

2014 CLOUD SURVEY REPORT

Elevating business in the cloud

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cutting through complexity

A bright future for cloud

Are you keeping pace with the rapid evolution and impact of cloud on businesses today? Are you leveraging your cloud investment to connect with your digitally savvy customers and employees? Are you prepared to seize the opportunities available from the next wave of cloud technology?

If you've answered "no" to any of these questions, you have some considerable catching up to do. After all, cloud has clearly come of age. Driven by the demand for speed, flexibility, scale and anywhere access, consumers have fully embraced a cloud-enabled world. And in business, more organizations are relying on cloud to achieve benefits that extend far beyond cost efficiency. Executives are increasingly realizing that cloud can be a catalyst for process improvement as well as a driver of business transformation.

This theme is evident in our 2014 Cloud Survey report, which reflects the perspectives of more than 500 global business executives—including CEOs, CIOs and CFOs—from organizations with annual revenues between \$100 million and \$20+ billion and spanning more than a dozen major industries. Survey responses reveal a significant uptick in cloud usage as compared to our 2012 survey. And cost efficiency is clearly less of a driver today than it was two years ago, as more organizations seek to explore greater cloud potential for business transformation.

A man with dark hair and a beard, wearing a dark suit jacket over a light blue shirt, is looking down at a white tablet he is holding. He is standing in front of a large window with a view of a modern building.

“It’s clear now that while organizations may have come to the cloud to reduce costs, it’s not why they stay. The true potential of cloud lies in an organization’s ability to leverage this agile delivery model to transform the business.”

— Rick Wright, Principal and Global Cloud Enablement Leader at KPMG

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Essentially, a new era is unfolding, positioning cloud as a key delivery model for the evolution of IT in business innovation.

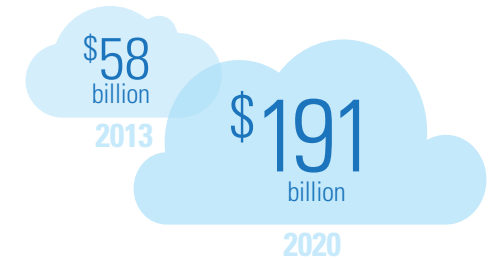
According to Forrester Research,¹ the public cloud market is estimated to reach \$191 billion by 2020, a significant climb from 2013's total of \$58 billion. Forrester asserts that cloud applications will lead this growth, achieving approximately \$133 billion in revenue by 2020. Cloud platforms will follow, generating an estimated \$44 billion in revenue, and cloud business services will amount to approximately \$14 billion in revenue by this time.

This is further validated by Gartner, Inc. which named cloud as one of the top 10 strategic technology trends² for 2015 that will have a significant impact on organizations during the next three years. Says the research firm, "Cloud is the new style of elastically scalable, self-service computing, and both internal applications and external applications will be built on this new style."

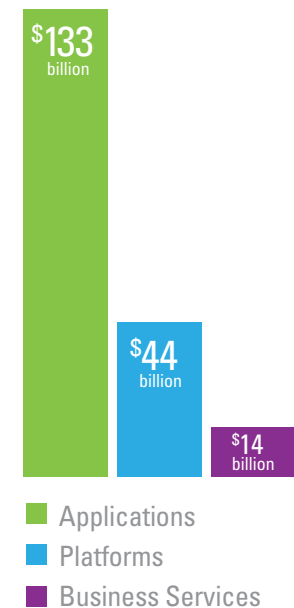
It's clear from such estimates that cloud will have a major role in delivering business services in the future and will continue to support business transformation and drive the evolution in business models. Essentially, a new era is unfolding, positioning cloud as a key delivery model for the evolution of IT in business innovation.

In addition to process efficiencies and cost reductions, cloud offers the scalability, speed to market and centralization to coordinate and manage applications across various devices, which will be increasingly important amid the evolving technology landscape. As cloud continues to prove its potential, business leaders need to evaluate and determine where the greatest strategic opportunities exist for cloud throughout their organization.

This is often easier said than done. To find out more about the current state of cloud's maturity in business, we invite you to explore our 2014 survey results for insights from business leaders and KPMG partners on the growing impact of cloud technology in business today – and tomorrow. ●



Estimated growth of the public cloud market by 2020



Estimated revenue growth by 2020

¹ The Public Cloud Market Is Now In Hypergrowth: Sizing The Public Cloud Market, 2014 To 2020 (Forrester Research, April 24, 2014)

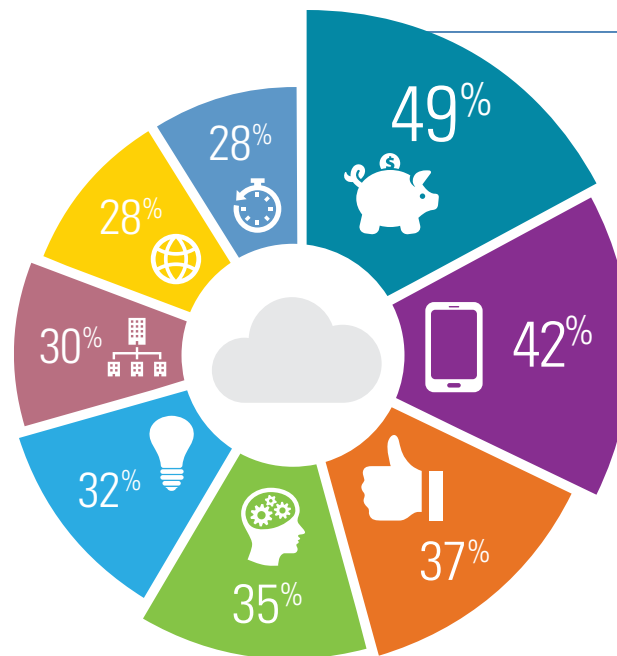
² Gartner Identifies the Top 10 Strategic Technology Trends for 2015, October 8, 2014. www.gartner.com Gartner defines a strategic technology trend as one with the potential for significant impact on the organization in the next three years. Factors that denote significant impact include a high potential for disruption to the business, end users or IT, the need for a major investment, or the risk of being late to adopt.

Driving transformation

Cloud continues to drive disruption in the business world across the globe. In fact, a recent global KPMG survey³ of nearly 800 technology industry leaders ranked cloud as the technology that will have the greatest impact in driving business transformation for enterprises.

According to the executives in our survey, the top use of cloud is driving cost efficiencies (49 percent). But the 2014 survey results reveal that in increasing numbers organizations are using cloud technology to enact large-scale change, whether within individual business units or across the enterprise. These transformative uses of cloud include: better enabling a flexible and mobile workforce (42 percent); improving alignment and interaction with customers, suppliers and business partners (37 percent); and better leveraging data to provide insightful business decisions (35 percent).

This is quite a difference from our survey data of two years ago. While cost efficiencies clearly took the top spot (48 percent) in 2012, speed to adoption came in a far second with 28 percent. Having such a large gap between the top two responses emphasizes how cost was a much more powerful driver in 2012 than it is today. Other changes are also evident. Consider that better enabling a mobile workforce was cited as a cloud driver by only 14 percent of executives in 2012 but more than doubled in the 2014 survey, achieving a 42 percent response rate.



“Cloud has given me more tools in my toolbox that I can offer to fulfill the needs of my organization.”

— Kristin Darby, CIO at Cancer Treatment Centers of America

The top ways businesses are using cloud to drive business transformation in 2014

- Drive cost efficiencies
- Better enable mobile workforce
- Improve alignment with customers/partners
- Better leverage data to provide insight
- New product development/innovation
- Develop new business models
- Shift to a global shared services model
- Faster time to market

Source: 2014 KPMG Cloud Survey Report

3 KPMG Global Technology Innovation Survey, Fall 2014.

Driving transformation (cont.)


Making such changes to an organization are costly and time consuming, but such a large increase in responses signals the tremendous impact, beyond cost reduction, that cloud can have on an organization. These results suggest that for many organizations, cloud has truly become a transformative solution.

What's more, cloud is not only a transformative solution that helps organizations advance strategic initiatives and achieve strategic goals. It can also be essential to the actual execution of transformation. As organizations undergo large-scale change, cloud improves:

Rapid Scale: Enables IT to provision and modify complex infrastructure faster than traditional on premise systems.

Agility: Cloud enables organizations to be more nimble and responsive to changing business needs.

Functionality: Organizations can take advantage of innovation more easily with cloud, as it reduces the need for incremental investments in supporting technology infrastructure. ●



“Companies that take a purely cost-saving approach to cloud are missing additional opportunities.”

— Tom Lamoureux, Risk Consulting Leader for Technology, Media and Telecom at KPMG



Telecom company pursues five cloud transformations

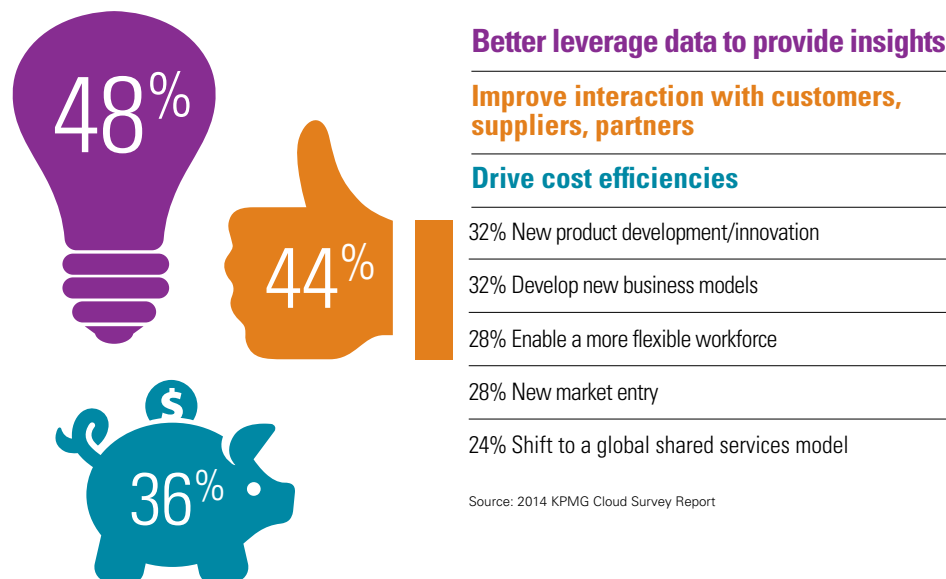
At AT&T, cloud helps the business take an iterative, agile and cost-effective approach to transformation by allowing transformation to take place on many tracks simultaneously, reducing complexity and speeding up results. According to Rick Felts, AT&T's Senior Vice President of IT Operations, cloud technology is critical for five distinct transformations that make up AT&T's Pathway to 2020 initiative:

- 1. Infrastructure:** AT&T is revamping the way that the company approaches IT infrastructure, including migrating applications to a cloud-based environment.
- 2. The commercial business:** As AT&T's external business customers begin to move to the cloud, the company is focused on meeting their needs in that space and maintaining its hosting leadership role.
- 3. Big data:** AT&T is starting to look at how to monetize and utilize its volumes of internal data.
- 4. Products and services:** AT&T is creating finished services and products that it puts in the marketplace onto the cloud. Toggle, a “bring your own device” solution, is one example.
- 5. The network:** AT&T is moving the traditional network onto the cloud so it can ramp up services more quickly, and provide faster delivery of products and services to customers.

Cloud and **customer** centrality

The impact of consumerization, an ongoing trend no business can afford to ignore, is reflected in how organizations are approaching cloud adoptions. The emergence of the digitally savvy customer calls for organizations to embrace new approaches and tools for external communication with customers and prospects.

Top ways retailers and restaurants are using cloud to drive business transformation



As such, one of the most important benefits cited by executives (36 percent) in our survey involves the ability to improve alignment and interaction with customers (*see data on page 4*).

An example of the importance of this benefit is illustrated by Cancer Treatment Centers of America, which is considering investing in a customer-targeted cloud solution to enable real-time, mobile monitoring of patients. This would also provide for improved communication with patients and their caregivers, even after they leave the medical center (*see sidebar on page 7*).

“We’re [helping clients] leverage the mobile cloud as the driver to think differently about how they engage with their constituents.”

—Rick Wright, Principal and Global Cloud Enablement Leader at KPMG

Retailers also recognize the importance of using cloud to connect with consumers. Compared to other industries, retail executives in our survey are more likely to say their organizations are using cloud to improve alignment and interaction with customers, suppliers and business partners (*see data at left*).

To maximize holiday revenue, for example, it is critical for retailers to turn to cloud solutions to attract and support mobile shoppers. Consider that Shop.org expects sales in November and December 2014 to grow between 8 and 11 percent over last holiday season – to as much as \$105 billion⁴.

Mobile-optimized e-commerce or customer support tools, for example, can give retailers a competitive advantage during the peak holiday season, when providing personalized and instantaneous service is the new requirement for success. Retailers that aren't able to respond to the expectations of empowered consumers will see them jumping ship, as they tap into online pricing and product information and seize the best deals elsewhere. ●



Hospital network to use cloud to advance patient relationships

Cancer Treatment Centers of America, a national network of five cancer hospitals, has a strategic focus on providing an exceptional patient experience, and the IT department is using cloud solutions to advance the mission.

“Our strategic planning always focuses on our patients and how we can serve them better,” says Kristin Darby, CIO at Cancer Treatment Centers of America. “Once we have that understanding from a business perspective, how we deliver that then comes into play. And so cloud would be one of those solutions.”

The company is specifically looking at cloud-based applications focused on continuing the relationship with its patients outside of its four walls, both during and after treatment. By leveraging cloud-based mobile technology, CTCA can receive more reports from patients throughout the day, allowing the care team to make adjustments to the care plan in real time.

“We don’t want the relationship to end once the patient leaves. We want to know how the patient’s doing every day.”

— Kristin Darby,
CIO at Cancer Treatment Centers of America



Cloud and **workforce mobility**

Clearly, consumerization is not only an external matter. “People’s expectations as employees are a lot different than they were ten years ago,” says Mark Shank, Managing Director of the Digital and Mobile practice at KPMG.

Employees today demand the same access, experience and richness on their work computers and mobile devices as they have on their personal devices. Cloud is making that possible.

Consider that employees are able to access systems through the cloud from wherever they are, without being limited by the processing power of a mobile device. This enables businesses to devise new work strategies.

As such, organizations are turning to cloud to enable a more flexible and mobile workforce.

The impact? Increased employee productivity (54%) and higher employee satisfaction and flexibility (48%) are the top two benefits our survey respondents identify from using cloud to improve workforce mobility.

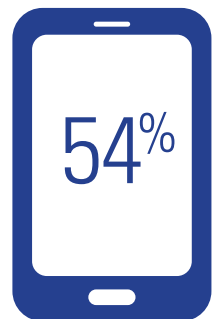
NetApp, a network data storage and management solutions company, takes advantage of cloud-based offerings to help its employees support customers more securely, conveniently and efficiently ([see page 9](#)).

“Mobility significantly improves productivity for our organization, as it’s more effective to support enterprise customers when we’re ‘always on.’”

— Denise Cox, Senior Vice President at NetApp

Where mobile is driving the most value for organizations

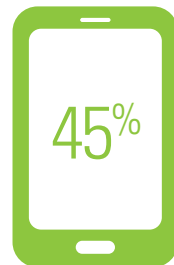
Source: 2014 KPMG Cloud Survey Report



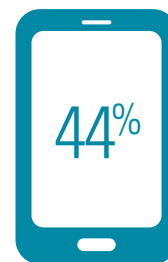
Increased employee productivity



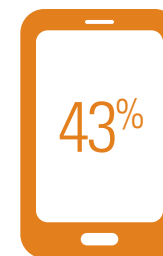
Higher employee satisfaction



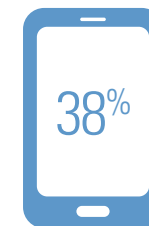
Improve field service operations



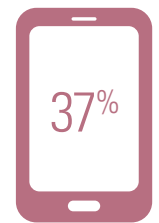
Gain a competitive advantage



Increased sales/revenue



Improve/maintain existing competitive advantage



Decreased IT costs

Cloud and **workforce mobility** (cont.)

Another example includes KPMG's digital and mobile practice, which was acquired from Cynergy in early 2014. This team is leveraging cloud-enabled mobile applications to help clients revamp the employee onboarding process, creating an improved mobile digital experience and adding a human touch to hiring. Onboarding isn't just about processing paperwork. It's about engaging new talent from day one, taking into consideration the needs of the people involved in the process: new employees, hiring managers and HR professionals. This customizable solution will

not only break down silos between different business roles but also enable effective communication, keeping the new hires' needs foremost in mind and revolutionizing the way we think about the onboarding process.

"From day one, this really drives increased productivity, user satisfaction and longer term retention," says KPMG's Wright. ●



Cloud brings convenience to data storage company employees

Over the past two years, software company NetApp developed a self-service, virtual cloud offering, nCloud, which provides on-demand, pay-as-you-go service for non-critical applications. NetApp's Customer Success Operations organization works with 37 partners in 80 countries to manage more than 80,000 dispatches a year.

"nCloud not only enables us to communicate effectively with our employees and partners via our websites, but gives us the flexibility to make quick and effective changes," says Denise Cox, Senior Vice President, Enterprise Services for Customer Success Operations.

"Cloud technology helps our employees support our business operations, allowing us to better support our customers," she adds.



Cloud and data analytics

Business analytics is at the center of today's leading enterprise, informing strategic decisions that enable organizations to compete. And business analytics – a driver of cloud use in 35 percent of companies – can be greatly enhanced by cloud technology.

Why? Cloud enables greater levels of data access and makes it easier to share data between IT systems and collaborate across the business. Additionally, because cloud data storage capacity is usually comparatively affordable, organizations can maintain and analyze massive amounts of data. As a result, progressive companies across industries are finding they can drive more robust data analytics with the support of cloud technology.

Healthcare providers like CTCA, for example, can use the cloud as a powerful tool for clinical research, enabling medical professionals to access information about treatment options that may not be available internally.

In the telecommunications industry, AT&T is looking at ways to leverage its internal data repositories alongside external customer data on the cloud, which would enable it to analyze network capabilities, utilization and customer demographics and offer more relevant products and services. At the same time, the company is moving to provide its customers a cloud infrastructure for storing and analyzing their own data, enhancing the customer experience.

Finally, Emerson, a climate system manufacturing company, uses cloud-enabled big data insights to offer especially innovative and cost-saving heating, ventilation, air conditioning and refrigeration products to its supermarket customers ([see sidebar on page 11](#)). ●

For Emerson, cloud-enabled data insights led to innovative costs savings for their supermarket customers.



Source: Edgar Purvis, Emerson Climate Technologies



Manufacturer boosts bottom line with big data

Emerson – a heating, ventilation, air conditioning and refrigeration manufacturer – uses big data on the cloud to benefit its supermarket customers.

Utilizing mobile technologies, the company's newest products are equipped to collect advanced diagnostic data from its motors, compressors and control systems, and store that data on the cloud. Emerson uses the data to remotely measure if a system is leaking refrigerant and running below performance specifications. In many cases, the technology can also provide remote maintenance and repairs.

For supermarkets, which run on razor-thin operating margins, the influence of these innovations on the bottom line can be dramatic. They allow supermarkets to cut maintenance costs by a third and energy costs by more than 10 percent, according to Edgar Purvis, business leader at Emerson Climate Technologies.

Next up? Emerson is now launching and developing residential systems that can send data through the cloud – from a person's home to the company's service center – to likewise reduce energy and maintenance costs.

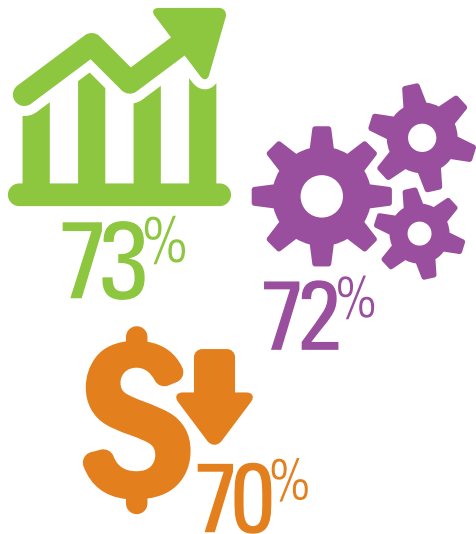


Cloud operational challenges

According to KPMG's Wright, "Cloud has become almost an operational imperative because the benefits seem to outweigh the risks."

According to our survey respondents, executives feel implementing the cloud has helped them improve business performance (73 percent), improve levels of service automation (72 percent), reduce costs (70 percent), rapidly deploy new solutions (67 percent), and achieve other important business objectives. And in many areas, organizations today are more successful in meeting their goals from cloud usage than when last surveyed in 2012.

Most successful areas of business improvement as a result of cloud implementation



Improve business performance

Improve levels of service automation

Reduce costs

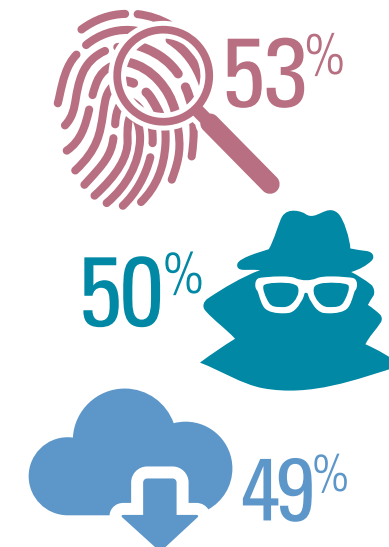
- 68% Better integrate systems
- 68% Introduce new features/functions
- 67% Enhance ability to interact with constituents
- 67% Rapidly deploy new solutions
- 66% Replace legacy systems

Source: 2014 KPMG Cloud Survey Report

But although many organizations have grown in sophistication when it comes to cloud deployment and usage, challenges remain. Many businesses that have moved on from the launch and getting started phase are now dealing with day-to-day concerns around cloud implementation.

According to 53 percent of our survey respondents, data loss and privacy risks are the most significant challenges of doing business in the cloud, followed by intellectual property theft, which was cited as challenging or extremely challenging by 50 percent.

Most challenging areas when adopting cloud



Data loss and privacy risks

Risk of intellectual property theft

Impact on IT organization

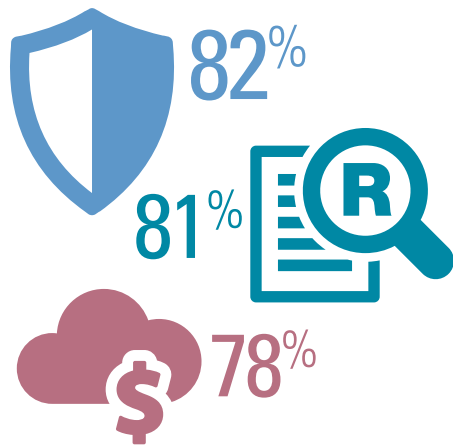
- 48% Measuring on ROI
- 48% High cost of implementation
- 46% Legal and regulatory compliance
- 46% Integration with existing architecture
- 46% Lack of clarity of total cost of ownership

Source: 2014 KPMG Cloud Survey Report

Cloud operational challenges (cont.)

At the same time, when it comes to selecting a cloud solution, cost has been eclipsed by other factors – namely, security and data privacy. Organizations are increasingly expecting cloud providers to show capabilities to fully protect information assets in a cloud environment. In fact, comparing 2014 results with the answers from our 2012 survey, security and data privacy have become greater concerns than cost efficiency.

Most important capabilities or attributes to the organization when seeking a cloud solution



Security

Data privacy

Cost/price

76% Functionality
74% Cost of ownership
74% Ease of integration into existing environment
74% Configurability
67% Additional services offered by provider

Source: 2014 KPMG Cloud Survey Report

It is easy to see why. With the rise of costly cyber-attacks, as well as the increased scrutiny by regulators and stakeholders into corporate information protection practices, data security is a burning business issue across all areas of an organization, and cloud is no exception.

But organizations cannot rely solely on cloud providers to guarantee data security. Cloud adopters need to understand the different security risks of different cloud offerings and take steps internally to mitigate them. At the application level, for example, an organization must ensure the application's data is secure before moving

it to the public cloud. From insecure passwords to insecure credentials, Software as a Service (SaaS) offerings also bring challenges. And at the Infrastructure as a Service (IaaS) level, any issues in the underlying operating system can spell big trouble.

The good news is that while respondents acknowledge continued security concerns, results show a substantial decline from 2012, when 78 percent of executives named intellectual property theft a challenge, and 83 percent named data loss and privacy risk a challenge. This suggests that over time, security has become less of a challenge and cloud adopters may feel they're better prepared now to secure their data, as well as manage data breaches when they do occur. ●

“Five years ago data loss and privacy risk were primary concerns and contributed to slower [cloud] adoption rates. Today, most organizations realize that cloud is a platform they have to integrate and support, so they're more focused on operating effectively. The question is no longer: 'How do I move to the cloud?' Instead, it's: 'Now that I'm in the cloud, how do I make sure I've optimized my investment and risk exposure?' ”

— Greg Bell, Principal, Advisory, Information Protection at KPMG

Reaching **cloud's sky-high potential**

As cloud adoption picks up pace, cloud is poised not only to grow in scale, but will also increasingly impact more and more areas of the business. And, as the data and interviews included in this report show, cloud adoptions are becoming more user-driven and focused on innovation. They do not only result in cost savings, but they can help organizations increase workforce flexibility, improve customer service, and enhance data analytics. In other words, cloud should be considered a key enabler of the corporate strategy, driving strategic business transformations of all kinds.

Cloud is no longer just the focus of the IT department. It has become a top-level discussion that involves the entire management team and the board in order to make strategic decisions that drive transformation and enable innovation. It's clear that organizations that embrace cloud as a management topic – beyond IT – will seize much greater potential from all that cloud has to offer.

Here are five tips to help companies elevate the success levels of their cloud transformations – **and elevate above the competition.**



1. Make cloud transformation a continuous process. To realize true long-term business benefits from cloud, cloud adoption should not be viewed as another technology implementation project, but rather a transformative journey spanning from strategy through execution.



2. Drive cloud transformation from the top. Decentralized organizations which lack a clear decision-making hierarchy may struggle with the changes triggered by cloud adoption, impeding the transformation. Rather, organizations should seek to manage cloud transformation projects centrally, with a senior-level team that oversees the transformation process and guides strategic decisions.



3. Focus on strong leadership and engagement.

Cultural alignment through all levels of the organization is essential to managing the change associated with cloud transformation. Executive management should work to establish an aligned corporate culture at the outset, focusing first on getting the buy-in and support of cross-functional business leaders.



4. Avoid silos. Cloud transformations succeed when organizations are able to embed change into every aspect of the business. As such, silos hamper transformation. In contrast, collaboration powers it. For example, business and IT professionals should work side by side as cloud is adopted into the enterprise.

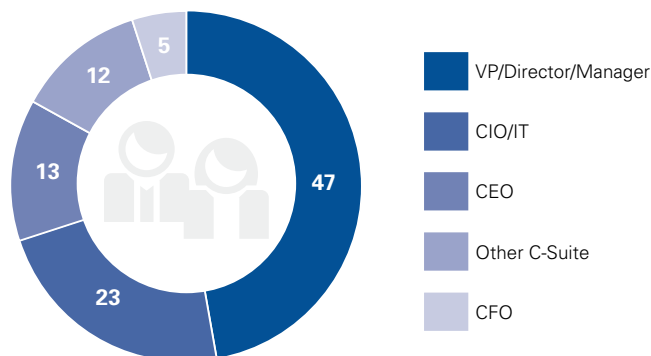


5. Measure success. Organizations should develop realistic and measurable outcomes for their cloud transformation projects that tie back to key business objectives. A value- and metrics-driven approach to cloud transformation enables the organization to know when milestones are reached and stay focused on achieving strategic goals.

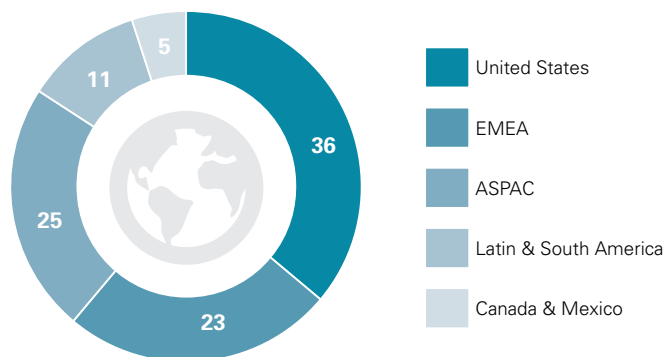
Methodology

In March 2014, Forbes Insights, on behalf of KPMG, conducted a web-based survey of 539 global business executives.

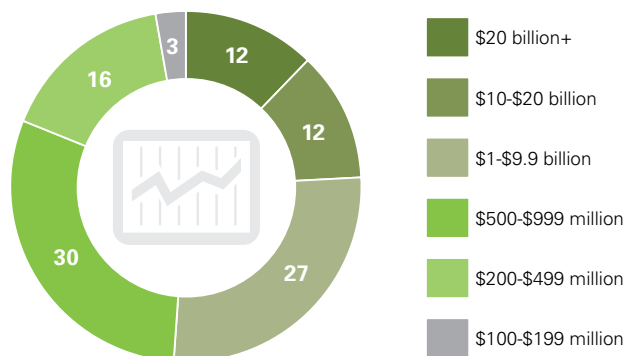
Title/Job



Region

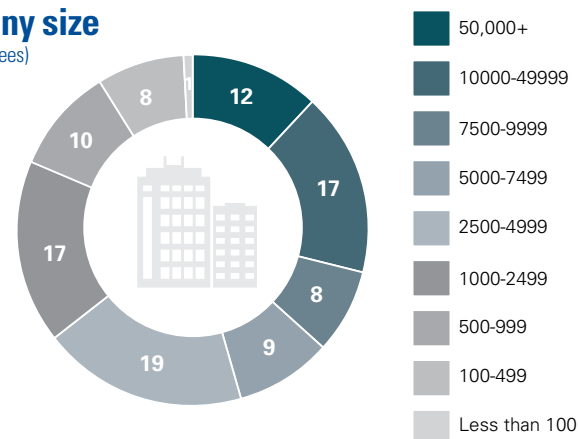


Revenue

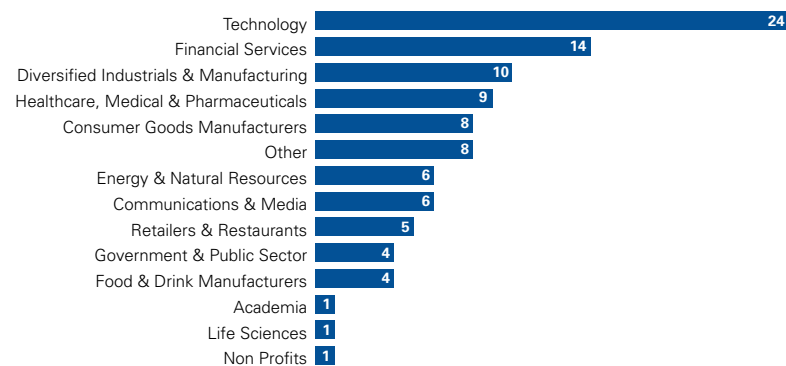


Company size

(Total employees)



Industry type



Note: All charts reflect percentages of the total of the respondents.

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