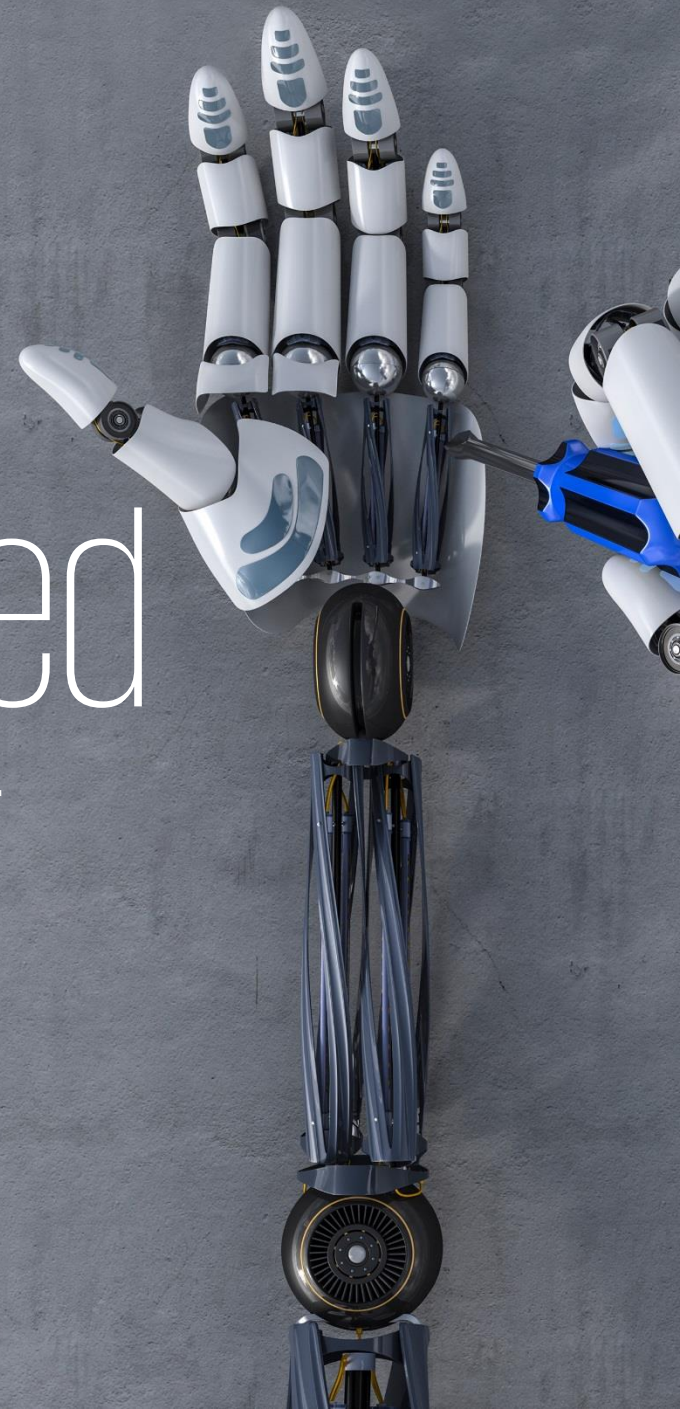# The disruptors are the disrupted

Disruptive technologies barometer: technology sector

KPMG South Africa

—

November 2016

Harnessing disruptive technology to run technology companies more effectively

— Technology companies traditionally disrupt their own and other markets — but now they are being disrupted

— From the Internet of Things to data analytics to marketing platforms — and beyond — how do these technologies impact tech organizations?

— KPMG International commissioned Forrester Consulting to survey 580 senior technology decision makes globally on the impact of disruption, and their investment priorities
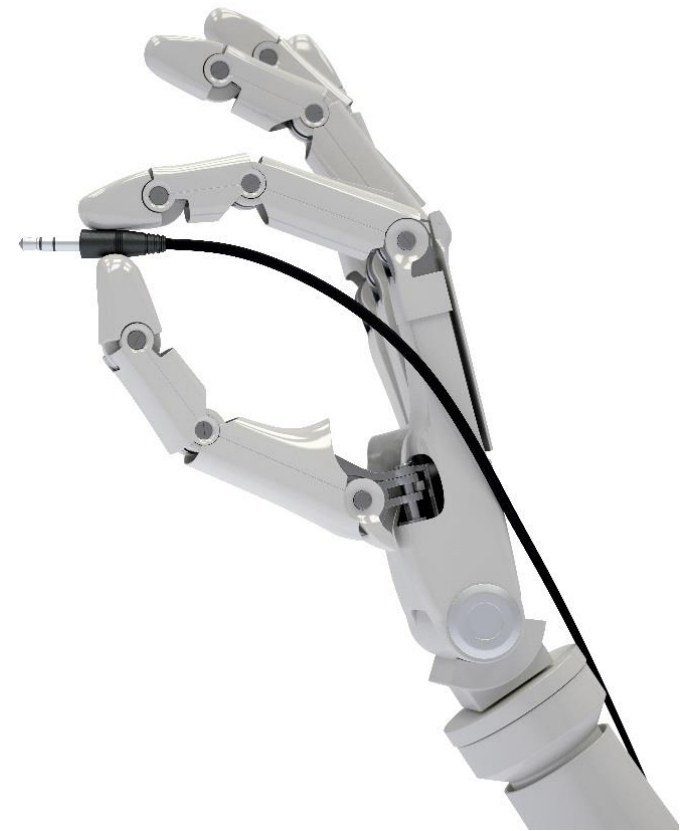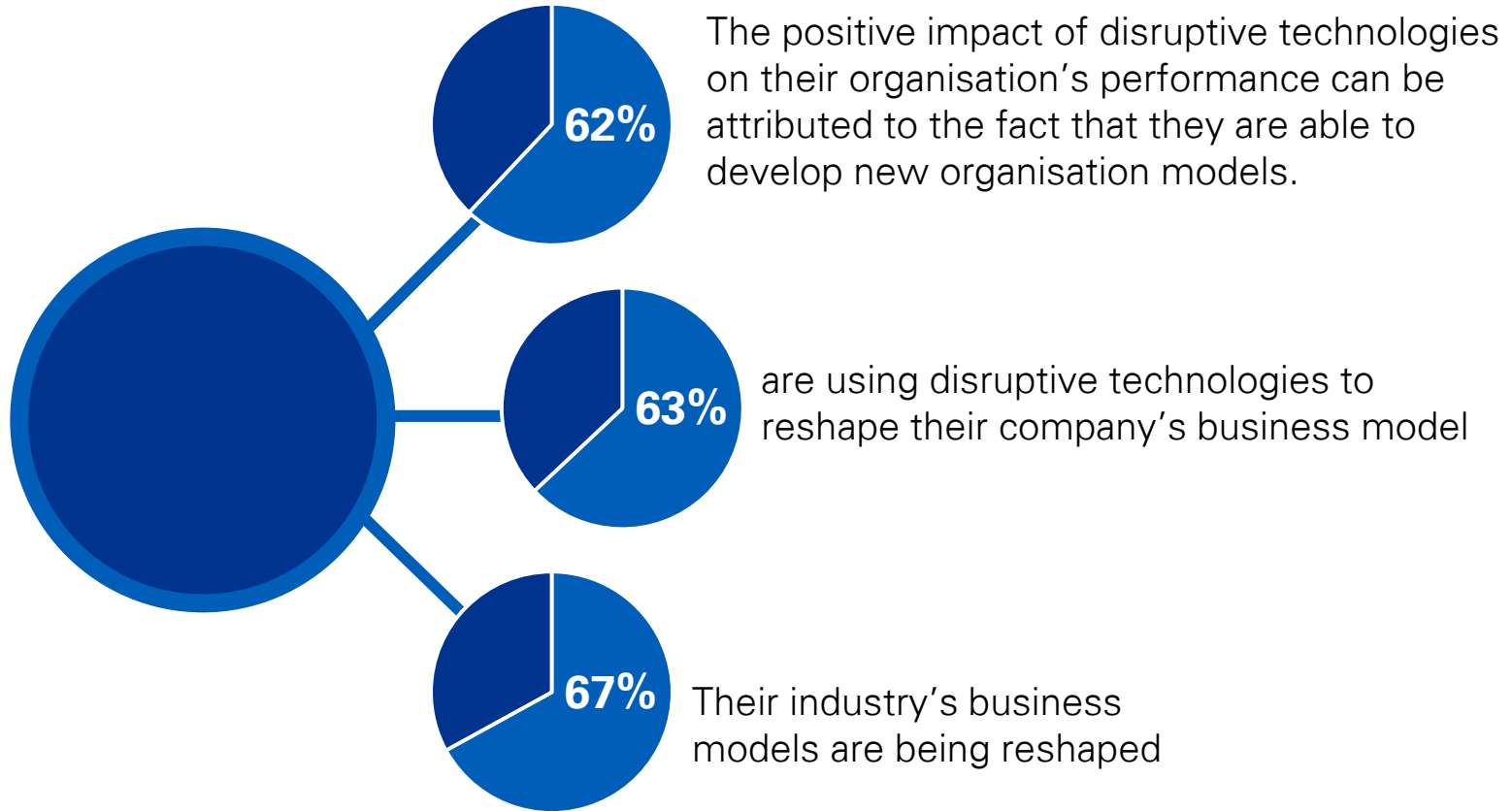
Highlights

— Technology leaders say their companies are not fully prepared for the impact of disruption

— The technology sector is investing in a wide range of disruptive technologies — in a bid to increase operational and customer effectiveness

— In a fast-moving marketplace, tech companies are uncertain as to which disruptive technologies will be the real game-changers

— Disruptive technologies are not a high enough priority on tech industry leaders' agendas

TMT leaders see considerable opportunity, but they express a litany of fears about disruptive technologies.

Disruption has a positive side

62% The positive impact of disruptive technologies on their organisation's performance can be attributed to the fact that they are able to develop new organisation models.

63% are using disruptive technologies to reshape their company's business model

67% Their industry's business models are being reshaped

Base: 580 business and IT decision-makers at technology companies
Source: A commissioned study conducted by Forrester Consulting on behalf of KPMG, January 2016

However, tech leaders have concerns over disruption

83% are mostly concerned that their core operating model is changing due to disruptive technologies.

43% Disruptive technologies threaten monetization in the media sector
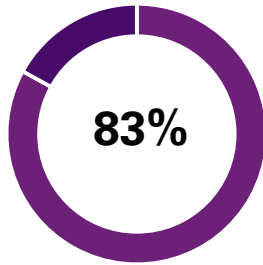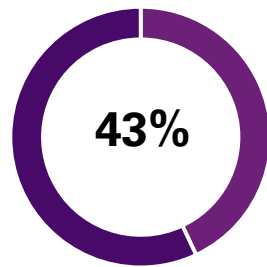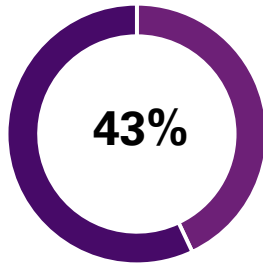
Base: 580 business and IT decision-makers at technology companies
Source: A commissioned study conducted by Forrester Consulting on behalf of KPMG, January 2016

Of those citing a negative impact from disruptive

43% Disruptive technologies are undermining our company's business model

41% We only invest in proven technologies, which leaves us behind in the curve.

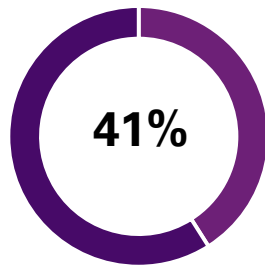**34%** Our industry saw the disruptive technology trend coming too late.

Base: 580 business and IT decision-makers at technology companies
Source: A commissioned study conducted by Forrester Consulting on behalf of KPMG, January 2016

Organizations are culturally unprepared to leverage disruptive tech

"Conservative" mindsets prevail:

"We do try to adopt technology . . . without raising huge alarm bells on the amount of money . . . [Our parent company in the US is] massively more conservative in their thinking than we are. So, we, as a business, will always try and ensure that we're reflecting marketing effects of technology changes either in improvements in margin or improvements in revenue or increased penetration in the market."

Finance Director, technology company

High comfort with legacy technology:

"[Legacy tech has] been there for 20 years. People love it. It's low cost. It does what it says. But it's monolithic — very difficult to change; the cost to change it is huge . . . people have to really bend backwards to accommodate it."

Account Director, technology company

Base: 580 business and IT decision-makers at technology companies
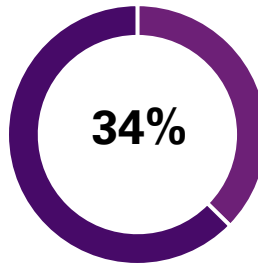Source: A commissioned study conducted by Forrester Consulting on behalf of KPMG, January 2016

As a result, few organizations are making strategic-level investments

To what extent is your company investing in each of the following technologies?

Strategic-level investments

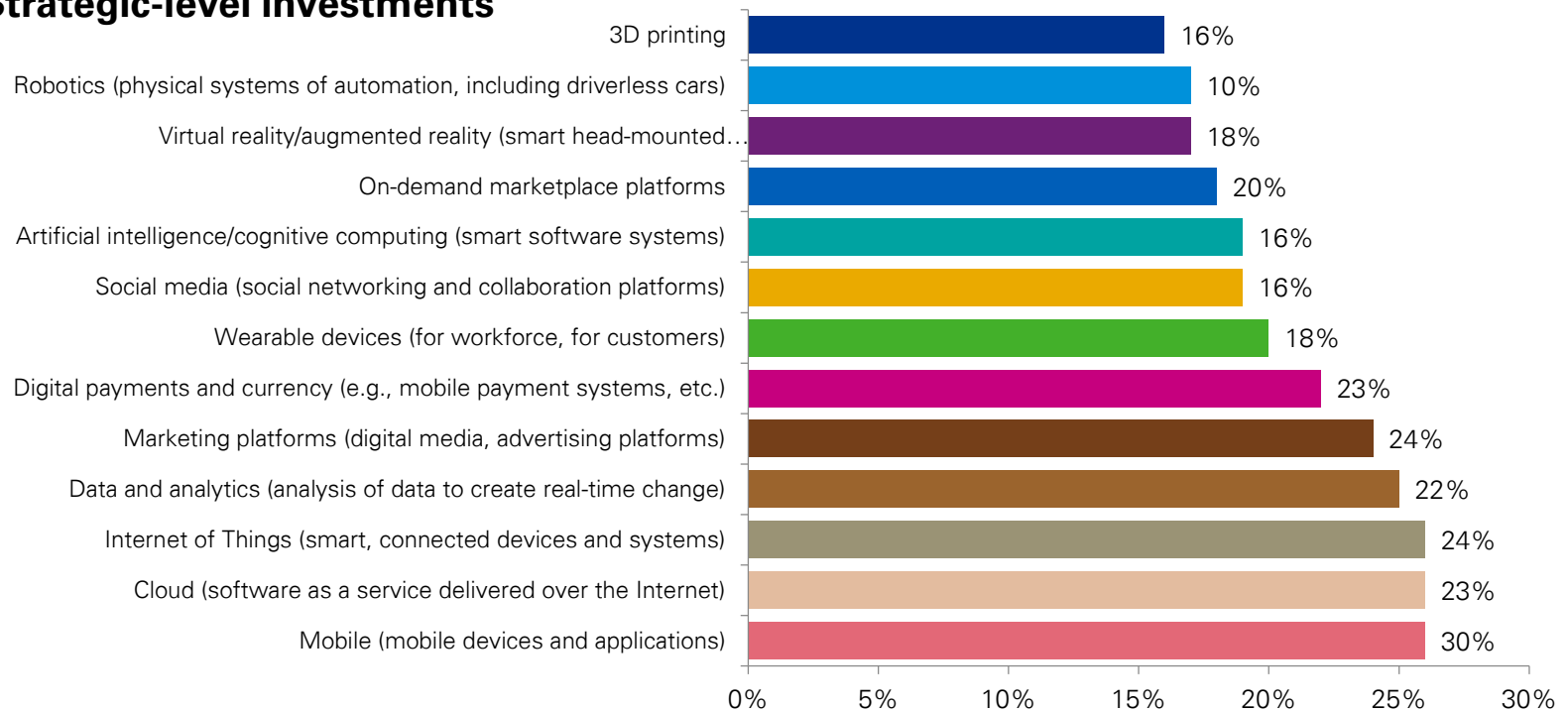| Technology	Value
3D printing	16%
Robotics (physical systems of automation, including driverless cars)	10%
Virtual reality/augmented reality (smart head-mounted…)	18%
On-demand marketplace platforms	20%
Artificial intelligence/cognitive computing (smart software systems)	16%
Social media (social networking and collaboration platforms)	16%
Wearable devices (for workforce, for customers)	18%
Digital payments and currency (e.g., mobile payment systems, etc.)	23%
Marketing platforms (digital media, advertising platforms)	24%
Data and analytics (analysis of data to create real-time change)	22%
Internet of Things (smart, connected devices and systems)	24%
Cloud (software as a service delivered over the Internet)	23%
Mobile (mobile devices and applications)	30%

Base: 580 business and IT decision-makers at technology companies
Source: A commissioned study conducted by Forrester Consulting on behalf of KPMG, January 2016

The organizational impacts of disruptive technologies

Across a broad spectrum of technology areas, from D&A to digital payments, IoT to robotics, senior technology business leaders say they're utilizing disruption to change how they run their operations and serve their customers.
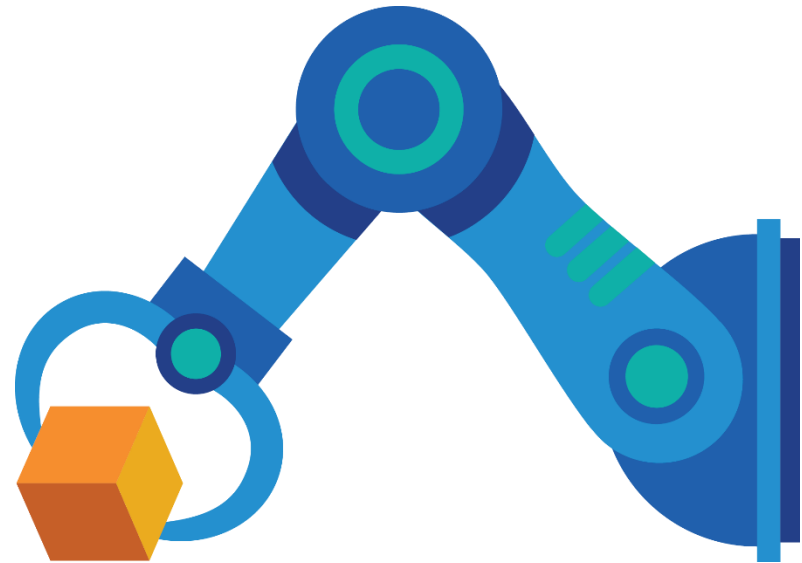
Disruptive technologies can be applied to two different areas of business

Customers

Technologies that attract, serve, and retain customers
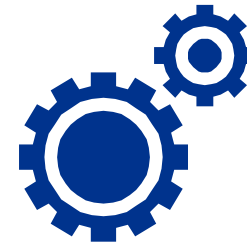
Operations

Technologies that drive operational excellence, productivity, and agility

When asked if the Internet of Things is changing how they serve their customers?"

39% responded that they are monetising their products and services differently.

While 34% say that because of robotics, they are developing new products or services.

...and Customer Service impacts of disruptive technologies

Artificial Intelligence/cognitive computing - 26% responded that they are improving customer experience matrix.

Virtual reality/augmented reality - 33% are developing new products and services.

3D printing 19% - are developing new products and services.

How does your organization keep abreast of developments in new, disruptive technologies?
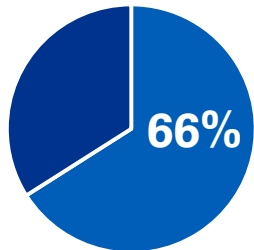
66% Our IT organization is responsible for doing the research
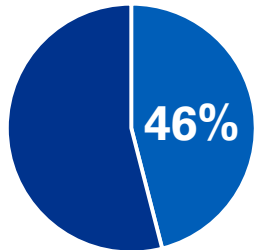
46% Individual business units have their own methods for tracking

Base: 580 business and IT decision-makers at technology companies
Source: A commissioned study conducted by Forrester Consulting on behalf of KPMG, January 2016

Based on impact and investment, disruptive technologies fall into 5 stages

KPMG framework: Disruptive technology value map
(Investment versus impact model)

Table stakes

Investment | **Impact**

Technologies
D&A
Cloud
Mobile

Insights
— Receive high investment and generate strong impact today.
— Reached an initial phase of business maturity but remain innovative and challenging to master.
These technologies have become ubiquitous. Tech businesses failing to embrace cloud, mobile and D&A risk falling behind in terms of efficiency, productivity and customer experience.

Maturing

Investment | **Impact**

Technologies
Social media

Insights
— Generates strong impact, but no longer requires high investment.
— Receives medium-to-low investment, but still delivers value.
For technology firms, social media has reached maturity. It is an indispensable tool that doesn't require a large amount of ongoing investment. Tech leaders are using social media to interact with customers and stakeholders, and to respond to trends and track competitive activity.

Sunrise/sunset

Investment | **Impact**

Technologies
On-demand market based platforms
Digital payments & currency
Artificial intelligence & cognitive computing

Insights
— Receive medium levels of targeted investment and have begun to generate medium levels of impact as well.
— Sunset technologies have declining levels of investment and impact.
Tech firms are more likely to invest in sunrise disruptive technologies. 35 percent of respondents believe AI and cognitive computing give them the means to monetize products more effectively. These technologies are raising operational quality, reducing human error and speeding up many routine business processes.

Strategic

Investment | **Impact**

Technologies
Internet of things
Marketing platforms

Insights
— Receive significant investment today in the hopes of strong impact tomorrow.
— High investment and medium-to-low on impact.
Strategic technologies are starting to deliver, but carry exceptional future promise. More tech leaders are investing in IoT (61 percent) than any technology. IoT has the potential to develop new products or services and improve the customer experience.

Nascent

Investment | **Impact**

Technologies
Wearable devices
Virtual/augmented reality Robotics
3D printing

Insights
— Receive lower levels of targeted investment and have yet to generate serious impact, but are seen as potential future stars.
The relative maturity of these technologies places a higher risk on investment. Tech firms are getting a significant impact with VR/AR today even though their full potential won't be achieved for a few more years. Robotics is digitizing labor leading to a fundamental change in the workforce and job functions.
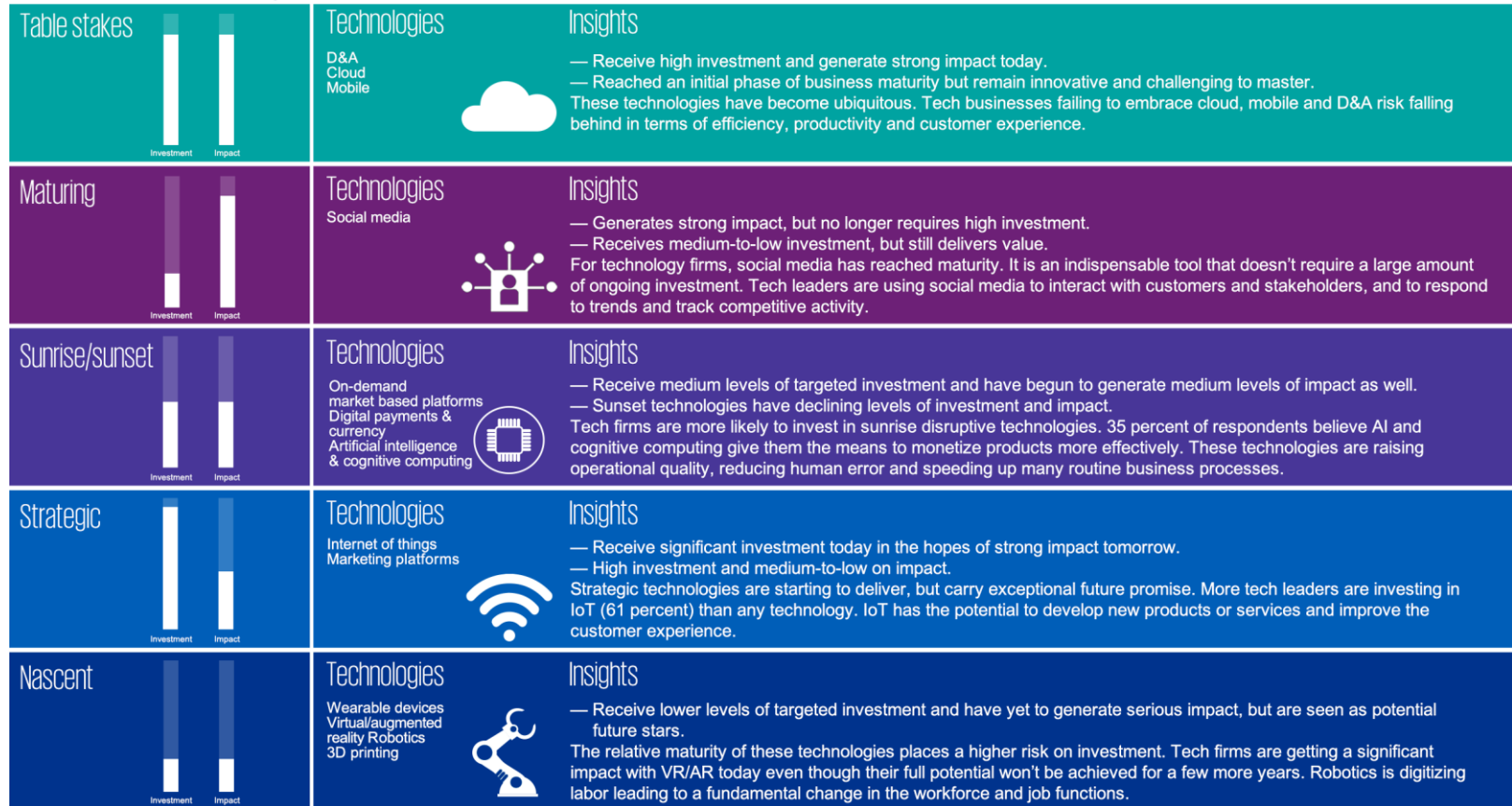
Base: 580 business and IT decision-makers at technology companies
Source: A commissioned study conducted by Forrester Consulting on behalf of KPMG, January 2016

Measuring the impact of investments in disruptive technology

30%

spend resources in the investment of Cloud, Mobile, IoT, D&A technologies

67%

has one or more innovation-specific budgets that can be applied to the piloting and deployment of new, disruptive technologies

44%

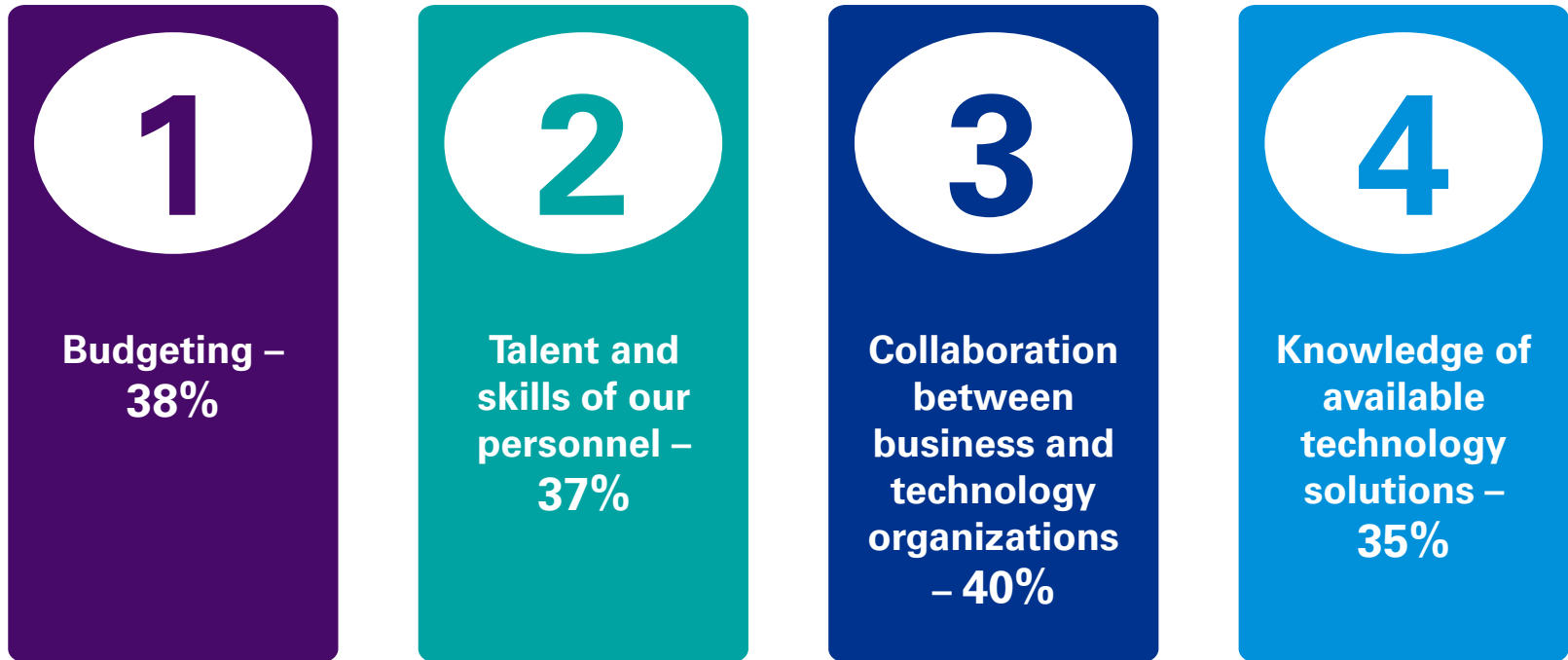investment decisions are made by Technology management – the IT department and/or the CIO's organization

40%

Federated: Headquarters makes most technology strategy decisions and allows local teams to adjust decisions and execute

Base: 580 business and IT decision-makers at technology companies
Source: A commissioned study conducted by Forrester Consulting on behalf of KPMG, January 2016

"How prepared is your company to address each of the following opportunities/issues as they relate to new, disruptive technologies?"

1 — Budgeting – 38%

2 — Talent and skills of our personnel – 37%

3 — Collaboration between business and technology organizations – 40%

4 — Knowledge of available technology solutions – 35%

Base: 580 business and IT decision-makers at technology companies
Source: A commissioned study conducted by Forrester Consulting on behalf of KPMG, January 2016

Successfully navigating disruption: five key takeaways

1 **Understand the organizational impact of disruptive technologies**
Identify the significant technologies that could be most useful to your organization, and the potential benefits to be gained from early adoption

2 **Align investment in disruption with corporate strategy**
The C-suite needs to get behind disruption, with performance indicators to track effectiveness of investments

3 **Strike the right balance between investing in today's and tomorrow's technologies**
Look beyond quarterly growth and be bold about transforming the business model and operations

4 **Demonstrate investment agility**
Be prepared to "fail safe" and pilot the use of disruptive technologies

5 **Set the organization on the path to transformation**
Realizing the full potential of disruptive technologies ultimately means adopting new ways of doing business

How KPMG can help

KPMG's technology professionals combine industry knowledge with technical experience to provide insights that help technology leaders deal with complexity.

Our aim is to help technology companies become agile, disrupted organizations that can move quickly to embrace the appropriate innovations — and equally discard those that aren't supporting their strategic growth.

Aligning resources (notably financial, people and leadership time), and executing the most significant change initiatives — not just every few years, but, if necessary, every few months.

KPMG

kpmg.com/socialmedia   kpmg.com/app