A tale of two disruptions: tech innovation and cybersecurity
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As in previous years, the Technology Industry Outlook publication identifies key trends including geographic expansion plans, emerging technology revenue streams, investment priorities, and risks to company growth.
In this year’s survey, tech leaders in the United States remain optimistic about a broader portfolio of revenue opportunities for technology companies. Mobile is firmly established as a platform changing the way we live and work, and it continues to lead expectations for revenue growth. A wide range of attractive revenue opportunities for tech companies also include healthcare IT, data & analytics (D&A), cloud, and social platforms.

Competition is fierce as start-ups and industry giants continue to redefine the pace of tech innovation and business transformation. The survey responses reflect the importance of innovation by the investment trends in R&D, M&A and employment expansion. Technology execs are encouraged by an improving U.S. economy, and their large cash positions provide great opportunities for investments to create competitive differentiation.

As the technology industry landscape evolves, so do respondents’ expectations about geographic opportunities. The United States and Canada are cited as leading markets for revenue growth. In another geographic shift, tech leaders indicate they are increasingly investing in jobs and manufacturing operations throughout the U.S., with increased focus in the Midwest and East Coast.

In this year’s survey, respondents reveal concerns about global economic and political uncertainty. Other risks to company growth include incremental tax and regulatory complexities in the United States and abroad.

As cyber attacks drive headlines around the world, tech companies, big and small, will continue to invest in the development and implementation of information security and IT risk management technologies. For tech companies, gaining and retaining customer trust is key even as next-gen cybersecurity solutions emerge to deal with this challenge.

We hope you find the publication insightful, and we welcome feedback about the findings or suggestions for next year’s survey.

Gary Matuszak
Global and U.S. Chair, Technology, Media & Telecommunications, KPMG

Richard Hanley
Advisory Sector Leader, Technology, Media & Telecommunications, KPMG LLP (U.S.)
This is KPMG’s 7th annual edition of the Technology Industry Outlook publication. The online survey, conducted from March to April 2015, reflects the viewpoints of 111 tech industry leaders in the United States.
Geographic Revenue Opportunities
Tech leaders expect the United States and Canada to drive the highest revenue growth rates for their companies, as economic and political changes in once-hot growth markets shift expansion expectations. China, in contrast, recorded a decline in growth forecasts in the face of increasing sales by domestic companies and a continued slowdown in economic growth.

Revenue Growth
Mobile retains the leading position in this year’s results, but respondents cited a broader range of technologies that are driving growth. Healthcare IT and data & analytics continue to be key sources of revenue gains.

R&D Investments
More than 9 out of 10 respondents anticipate R&D investment to remain consistent or to increase. As product cycles shrink for many technologies and new products are created at faster rates, tech companies continue to recognize the importance of innovation leadership to future market success.

M&A Drivers
Access to new customers and technologies, traditional drivers of M&A, are followed closely this year by new distribution networks as companies look to increase market share and build a strong customer base.

Employment Growth
Expectations for headcount expansion match respondents’ sentiment about the leading markets for revenue growth, with the United States and Canada being cited as the top countries expected to show an increase in tech sector jobs.

Tech Innovation and Business Transformation
This year’s respondents identified the top transformation drivers for their organizations, with changing customer demand, maintaining differentiation through innovation and increased domestic competition leading the list.

Cybersecurity Challenges and Opportunities
Recognizing the importance of information security to protecting their operations and maintaining customer trust, as well as the evolving nature of security threats, three-fourths of technology executives expect their companies to spend 1 to 5 percent of their revenue on IT security over the next year.

Growth Risks
Tech industry executives identify the speed of economic recovery, new regulations, and tax-related legislation as leading risk factors to their companies’ growth.
GEOGRAPHIC REVENUE OPPORTUNITIES

Q: Which of the following geographic markets do you believe will have the highest percentage of your company’s revenue growth over the next 24 months?

Tech companies counting on the U.S. market in light of global uncertainties.

Tech industry leaders continue to expect the United States to drive the highest revenue growth rate for their companies, as macroeconomic shifts create a variety of expansion opportunities closer to home. Almost nine out of 10 say the U.S. market will provide the highest percentage of revenue growth over the next 24 months, significantly ahead of Canada (44 percent), which ranks as the second-leading country to drive growth for tech companies.

Tech industry execs see the United States as a leading market in the adoption of numerous technologies including mobile, cloud, and data & analytics. Many companies, across different industries, are increasingly confident about their business outlook and are looking to grow revenue rather than cutting costs.

Canada and Mexico also show notable gains in expectations for revenue growth, due in large part to economic strength in North America.

In contrast, the expectations for China indicate a decline in growth as a result of slower economic expansion and increasing competition from local tech companies. As recently reported, domestic demand in China continues to be weak despite stimulus measures by the government and central bank to boost growth.

Expectations also decreased for the United Kingdom. In the first quarter of 2015, the 0.3 percent expansion marked the U.K.’s weakest growth since the end of 2012. Sentiment about the U.K. and Germany reflects the challenges European markets pose to tech companies given the volatility of the region’s economy.

“\nIn North America, we’re seeing a halo effect from the strength of the U.S. economy. Although China and other high-growth markets remain important for U.S. tech companies, slowing economic conditions, currency volatility and other factors are reducing the strong revenue and profitability growth seen in recent years and prompting U.S. tech firms to be more bullish in the opportunities closer to home.”

Gary Matuszak
Global and U.S. Chair, Technology, Media & Telecommunications, KPMG
As China shifts its focus to emphasize domestically developed innovation, more U.S. tech firms are adjusting their market strategies including forming alliances to collaborate with Chinese companies.

Egidio Zarrella
Clients and Innovation Partner, KPMG China

In Canada we will continue to benefit from stronger U.S. economic growth, higher domestic business investment, and rising Canadian exports as a few of the bright spots impacting the technology sector.

Brendan G. Maher
National Industry Leader, Technology, Media & Telecommunications, KPMG Canada
REVENUE GROWTH

Demand for high-tech products and services in enterprise and consumer markets is fueling optimism in the tech sector.

The survey sentiment continues to highlight the five-year trend of bullish expectations from tech sector execs about their companies’ revenue growth. This year, more than eight out of 10 respondents expect their company’s revenue to increase over the 12 months, with a notable increase in the group forecasting growth in excess of 10 percent.

Q: How do you expect your company’s revenue to change in the next 12 months?

<table>
<thead>
<tr>
<th>Change in Revenue</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase by more than 11%</td>
<td>14%</td>
</tr>
<tr>
<td>Increase by 6% to 10%</td>
<td>25%</td>
</tr>
<tr>
<td>Increase by 1% to 5%</td>
<td>42%</td>
</tr>
<tr>
<td>About the same</td>
<td>12%</td>
</tr>
<tr>
<td>Decrease by 1% to 5%</td>
<td>5%</td>
</tr>
<tr>
<td>Decrease by 6% to 10%</td>
<td>3%</td>
</tr>
</tbody>
</table>

“Unlike a few years ago when respondents picked cloud and mobile as the biggest projected revenue drivers, they are now identifying a much broader range of technologies to boost growth in the coming 12 months. Yet, regardless of how confident they are in their strategy, in today’s hyper-competitive marketplace marked by rapid technology innovation, it is important for tech companies to remain agile and invest proactively in a variety of emerging opportunities.”

Gary Matuszak
Global and U.S. Chair, Technology, Media & Telecommunications, KPMG
REVENUE GROWTH DRIVERS

A wide variety of technology products and services are driving revenue growth in the tech sector.

Opportunities resulting from the integration of technologies such as mobile, data & analytics, cloud, and social platforms are creating a flurry of innovations, such as the “sharing economy,” that are transforming consumer and enterprise markets.

The wide dispersion of technologies that are drivers of revenue growth highlights the continued emergence of new markets that did not exist just a few years ago.

Q: Which do you believe will be the biggest drivers of your company’s revenue growth over the next 24 months?

<table>
<thead>
<tr>
<th>Technology Product/Service</th>
<th>Percentage</th>
<th>2014</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobile (including mobile apps and devices)</td>
<td>27%</td>
<td>41%</td>
<td>38%</td>
</tr>
<tr>
<td>Healthcare IT, Devices and Applications</td>
<td>22%</td>
<td>16%</td>
<td>21%</td>
</tr>
<tr>
<td>Data &amp; Analytics</td>
<td>19%</td>
<td>51%</td>
<td>33%</td>
</tr>
<tr>
<td>Digital Media/Advertising Video Platforms</td>
<td>16%</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Cloud</td>
<td>15%</td>
<td>40%</td>
<td>38%</td>
</tr>
<tr>
<td>Social/Collaboration/Messaging Platforms</td>
<td>15%</td>
<td>16%</td>
<td>NA</td>
</tr>
<tr>
<td>Shared Economy/Collaborative Consumption (Uber, Airbnb)</td>
<td>14%</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Security</td>
<td>14%</td>
<td>28%</td>
<td>16%</td>
</tr>
<tr>
<td>Internet of Things</td>
<td>13%</td>
<td>19%</td>
<td>NA</td>
</tr>
</tbody>
</table>
REVENUE GROWTH: Mobile revenue trends

Mobile has been a key revenue driver for several years now.

This response is in line with the ongoing importance of mobile as a global technology and payment platform that enables further innovation. As indicated in KPMG’s Tech Innovation survey released last fall, companies around the world are leveraging mobile to achieve greater productivity, faster innovation cycles and greater customer loyalty.

Among those who said mobile is a driver of their company’s revenue growth, 84 percent indicate mobile revenue forecast expectations in the last year had met or exceeded expectations.

Q: Which best describes your mobile revenue in the last year?

2015:
- Above forecast: 33%
- Met forecast: 51%
- Below forecast: 7%

2014:
- Above forecast: 32%
- Met forecast: 53%
- Below forecast: 10%

Tech industry insights
REVENUE GROWTH: Technology innovation

Technology innovation continuously creates new opportunities to transform industries.

Survey respondents identify healthcare IT, devices and applications as the second-leading driver of revenue growth. A notable example where these technologies can drive significant transformation is medical care.

Massive improvements in medical care are being enabled by innovations in preventive care including patient monitoring through wearable and implantable devices that communicate directly with providers and other equipment as a part of the Internet of Things ecosystem. Similarly, providers and patients have the ability to derive meaningful insights from a broader volume of health-related data being enabled by advanced data & analytics technologies, which are also cited as a promising revenue growth driver in this year’s results.

Healthcare providers, patients and technology suppliers are all benefitting from the intersection of Big Data, the ability to generate insights from vast volumes of health and patient data, with so-called “small data” — insights about specific patients available through automated monitoring and advanced testing technologies.

Q: In which areas do you see technology innovation providing the biggest contribution to improve medical care?

<table>
<thead>
<tr>
<th>Preventive care</th>
<th>53%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient monitoring systems (EKGs, blood pressure, blood sugar, etc.)</td>
<td>36%</td>
</tr>
<tr>
<td>Medical imaging/scanning (MRIs, ultrasound, etc.)</td>
<td>33%</td>
</tr>
<tr>
<td>Remote medicine</td>
<td>26%</td>
</tr>
<tr>
<td>Biotech (genomics, etc.)</td>
<td>24%</td>
</tr>
<tr>
<td>Electronic medical records</td>
<td>17%</td>
</tr>
<tr>
<td>Medical instrumentation (i.e., dialysis machines, etc.)</td>
<td>9%</td>
</tr>
</tbody>
</table>
INVESTMENT TRENDS: R&D growth

Tech industry leaders continue to project growth in R&D investments.

With innovation at the heart of most of the tech companies’ core priorities, more than nine out of 10 respondents anticipate R&D investment to remain consistent or to increase.

As product life cycles shorten and emerging technologies increasingly overlap, tech companies continue to recognize the importance of innovation leadership to secure future market success.

Q: What do you expect your company’s R&D spending to be like over the next 12 months?

2015

<table>
<thead>
<tr>
<th>Increase</th>
<th>Same</th>
<th>Decrease</th>
</tr>
</thead>
<tbody>
<tr>
<td>27</td>
<td>64</td>
<td>6</td>
</tr>
</tbody>
</table>

2014

<table>
<thead>
<tr>
<th>Increase</th>
<th>Same</th>
<th>Decrease</th>
</tr>
</thead>
<tbody>
<tr>
<td>28</td>
<td>61</td>
<td>6</td>
</tr>
</tbody>
</table>

2013

<table>
<thead>
<tr>
<th>Increase</th>
<th>Same</th>
<th>Decrease</th>
</tr>
</thead>
<tbody>
<tr>
<td>25</td>
<td>67</td>
<td>3</td>
</tr>
</tbody>
</table>
INVESTMENT TRENDS: M&A drivers

Many tech companies have large piles of cash to acquire companies that can provide access to new customers, technologies and products.

The market opportunities in mobile, cloud, data & analytics, and security are expected to continue to drive technology industry mergers and acquisitions in 2015, according to a KPMG M&A survey released earlier this year. The tech industry M&A professionals in that survey overwhelmingly said the most common challenge to deal-making in the year ahead was the valuation disparity between buyers and sellers. They were also concerned with the identification of suitable targets and buyer/target alignment on post-deal execution strategy. According to 30 percent of this survey respondents, another M&A driver is the opportunity to gain new distribution networks to gain market share.

Q: Which of the following will be among the most important drivers of mergers and acquisitions in your company?

<table>
<thead>
<tr>
<th>Driver</th>
<th>2015</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access to new customers/users</td>
<td>50%</td>
<td>49%</td>
</tr>
<tr>
<td>Access to new technology and products</td>
<td>37%</td>
<td>65%</td>
</tr>
<tr>
<td>New distribution networks</td>
<td>17%</td>
<td>30%</td>
</tr>
<tr>
<td>Control over strategic assets to defend</td>
<td>26%</td>
<td>28%</td>
</tr>
<tr>
<td>against competition</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Labor cost pressures</td>
<td>16%</td>
<td>25%</td>
</tr>
</tbody>
</table>

"The tech industry ecosystem, from start-ups to tech giants, is in constant evolution. Tech companies need to continuously assess and manage their focus to become (or continue to be) an industry leader. We are seeing technology companies restructuring and realigning to compete more effectively. A growing number of spinout transactions are taking place, to increase the company’s agility, focus and market leadership."

Richard Hanley
Advisory Sector Leader, Technology, Media & Telecommunications, KPMG LLP (U.S.)
INVESTMENT TRENDS: Employment growth

Q: Which of the following geographic markets do you believe will have the highest percentage of employment growth for your company over the next 24 months?

The U.S. dominates as the leading markets for employment growth.

Respondents’ expectations for employment growth over the next 24 months largely matched their beliefs about attractive markets for revenue growth. The U.S. and Canada are cited as the top countries capturing job investments in the tech sector; lower headcount growth expectations are mentioned for China, and there is a significant drop in India as companies realign their hiring to match market opportunity.

The global economic uncertainties play a role in the focus on the North American employment market optimism. The tech sector accounts for nearly 6 percent of U.S. employment and tech related jobs are gaining momentum across diverse industries and U.S. locations.

Richard Hanley
Advisory Sector Leader, Technology, Media & Telecommunications, KPMG LLP (U.S.)

Canada continues to be a key destination for innovation-focused employment due to a skilled and globally orientated IT developer talent pool, favorable R&D tax incentives and government grants, growing capital investments, and a competitive domestic currency.

Brendan Maher
National Industry Leader, Technology, Media & Telecommunications, KPMG Canada
Chinese companies are shifting their focus from merely manufacturing products designed elsewhere to developing innovations for domestic and international markets. That ability to innovate is becoming as much of an important characteristic for the Chinese tech sector as its well-honed manufacturing capabilities.

Egidio Zarrella
Clients and Innovation Partner, KPMG China
INVESTMENT TRENDS: U.S. geographic expansion

Tech industry execs cite a broad range of locations for increased investment and jobs over the next two years, with the East Coast and the Midwest leading as the top destinations.

In recent years, Northern California’s tech sector grew beyond Silicon Valley into San Francisco. Jobs in the information sector require specialized knowledge and skills, and a highly educated workforce and, as a result, pay better than most other jobs, making growth in such jobs vital for many cities. New York City has also become a prominent tech hub, led by digital media and adtech. Other tech hubs can be found in Seattle, as well as Austin and Boston. Many U.S cities are looking to get notoriety as key hubs on the tech industry map. A number of factors are driving this growing geographic diversity, including government incentives that are increasing competition for desirable jobs and local revenue. The talent pool is extremely competitive in some markets and new cities are providing options for talent and other key resources.

Q: In which parts of the U.S. do you plan to increase investment/jobs over the next 24 months?

<table>
<thead>
<tr>
<th>Location</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>East Coast</td>
<td>32%</td>
</tr>
<tr>
<td>Midwest</td>
<td>32%</td>
</tr>
<tr>
<td>West Coast</td>
<td>23%</td>
</tr>
<tr>
<td>South</td>
<td>17%</td>
</tr>
<tr>
<td>Don’t plan</td>
<td>10%</td>
</tr>
</tbody>
</table>

“What continues to feed the U.S. innovation spirit is its highly entrepreneurial, risk-taking culture that is refreshed by new ideas and increased investment. Tech innovation is expanding from the Bay Area to tech hubs in the East Coast, Midwest and around the world.”

Gary Matuszak
Global and U.S. Chair, Technology, Media & Telecommunications, KPMG
Looking at product manufacturing trends, tech industry leaders point to a shift toward increased investment in the United States.

Consistent with revenue and headcount growth, tech execs’ optimistic view of the U.S. is also reflected in their expectations for manufacturing deployment, with more than a third of executives planning either to increase manufacturing operations or to return manufacturing to the U.S.

3D printing, advanced robotics and Big Data are among the technologies revolutionizing manufacturing and enabling new opportunities to transform existing processes. Most of the tech industry companies are early adopters of these technologies, given their leaders are predisposed to enter a new era of integrated supply chains and open research platforms. A ramification of this trend includes quality and cost advantages gained as a result of this new U.S. manufacturing evolution, especially given the existing challenges in emerging markets partially reducing the cost benefits of offshore manufacturing.

This increased optimism among tech companies matches broader growth in the U.S. manufacturing sector, where improved economic conditions and advances in manufacturing materials and techniques are leading to higher U.S. production. For instance, according to data released in May 2015 by the Institute for Supply Management, nearly 90 percent of manufacturing supply management executives reported expectations for revenue growth in 2015 in the U.S.

Q: How is your company deploying its manufacturing in the next 24 months?

<table>
<thead>
<tr>
<th>Incrementally adding new manufacturing operations in the U.S.</th>
<th>2015</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>17%</td>
<td>4%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Moving more manufacturing back to the U.S.</th>
<th>2015</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>17%</td>
<td>7%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Moving more manufacturing offshore</th>
<th>2015</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>13%</td>
<td>8%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Incrementally adding new manufacturing operations offshore</th>
<th>2015</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>11%</td>
<td>5%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>No change</th>
<th>2015</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>58%</td>
<td>47%</td>
</tr>
</tbody>
</table>
### RISKS TO COMPANY GROWTH

**Macroeconomic conditions and a dynamic global regulatory and tax environment are among the leading challenges to technology companies’ growth.**

More than half of the respondents say the speed of the economic recovery presents the greatest risk to company growth, while 40 percent cite the impact of new regulations. A third of tech execs say U.S. corporate tax reform/OECD international corporate tax action plan is also a concern. New regulations such as stricter data privacy and protection, particularly outside the United States; global tax and revenue repatriation proposals; and changes to U.S. and international revenue recognition accounting standards are creating challenges for tech companies. All of these changes are requiring agility to assess the implications and greater transparency on how companies manage their leading risks.

Q: Which of the following do you believe pose the greatest risk to your company’s growth?

<table>
<thead>
<tr>
<th>Risk</th>
<th>2015</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speed of economic recovery</td>
<td>55%</td>
<td>68%</td>
</tr>
<tr>
<td>Impact of new regulations/legislation</td>
<td>40%</td>
<td>27%</td>
</tr>
<tr>
<td>U.S. corporate tax* reform/OECD international corporate tax action plan</td>
<td>32%</td>
<td>13%</td>
</tr>
<tr>
<td>Slowing growth in international markets</td>
<td>28%</td>
<td>38%</td>
</tr>
<tr>
<td>Disruptive technologies</td>
<td>27%</td>
<td>36%</td>
</tr>
<tr>
<td>Cyber threats (e.g., hacking, data breaches)</td>
<td>22%</td>
<td>22%</td>
</tr>
<tr>
<td>Failure to adopt immigration reform impacting engineering/tech workers</td>
<td>22%</td>
<td>13%</td>
</tr>
</tbody>
</table>

* U.S. corporate tax reform/OECD international corporate tax action plan/expiration of “tax extenders” and uncertainty with respect to extension by Congress.
“While technology disruption is an inherent risk for tech companies, executives are reporting greater uncertainty and concern about regulatory and economic challenges including new legislation, such as stricter data privacy regulations, that could affect their business models and ability to follow their operating plans. Similarly, a variety of domestic and international tax-related proposals are introducing new uncertainties for tech companies.”

Richard Hanley
Advisory Industry Leader, Technology, Media & Telecommunications, KPMG LLP (U.S.)
In an industry known for enabling disruptive change, technology companies are familiar and comfortable with the need to embrace transformation. Faced with challenges in building or maintaining innovation and market leadership, technology companies are pursuing a variety of initiatives to position themselves for the coming years.
Business transformation has a prominent place on corporate agendas as tech companies face constant changes in market conditions and customer expectations.

Approximately 93 percent of U.S.-based multinational companies are in some phase of changing their business models, according to recent KPMG research. Many tech companies are implementing transformation initiatives designed to improve their ability to meet customer needs, technical innovation and organizational agility.

In this survey, tech industry execs indicate the top transformation drivers for their organizations are changes in customer demand and technology innovation to create competitive differentiation.

Q: Over the next 3 to 5 years, what will be the top three drivers of transformation for your business?

- **Customer demand – changes in customer focus, buying patterns and preferences**: 50% (72%)
- **Technology innovation to create competitive differentiation**: 48% (86%)
- **Domestic competition**: 27% (20%)
- **Increasing global footprint**: 22% (41%)
- **Foreign competition**: 22% (20%)

Companies are focusing on front-end processes such as innovation, pricing, go-to-market, and customer success to be closer to their customers, and to operate with more agility. Just as their customers are deploying mobile, cloud and data & analytics to respond more quickly to market developments, tech companies have to increase their ability to anticipate tech innovation trends and react quickly to their customers’ shifting needs and opportunities.

**Philip Wong**
Principal, Strategy and Transformation
Technology, Media & Telecommunications Industry Leader,
KPMG LLP (U.S.)
Tech companies are seizing new revenue sources by taking advantage of opportunities resulting from emerging technologies that create new consumer and enterprise market demand.

Many of these opportunities are focused on specific verticals such as biotech, fintech, automotive and retail and manufacturing.

Given these opportunities, many high-tech companies have renewed their efforts looking into potential M&A, open innovation, or company-funded incubation options to accelerate the entrance into new product categories and vertical segments. Concurrently, these companies are evaluating their operating and organizational models to facilitate the growth of these new product and vertical categories.

Q: Which of the following initiatives are you planning over the next 24 months in order to drive revenue and profits for your company?

<table>
<thead>
<tr>
<th>Initiative</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enter new product categories</td>
<td>43%</td>
</tr>
<tr>
<td>Increase focus on specific customer verticals</td>
<td>35%</td>
</tr>
<tr>
<td>Adopt new pricing strategies and structures</td>
<td>32%</td>
</tr>
<tr>
<td>Enter new geographical markets</td>
<td>31%</td>
</tr>
<tr>
<td>Rebalance strategic and R&amp;D investment portfolio to align with growth opportunities</td>
<td>31%</td>
</tr>
<tr>
<td>Adopt new business models</td>
<td>29%</td>
</tr>
</tbody>
</table>
Forward-thinking tech executives continuously monitor strategic catalysts, identify business and operating model changes, and embed these changes in the organization.

The ability of the tech sector to adopt new business models and emerging technologies has boosted industry growth. Leveraging cloud to drive operational efficiencies and increase agility exemplifies the way leading tech companies leverage technology to transform their business.

Q: In which of the following ways are you leveraging cloud to transform your business?

<table>
<thead>
<tr>
<th>Description</th>
<th>2015</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Driving operational efficiencies to reduce costs</td>
<td>28%</td>
<td>33%</td>
</tr>
<tr>
<td>Increasing agility to react more quickly to changing business conditions</td>
<td>23%</td>
<td>18%</td>
</tr>
<tr>
<td>Better leverage data to provide insightful business decisions</td>
<td>21%</td>
<td>22%</td>
</tr>
<tr>
<td>Improved alignment/interaction with customers/suppliers/business partners</td>
<td>8%</td>
<td>17%</td>
</tr>
<tr>
<td>Leveraging SaaS as an alternative to traditional outsourcing</td>
<td>11%</td>
<td>17%</td>
</tr>
<tr>
<td>Better enable a more flexible/mobile workforce</td>
<td>10%</td>
<td>20%</td>
</tr>
<tr>
<td>Driving faster product/service innovation cycles</td>
<td>8%</td>
<td>14%</td>
</tr>
</tbody>
</table>
With every technical innovation the sector produces, a need to implement and maintain effective security remains an industry constant. As the nature of the threats evolve, so do the tech sector’s efforts to secure their own data and intellectual property, and to enhance the security tools and services they offer to customers.
Many companies expect to spend between 1 and 5 percent on information security over the next year.

Recognizing not only the importance of information security to ensuring their operations and maintaining customer trust, as well as the evolving nature of security threats, three-fourths of technology executives expect their companies to spend 1 to 5 percent of their revenue on IT security over the next 12 months. At the same time, 23 percent of those surveyed say their company has suffered a security breach in the past 12 months.

“\[The survey findings on security are an important marker since tech companies are the pacesetters in IT security. How much and where tech companies spend on IT security, and how successful they are, can serve as guides for all other industries.\]”

Gary Matuszak
Global and U.S. Chair, Technology, Media & Telecommunications, KPMG

Q: How much of your revenue do you plan to spend on information security over the next 12 months?

![Chart showing revenue spent on information security]

© 2015 KPMG LLP, a Delaware limited liability partnership and the U.S. member firm of the KPMG network of independent member firms affiliated with KPMG International Cooperative (“KPMG International”), a Swiss entity. All rights reserved. Printed in the U.S.A.
In today’s digitally driven world, information security is a foundation for business growth and sustainability.

Safeguarding ever-increasing volumes of valuable corporate data against unauthorized access, disclosure or misuse – especially as threats from cyber criminals grow in scale – has become integral to maintaining operations and meeting increasingly vigorous data privacy compliance requirements.

For critical services like banking or payments, customers are willing to pay a premium to protect their information. Enterprises offering Security as a Service are able to charge premium fees for higher levels of protection and assurance.

Organizations can reduce the risks to their business by building up capabilities in three critical areas – prevention, detection and response. Careful planning and regular scenario testing can provide insights into threats and vulnerabilities, and can help an organization develop effective response plans without the pressure of making critical decisions during a crisis.

Innovations in data science, machine learning and analytics are helping tech firms and their customers apply predictive modeling to monitor threat actors and user behaviors, and take appropriate containment measures. Use of commodity hardware, storage and cluster computing power has enabled tech firms to develop custom analytic fabric, where external threat and vulnerability data is correlated with the organization’s infrastructure capability, business platform rules, user profiling and usage patterns. Custom alerts and dashboards are developed to predict the vulnerability and potential impact, and response mechanisms are rehearsed for critical scenarios.

Board and executive management want to make risk-based decisions, and are asking “am I more risky today? What’s the trend? How much do I invest to manage my risks? Hence, key risk indicators (KRIs) provide business leaders with real-time dashboard insights tied not only into internal infrastructure vulnerabilities, but also emerging external threats and the potential implications for a specific organization or business unit. Making KRI data actionable is key in the development of a response plan. The technology companies that successfully establish and help customers adopt effective security measures will gain a competitive advantage and meet board requirements.

“Customer trust is non-negotiable for technology companies to attract and retain customers.

Technology industry market leaders are constantly balancing their investments, evaluating their governance protocols and assessing collaboration opportunities inside and outside their companies to reduce risk.”

Vijay Jajoo
Principal, U.S. KPMG Cyber Technology Industry Leader
Companies and governments around the world continue to identify the speed of ever-changing cybersecurity risk and technology innovation as one of the greatest challenges for their organizations.

As in prior years, our survey continues to show security is the top challenge for the adoption of key technologies such as cloud, mobile, and IoT. Tackling security issues will remain paramount even as next-gen cybersecurity solutions emerge to deal with this challenge.

Q: What do you see as the biggest challenges for businesses to adopt these technologies in the next 12 months?

**CLOUD**

<table>
<thead>
<tr>
<th>Challenge</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Security</td>
<td>59%</td>
</tr>
<tr>
<td>Cost</td>
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</tr>
<tr>
<td>Technology complexity</td>
<td>29%</td>
</tr>
<tr>
<td>Risk management</td>
<td>29%</td>
</tr>
<tr>
<td>Corporate culture/change management</td>
<td>27%</td>
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</tbody>
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**INTERNET OF THINGS**

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<tr>
<td>Risk management</td>
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<tr>
<td>Security</td>
<td>42%</td>
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<tr>
<td>Cost</td>
<td>33%</td>
</tr>
<tr>
<td>Privacy governance</td>
<td>33%</td>
</tr>
<tr>
<td>Measuring ROI</td>
<td>27%</td>
</tr>
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</table>

**MOBILE**

<table>
<thead>
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<tbody>
<tr>
<td>Security</td>
<td>53%</td>
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<tr>
<td>Privacy governance</td>
<td>38%</td>
</tr>
<tr>
<td>Risk management</td>
<td>36%</td>
</tr>
<tr>
<td>Cost</td>
<td>27%</td>
</tr>
<tr>
<td>Corporate culture/change management</td>
<td>27%</td>
</tr>
</tbody>
</table>
Most expect the U.S. economy to improve over the next year.

Following favorable growth in the U.S. economy in the second half of 2014, tech leaders expect to see economic expansion continuing over the next year. Although U.S. GDP declined an estimated 0.7 percent in the first quarter of 2015, executives believe the rest of the year will produce results closer to the 3.9 percent growth reported for the 2014 calendar year.

Q: What are your expectations for the U.S. economy in the next 12 months?
The U.S. continues to be viewed as the country expected to drive the highest revenue growth rates over the next 24 months. This year’s survey results reflect a stronger U.S. market focus – with tech sector leaders’ expectations calling for higher revenue, increased employment expansion and manufacturing spend in a wider range of local markets.

Last year’s optimism driven by data & analytics for revenue growth is being replaced this year with a bullish outlook for a broader portfolio of technologies. Tech sector execs continue to forecast revenue growth from mobile, healthcare IT, cloud, data & analytics, the Internet of Things and security.

With cyber risks and security threats expanding constantly, so is the pressure on technology companies to maintain effective security — not only on their own systems while securing customer data in cloud services, but also in providing their customers with tools to maintain information security and privacy. The technology companies that successfully establish and help customers adopt effective security measures will gain competitive advantage.

These security challenges can compound other forces prompting tech company transformation efforts, such as changing customer demand, the challenge of maintaining differentiation and increasing domestic and international competition.

Innovation and customer centricity will remain critical differentiator for companies in the tech sector. In addition to R&D spend, a significant number of companies will continue to leverage M&A investments to gain access to emerging technologies, market segments and talent.

“A portfolio of emerging technologies continues to create new opportunities for companies in the tech sector. Key factors are enabling this momentum, ranging from macroeconomic opportunities to local incentives and a growing global tech innovation engine that is creating more rapid widespread disruption. The interplay of these emerging technologies is enabling new business models and fueling innovation.”

Gary Matuszak
Global and U.S. Chair, Technology, Media & Telecommunications, KPMG
KPMG: an experienced team, a global network

KPMG’s technology professionals combine industry knowledge with technical experience to provide insights that help technology companies take advantage of existing and emerging technology opportunities and proactively manage business challenges.

Our network of professionals have extensive experience working with global technology companies ranging from Fortune 500 companies to pre-IPO startups. We aim to go beyond today’s challenges to anticipate the potential long- and short-term consequences of shifting business, technology and financial strategies.

KPMG: Technology Innovation Center

KPMG recognizes the importance of innovation. In 2012 we launched a global Technology Innovation Center to identify and evaluate the impact of emerging technologies. The center connects leading technology thinkers including entrepreneurs, Fortune 500 technology executives, venture capitalists and KPMG member firm professionals.

Join us today.
Visit kpmg.com/techinnovation
For more information contact: patriciarios@kpmg.com
KPMG Strategy and Transformation

Helping clients arrive at the optimum value from their business transformation journey begins with an in-depth understanding of the industry in which they work. With our breadth of industry experience, KPMG helps clients discover actionable insights across sectors and businesses of all sizes.

Strategy is the foundation of business transformation. Too often, the value from transformation goes unrealized due to disconnects between business model strategy, operating model execution, and the complex issues that companies face when implementing change. The accelerated pace of change means businesses need a focused and agile strategy to drive their transformational agenda.

Our value-based and metric-driven business transformation approach allows clients to develop and align their strategic and financial objectives to required business and operating models, organizational culture, measures and incentives, and the capability to change to connect vision to value.

KPMG understands the complexity and the significance of continual model refinements necessary to effect transformation across people, process, technology, data, and risk management. Our Value Delivery Framework guides transformation delivery, and it is supported by a tightly-integrated, global, and unified approach to connect strategy with execution and achieve the optimal value from transformation.

KPMG Cyber Services

KPMG Information Protection and Cyber Security services help leading organizations worldwide effectively manage and protect their most valuable data across a broad spectrum of evolving threats and scenarios. We approach cybersecurity as an adaptive solution to business goals with data protection and response, which focuses on delivering long-term value for your business.

We help organizations:

- Increase customer, board, and enterprise stakeholders gain confidence in IT systems
- Control and govern enterprise access to sensitive information, with intuitive and simple user experience
- Preserve the privacy and confidentiality of customer and corporate data, while deriving intelligence from usage patterns
- Ensure the integrity and reliability of information stored on corporate systems
- Reduce the high financial and reputation costs of cyber breaches and provide effective Incident response and forensic investigation
- Deliver innovation through the effective use of data & analytics and other technologies

For more information please contact:

Philip Wong
Principal, Strategy and Transformation, Technology, Media & Telecommunications Industry Leader, KPMG LLP (U.S.)
617 988 6332
philipwong@kpmg.com

For more information please contact:

Vijay Jajoo
Principal, U.S. KPMG Cyber Technology Industry Leader
415 963 8698
vjajoo@kpmg.com
Executive bios

**Gary Matuszak**, Global Chair, Technology, Media & Telecommunications, KPMG LLP (U.S.)

Gary Matuszak is the global chair of KPMG’s TMT industries and chair of KPMG’s Global Technology Innovation Center. Mr. Matuszak has held a number of technology sector leadership positions during most of his career and has extensive experience working with global technology companies ranging from the Fortune 500 to pre-IPO startups.

He represents KPMG in a number of organizations affecting the industry and has influenced the development of key positions on several issues that impact the technology sector. Gary is a frequent spokesperson for the firm on technology industry trends, emerging technology business strategies, and C-suite industry outlooks.

**Richard Hanley**, Advisory Industry Leader, Technology, Media & Telecommunications, KPMG LLP (U.S.)

Based in Silicon Valley, Richard works with US and global clients in the areas of management and risk consulting, as well as transactions and restructuring. Mr. Hanley’s previous responsibilities at KPMG include Advisory Practice leader for the Bay Area and Pacific Northwest and the national technology sector leader for Transaction Services. Richard provides advice on domestic and cross-border mergers, acquisitions, and disposals to leading technology companies as well as private-equity and sovereign-wealth funds. He advises clients on due diligence, including evaluation of commercial, financial, and accounting aspects of potential acquisition targets and assistance with purchase agreements.

Acknowledgments

We thank Vijay and Phil for their insights.

**Vijay Jajoo**, Principal, U.S. KPMG Cyber Technology Industry Leader

Vijay Jajoo is a Partner within KPMG Information Protection and Cyber Security practice. Vijay has over 15 years of experience assisting global Internet and tech companies implementing pragmatic security strategy and enterprise solutions, managing their cyber risk, breach response, and drive user adoption.

Vijay is most passionate about developing and mentoring high performing teams, and collaborating on innovative solutions to address complex problems on data protection, analytics and usage modeling.

**Philip Wong**, Principal, Strategy and Transformation, Technology, Media & Telecommunications Industry Leader, KPMG LLP (U.S.)

Phil is a Principal in KPMG Strategy with over 20 years of experience working with marquee clients across the high-tech value chain solving critical strategic and operations issues. More recently, Phil is focused on understanding how tech companies transition from product-based business and operating models to service and consumption-driven models.

Contributors

We appreciate the insights and support of the following individuals in the development of this publication:

**Kevin Davidson**
Marketing Director, Technology

**Charles Garbowksi**
Director, Primary Research

**Paul Pullara**
Associate Director, Brand Oversight and Implementation

**Patricia Rios**
Marketing Director, Technology, Media & Telecommunications
Related Insights

**Internal Audit**
This annual compilation of Internal Audit considerations for technology companies, “Top 10 in 2015,” focuses on the critical role Internal Audit can play in helping companies manage some of their leading risks more effectively in today’s challenging environment. This year’s publication focuses on the continuing importance of disruptive technologies in determining the focus areas of Internal Audit - both in terms of presenting opportunities and new sources of risk.

**Global Semiconductor**
KPMG’s 10th annual edition of the Global Semiconductor Outlook Survey identifies trends and issues influencing the global semiconductor market today, as well as the opinions of leading executives about industry growth over the next three years. Our bellwether Semiconductor Business Confidence Index increased in this year’s survey, reflecting a more optimistic outlook about revenue trends, profitability, geographic growth, and the leaders’ willingness to increase capital, R&D and employment investments.

**M&A Outlook Survey Report**
Building on a record making M&A year in 2014, deal makers are optimistic for 2015 with a stronger economy, low interest rates, record stock prices, improving employment numbers and an abundance of cash. Common challenges include the valuation disparity between buyers and sellers and the increasing competition for attractive targets at reasonable prices. Integration is the biggest hurdle to overcome once a deal is done, making integration planning a top priority for a successful assimilation.

**Connecting the dots: A proactive approach to cybersecurity in the boardroom**
Investors and regulators are increasingly challenging boards to step up their oversight of cybersecurity and calling for greater transparency around major breaches and the impact that they can have on the business. Cyber risks are now an enterprise-wide risk management issue and often at the top of the board and audit committee agendas.

**Global technology innovation publication**
The Technology Innovation publication offers perspective from nearly 800 technology leaders globally about where the next new ideas will rise, which markets will prosper, and challenges that remain to commercialize new technologies. As technology innovations spread wide and deep and become more complex, technology and business executives need to be nimble and alert to embrace change and capitalize on new business more than ever.
Contact Us

Gary Matuszak
Global and U.S. Chair, Technology,
Media & Telecommunications, KPMG
408-367-4757
gmatuszak@kpmg.com

Jana Barsten
Global and U.S. Audit Sector Leader,
Technology
408-367-4913
jbarsten@kpmg.com

Richard Hanley
Advisory Sector Leader, Technology,
Media & Telecommunications,
KPMG LLP (U.S.)
408-367-7600
rhanley@kpmg.com

Rusty Thomas
Global and U.S. Tax Sector Leader,
Technology
408-666-4067
rcthomas@kpmg.com

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