



Managing technology innovation

Insights for technology companies on driving, measuring, fostering, and overcoming barriers to innovation

Key takeaways:

- CIOs drive innovation at tech companies
- Market value ranked as most common innovation measurement
- Financial incentives voted most effective for motivating innovation
- Measuring ROI is the biggest barrier to monetizing innovation

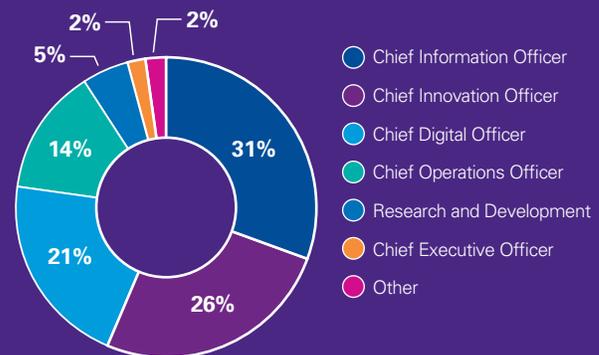
Managing innovation is hard. Although the concept of [dynamic investing](#) is gaining momentum, most organizations still operate on an annual review and funding model. They are also powered by a complex, intertwined network of legacy systems and applications. Yet technology evolution and obsolescence don't adhere to an established quarterly or annual schedule. These conflicting realities make it difficult for companies to decide which transformational technologies to adopt, when to adopt them, and how to integrate them with, or even replace, existing systems.

It makes sense, then, that for the second year in a row, the Chief Information Officer (CIO) was named the top driver of innovation in KPMG's Technology Industry Innovation Survey. Reinforcing this is that 60 percent of tech company CIOs said their role is becoming more strategic, per the [2019 Harvey Nash/KPMG CIO survey](#). Tech company CIOs are also proving themselves more innovative than their cross-industry peers. They report a greater degree of implementing transformational technologies including Internet of Things (IoT), artificial intelligence (AI), blockchain, robotic process automation (RPA), augmented/virtual reality, on-demand platforms, cloud, and even quantum computing.

Conversely, only two percent of respondents named the CEO responsible for driving innovation. This contrasts with the CEO's perception of their role. In KPMG's [2019 Global CEO Outlook survey](#), 79 percent of tech company CEOs said they were personally leading their organization's technology strategy.

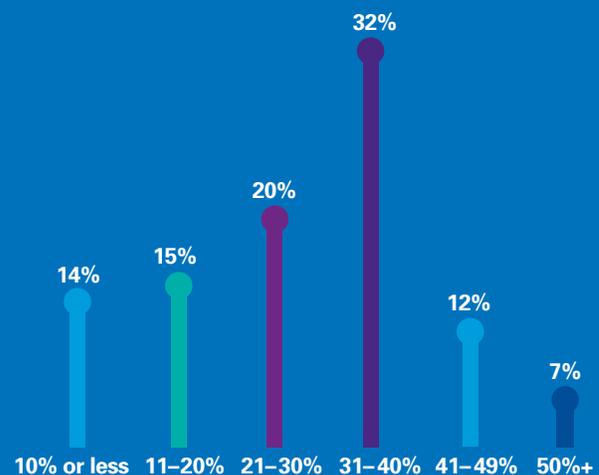
When asked how much time their C-suite allocates to innovation initiatives, the most common estimates from all tech company leaders was between 21 and 40 percent.

Function responsible for driving innovation



Source: KPMG Technology Industry Innovation Survey 2019
Percentages may not equal 100 percent due to rounding.

Amount of time the C-Suite allocates to driving innovation initiatives



Percentage of time spent driving innovation initiatives
Source: KPMG Technology Industry Innovation Survey 2019

Measuring innovation

Direct financial results were again prominent in this year's findings as the top metrics to measure the success of innovation. Technology industry leaders ranked market value as the top metric, followed by return on investment (ROI) and revenue growth. These were also the top three in last year's findings, although revenue growth was ranked highest.

The indirect growth metrics of number of patents and brand/reputation measurement rounded out the top five. While the results by company size did not show much variation, large tech enterprises did rank brand/reputation third; higher than ROI.

From a geographic perspective, respondents from most countries were generally consistent with the rankings. However, respondents from these countries had some notable differences:

- China rated revenue growth as the top metric
- India identified brand/reputation barometer as their number one
- Korea ranked market share in the top position

How tech companies measure the value of innovation

1	Market value
2	ROI
3	Revenue growth
4	Number of patents
5	Brand/Reputation barometer
6	Market share
7	Incremental revenue from new products and services
8	Stock price
9	Number of new customers acquired

Source: KPMG Technology Industry Innovation Survey 2019
Multiple responses allowed.

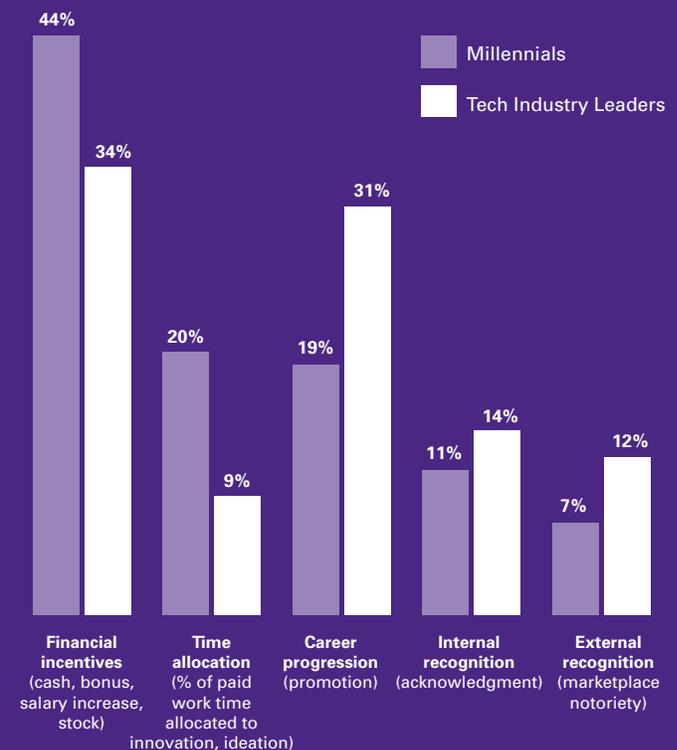
Fostering an innovative culture

We asked our survey respondents to select the one approach they felt is most effective for an organization to motivate its employees to be innovative. As Millennials already comprise the largest segment of the U.S. workforce¹ and are poised to constitute up to 75 percent of the global workforce by 2025, we looked at their responses separately.

Contrary to popular perceptions on Millennials, they rated financial incentives as the most effective motivational method by a two-to-one margin. They also rated it higher than their more tenured industry peers. This reflects the evolving maturation of this generation. Financial rewards will naturally become more important as they progress further through adulthood and seek to establish independence, start families, and achieve stability.

Global tech executives that responded to our survey were mostly Generation X and Baby Boomers, who are further along in their career path and life phase than Millennials. They rated financial incentives and career progression almost equally, emphasizing that these often work in tandem in the business world they grew up in.

Most effective methods for motivating employees to innovate



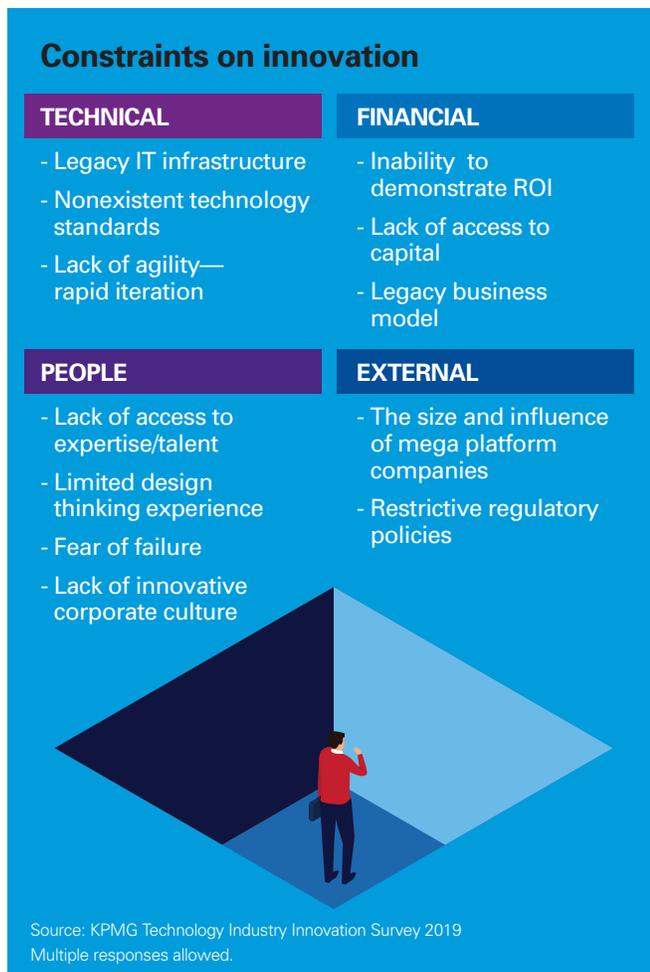
Sources: KPMG Technology Industry Innovation Survey 2019 and KPMG Technology Industry Millennials Survey 2019
Percentages may not equal 100 percent due to rounding.

¹ Richard Fry, "Millennials are the Largest Generation in the U.S. Labor Force," Pew Research Center Fact Tank (April 11, 2018)

Constraints on innovation

What's preventing technology companies from innovating? Lots of things, it turns out. All the constraints shown in the chart were within a 10-percentage-point spread as ranked by survey respondents, with several tied with each other. There was no single overriding factor. Consistently, many of these constraints on innovation (such as legacy IT infrastructure, inability to demonstrate ROI, lack of access to capital, and regulatory issues) were also identified as challenges with adopting new technologies in KPMG's report, [Top 10 technologies for business transformation](#).

Tech company CIOs offered yet another constraint. In the [2019 Harvey Nash/ KPMG CIO survey](#), 50 percent said that the need for data security moderately or significantly limits their organization's ability to innovate.



Several similar themes emerged when global tech leaders cited their challenges in responding to new technology trends overall. The primary ones were building business cases and identifying which investments provide the most ROI. Other challenges included arbitrating between different technology trends and deciding how to direct scarce resources and investment dollars. Finally, even staying abreast of all the latest technology developments is challenging.

Barriers to monetization

It's one thing to successfully create an innovative organization. It's another to monetize the innovations, whether in the form of new revenue or cost savings. In fact, right now tech leaders are mostly using [transformational technologies](#) to improve business efficiencies and reduce costs as opposed to generating new revenue.

Many of the cited barriers are also interwoven. For example, ROI is complex to measure when you also have to incorporate the integration/replacement cost of legacy IT infrastructure and calculate all the potential new risks and control mechanisms the innovative solution will require.

Cyber threats are constantly multiplying and privacy regulations are evolving. Any new innovation must be designed with these in mind, and flexible enough to adapt to future requirements.

Barriers to monetizing technology innovations

1	Measuring ROI
2	Cybersecurity
3	Privacy governance
4	Legacy IT infrastructure
5	Regulatory compliance
6	Legacy business model
7	Risk management
8	Government policies
9	Funding/access to capital
10	Develop monetization model
11	Customer adoption
12	Technology complexity
13	Develop efficient supply chain
14	Access to talent

Source: KPMG Technology Industry Innovation Survey 2019
Multiple responses allowed.
Partial list shown.

Countering disruption

Technology companies are addressing future potential disruptive forces by a mixture of organic and inorganic strategies. These were ranked closely by survey respondents and show that there is no universal best method to prepare against disruption:

1. Funding innovative startups
2. Pivoting to a less-likely disrupted market segment
3. Acquiring innovative companies/IP
4. Internally developing new innovative products
5. Improving existing products

While tech company CEOs acknowledge that disruptive technology risk is one of the biggest threats to growth, they are confident in their organization's ability to cope. Findings from [KPMG's 2019 Global CEO Outlook](#) survey illustrate this:

- 71 percent believe their emerging technology specialists are highly effective
- 69 percent say they are actively disrupting their sector vs. waiting to be disrupted
- 67 percent say they have structures to ensure their business stays competitive in the face of disruption

Next steps

Activities that technology company leaders should consider when managing innovation include:

- **Assess where your company is on the innovation maturity scale.** A mature innovation process is funded and integrated, with formal links to strategy and business units. The innovation portfolio has outcomes that are both tracked and realized. The process is also optimized, making it repeatable and scalable.
- **Consider a new funding model for innovation initiatives.** [Dynamic investing](#) calls for a continual and flexible funding process that is separate from annual operational budgeting. Innovation should be funded with a separate pool of resources and governed by a structure and metrics appropriate for an innovation portfolio.
- **Don't forget the people.** While talent and technology are both key to growth, there is often a perceived trade-off between investing in one versus the other. However, success lies in both. The right tools and programs must be in place to enable a skilled, capable, and engaged workforce that can achieve your business goals.

About the research

- The KPMG Technology Industry Innovation Survey included responses from over 740 technology industry leaders across 12 countries. The online survey was conducted between December 2018 and January 2019.
- The KPMG Technology Industry Millennials Survey included responses from 600 millennials working in the technology industry in seven countries. The online survey was conducted between February 2019 and March 2019.
- The KPMG 2019 Global CEO Outlook included responses from 110 technology sector CEOs in 11 countries. The survey was conducted between January 2019 and February 2019.
- The 2019 Harvey Nash/KPMG CIO Survey is the largest IT leadership survey in the world in terms of number of respondents. The 2019 survey was conducted of 3,645 CIOs and technology leaders across 108 countries.

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