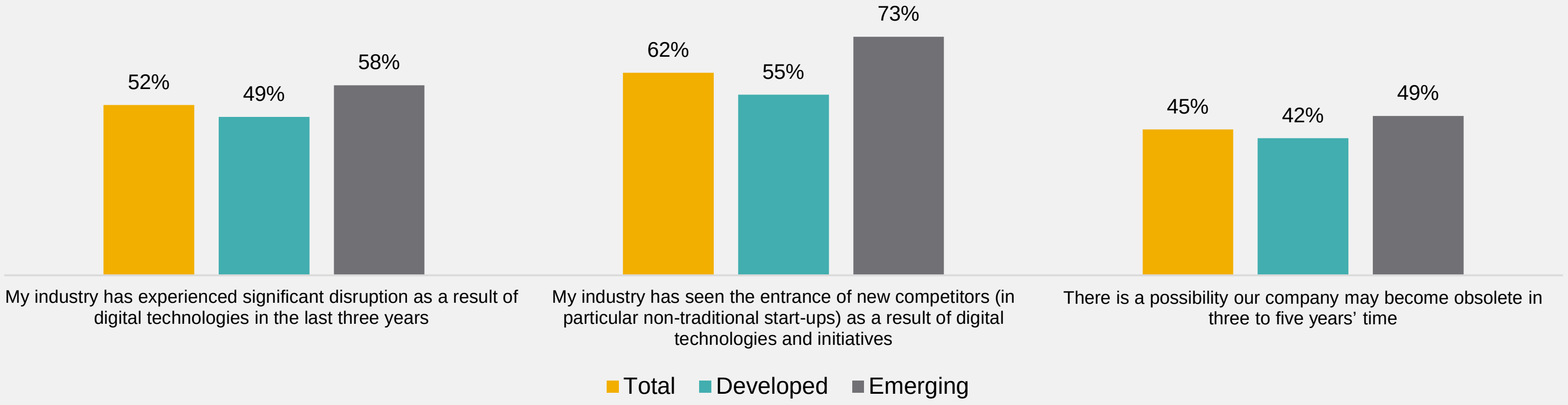
Developed vs. emerging

The future and disruptive trends

Emerging markets are more likely to have experienced significant disruption from digital technologies (58%) and the entrance of new competitors (73%). A larger proportion (49%) question their organization's prospects in three to five years' time

%age who agree with the following statements about their industry/organization



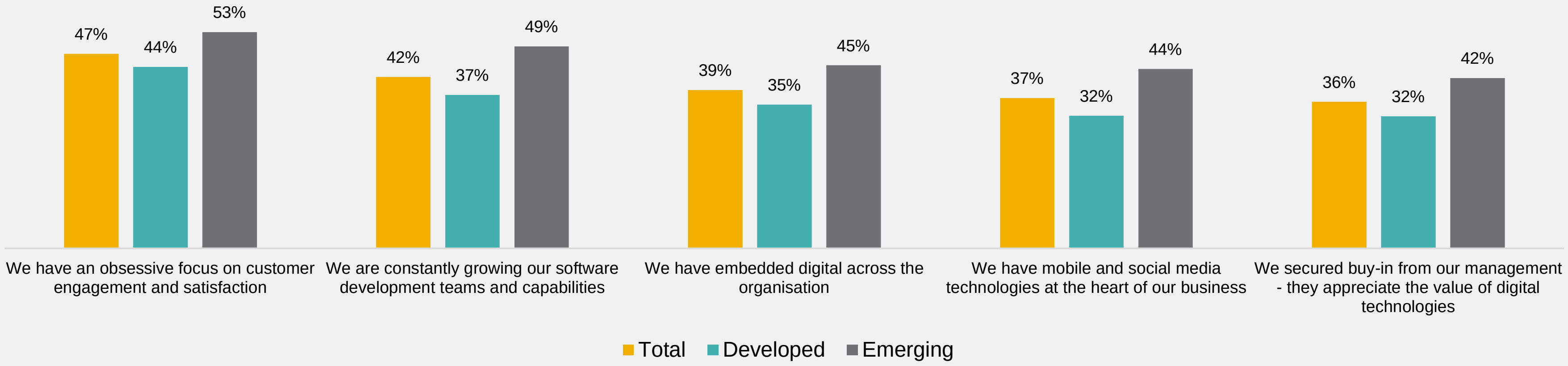
Developed: UK, France, Germany, Italy, Switzerland, Netherlands, US, Canada, Australia, Japan
Emerging: UAE and Saudi Arabia, Mexico, Brazil, India, China

Developed vs. emerging

The future and disruptive trends

Organizations in emerging markets are more likely to take actions to counter the threat of non-traditional start-ups, including having an obsessive focus on the customer (53%), constantly growing software development (49%) or placing mobile and social technologies at the heart of the business (44%)

What is your organization doing to counter the threat from the non-traditional start-up? Showing global top five actions



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