



cutting through complexity

The cloud takes shape

Global cloud survey:
the implementation challenge

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Contents

Foreword		What you should take from this report
3		4
	Setting expectations: Cost reduction is a given, but transformation is critical	10
	6	Tackling the practicalities: The implementation challenge
14	Aiming for the blue sky: Managing legal and regulatory concerns	
Taking a sober look at security: Comfort increases but challenges remain	18	
22		Conclusion
From liability to opportunity: The role of tax in the cloud		25
26	Acknowledgements	
About the Survey	27	

Foreword

Cloud has finally started to move beyond the hype and into the very fabric of today's enterprise. Organizations around the world are gaining valuable insight into not only the potential benefits of cloud, but also the practical challenges of adopting these highly disruptive technologies.

With a majority of organizations now claiming to have adopted cloud into at least part of their enterprise, we are now seeing the market mature: new lessons learned, leading practices and challenges are emerging and a body of knowledge is starting to form.

As such, we have once again partnered with *Forbes Insights* to conduct our annual survey of cloud adopters. This report is based on the responses of more than 650 senior executives in some 16 countries representing multiple industries. Their opinions and responses provide a valuable perspective on the challenges and complexities facing today's organizations.

Based on the responses of our survey participants and the experience of KPMG's cloud leaders, this report clearly indicates that the cloud marketplace for both adopters and providers is quickly expanding and maturing. But the report also finds that the resulting journey is proving more complicated and challenging than many had originally anticipated.

That said, it is clear that – with greater experience and a few hard-won lessons – executives continue to believe that the benefits of cloud adoption far outweigh any growing pains that they may experience through implementation. What these executives must recognize, however, is that in order to reap the full benefits of cloud adoption, their organizations must also transform their business processes, or they run the risk of misinterpreting the short term IT savings as success, while the longer term strategic business objectives go unrealized.

This report makes a compelling read for any organization that is either planning or implementing a cloud strategy, and provides some practical and actionable advice for enterprises and their executives. When combined with our companion report, *Breaking through the cloud adoption barriers*, a global survey of cloud service providers, a comprehensive view of the current cloud environment begins to form.



Steven Hill
Global Leader of
Innovation, Advisory



Rick Wright
Global Cloud Enablement
Program Leader

What you should take from this report

“ In some ways, success really comes down to the tone at the top of the organization in terms of how critically they view cloud as an enabler and potential differentiator for the business. Those with a highly developed sense of enterprise will gain the most from the cloud. ”

Bryan Cruickshank
EMEA Region
Cloud Leader,
KPMG in the UK

There is no longer any doubt that, as a critical set of enabling technologies, cloud can significantly impact how any organization conducts its business. As cloud begins to become more mainstream within the business environment, we are seeing organizations move from the ‘when and why’ of the cloud adoption process to instead focus on the ‘how’.

Getting the timing right

As organizations gain more experience in the cloud and start to shift more and more core business functions onto cloud platforms, we are seeing a growing recognition that cloud adoption is significantly more complex than originally anticipated, particularly in terms of data management, system integration and the management of multiple cloud providers.

One of the most important lessons uncovered by this year’s research is that business process redesign must occur in tandem with cloud adoption if organizations hope to achieve the full potential of their cloud investments. Simultaneous process redesign will also better address the complexities that often arise in the implementation and operational phases. Moreover, process redesign programs must also take into consideration the complexities and adoption costs associated with cloud implementation.

A maturing perspective on cloud

How can organizations gain the full benefits of cloud? How can they reduce the impact of change in a positive and meaningful way? How can enterprises truly capitalize on cloud’s transformational potential?

Our research finds that – as the market matures and organizations gain much-needed experience and capabilities in the cloud – a marked shift is underway within the enterprise. The data in this report demonstrates that a greater focus is being placed in new areas including getting the business process redesign right, facilitating appropriate change processes and business model improvements, and moving more core functions to the cloud.



Taking a more strategic approach

This survey also demonstrates that most organizations have started to shift their focus away from pure cost reduction objectives and are instead taking a more strategic approach to cloud. This is welcome news. If organizations do not approach cloud within the context of their long-term strategic objectives and planning, true business transformation will never be realized.

This strategic approach must include ensuring skills and resources are in place for proper cloud implementation, that enhanced governance procedures exist for both cloud systems and provider management, and that operating processes are overhauled and guidelines are developed to reflect the changing operating environment that is introduced and enabled by cloud.



Turning challenges into opportunities

Our report also finds that organizations are starting to more clearly understand some of the other aspects of cloud that can either significantly enable or impair their organization's ability to reap the rewards of cloud adoption.

Business leaders have started to recognize that cloud adoption should improve security rather than lessen it. As such, we are seeing business executives work much more closely with IT to develop a joint approach on cloud security that focuses on ensuring that their data, applications and intellectual property are reliable, accessible and safe.

Adopters are also starting to prepare for the inevitable complexities that will arise from today's changing regulatory environment. In many



cases, they are establishing policies and procedures that enable them to modify their cloud strategies and address future regulatory requirements as they arise, and are thereby developing a competitive advantage for the future.

Similarly, our research finds that organizations are approaching the tax structure of cloud deployments more proactively and strategically, rather than as an afterthought to implementation. Many are finding that proactive tax planning and risk mitigation can make a significant difference in the company's tax position and therefore positively impact the overall cloud business case.

Setting expectations:

Cost reduction is a given, but transformation is critical

“Cloud is much more than just another IT cost reduction lever.”

Rick Wright

Global Cloud Enablement
Program Leader,
KPMG in the US

This survey demonstrates that cloud adopters are starting to focus on achieving the transformational benefits of cloud.

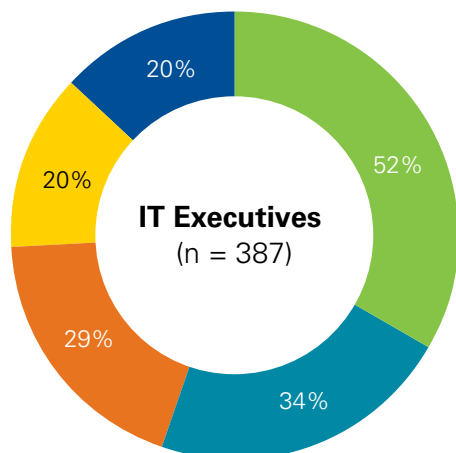
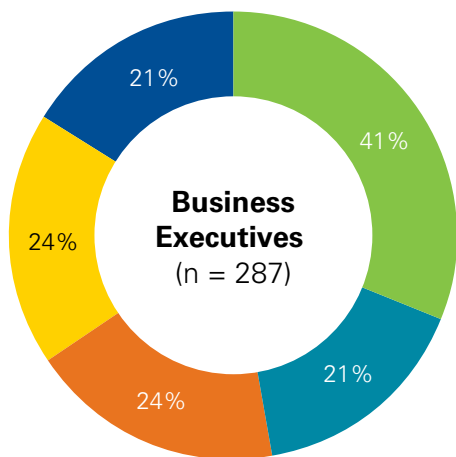
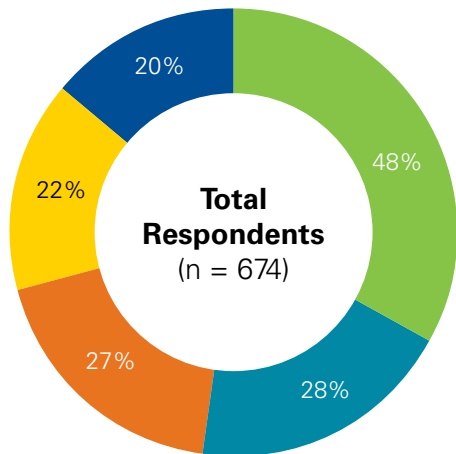
When asked about the objectives that their organizations expect to gain from cloud, two of the top three objectives identified by business executives were opportunities for cloud to enhance new market entry and drive business process transformation, both of which are key enablers of greater business effectiveness.

Today's organizations are placing more emphasis on determining how to leverage cloud to enable business transformation. So while cost reduction was cited as a key objective by almost half (48 percent) of all survey respondents, our research seems to indicate that cost reduction is becoming the base-level benefit sought from cloud. The ability of cloud to help speed adoption within the organization was noted as an objective by 28 percent of respondents.

Interestingly, IT respondents were more likely than their business counterparts to cite either cost reduction objectives or speed to adoption benefits of cloud adoption.

Survey results indicate that cost savings are already being achieved through cloud adoption. Seven in 10 respondents either agreed or strongly agreed that the cloud environment had delivered significant efficiencies and cost savings, which in turn is creating a greater appetite and acceptance of cloud within the boardroom and wider enterprise.

What are the key objectives behind your current approach to cloud adoption?



- Cost reduction
- Speed to adoption
- New market entry
- Business process transformation
- Improved alignment/interaction with customers

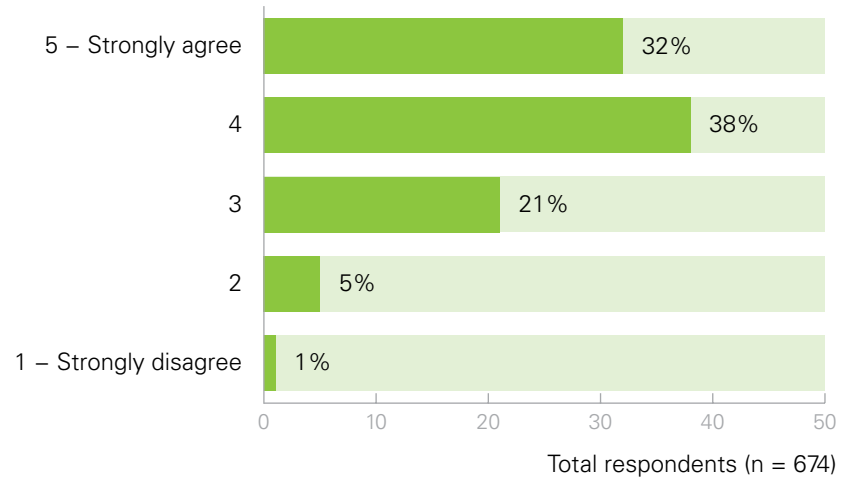
Source: KPMG International's Global cloud survey: the implementation challenge

“Business executives are starting to fully appreciate the potential transformative value that cloud can bring to the enterprise.”

Rick Wright
Global Cloud Enablement
Program Leader,
KPMG in the US

70 percent of respondents believe that cloud is delivering efficiencies and cost savings today.

Are cloud environments delivering significant efficiencies and cost savings today?



Source: KPMG International's Global cloud survey: the implementation challenge



KPMG viewpoint: The transformative value of cloud

Rick Wright

Global Cloud Enablement Program Leader, KPMG in the US

With our survey showing that more than half of organizations are already working in the cloud, it is encouraging to see that cost reduction and speed to adoption remain high on the list of objectives for executives. These benefits were always central to the cloud value proposition, and the fact that so many enterprises continue to see them as key objectives shows that experience in cloud environments has not seemed to dull these anticipated gains.

But the survey findings also show that organizations are beginning to recognize that cloud is much more than just another IT cost reduction lever. This is illustrated in the gap between how IT and business leaders view the cloud. Essentially, the IT function sees cloud as a strategy to run their business more efficiently by reducing costs and enhancing agility, two of the biggest challenges for most IT leaders.

The fact that the business is less focused on these objectives indicates that they see these challenges as being the purview of the technology function and – rightly or wrongly – assume that IT is taking every opportunity to achieve these operational objectives already.

These results also suggest that business executives are starting to fully appreciate the potential transformative value that cloud can bring to the enterprise. And, having experienced some of the immediate benefits of the cloud, many are now starting to look deeper into their operating models to see how these advantages can be extended into the wider enterprise.

To achieve these benefits, however, it will be imperative that strong emphasis is placed on understanding cloud's strategic potential and incorporating that into not only the overall business strategies, but also the cloud investment plans and technology architecture roadmaps.

Ultimately, executives of all stripes will need to remember that cloud is not a short-term fix for the

business, and that some of the benefits will only start to have a significant impact a couple of years down the road.

Indeed, gaining real cost savings from the cloud is about more than simply moving from fixed costs to operating costs; the greatest cost savings – and, more importantly, the transformational business benefits – will come from the longer-term outcomes such as more efficient processes, more flexible operating models and faster entry into new markets and geographies.

However, adapting existing business processes to the new cloud solution may be more complex today than in the past when IT organizations tended to purchase a 'best fit' package and then customize it to their existing business processes. Today, those business processes that are embodied in cloud services are limited in the amount of customization that organizations can drive, forcing the business to think through how they most effectively adapt their business processes to align to the cloud service.

As my colleague at KPMG in China, Egidio Zarrella, Clients and Innovation Partner, and Cloud Leader, notes, "Organizations need to recognize that cloud adoption is far more than a technology implementation project; it's a transformative journey that will catalyze change across the organization. As such, it is critical that organizations dedicate sufficient budget over appropriate timelines to support the transformative change that will need to occur as cloud is rapidly adopted into the enterprise."

While process transformation via the cloud is key to achieving real and lasting benefits, getting there will not be simple. It will require business leaders to work with IT to develop innovative strategies and plans to redefine and overhaul operating models and processes in order to take advantage of cloud capabilities. Otherwise, these transformational benefits will remain vague and aspirational, as has been the case with some early cloud adoption efforts.

Tackling the practicalities:

The implementation challenge

“Implementation and integration challenges are critically important to overcome as – if they are not adequately addressed – they can threaten both the ROI and business benefits of cloud, particularly as adoption levels increase and pull in more core and strategic applications and systems.”

Steven Salmon
Principal Advisor,
KPMG in the UK

Our survey indicates that some of the biggest challenges facing cloud adoption relate to the implementation of cloud services. One third of all respondents said they had found costs related to implementation were higher than expected, while 31 percent indicated that the process of integrating existing IT architecture with new cloud services was creating challenges.

A critical challenge to cloud success is that many respondents do not seem to have the right skills to match their cloud plans and ambitions. When asked how skilled their organizations were at overcoming these challenges, respondents said that integration with existing architecture was one of the areas where their organizations demonstrated the least amount of skill. And while their skills in managing implementation costs were ranked somewhat higher, they still fall behind in more complex areas such as legal and regulatory compliance and tax.

It was somewhat surprising, therefore, to find that a significant

majority of respondents said that they rely primarily on in-house resources rather than external providers or consultants for their cloud implementations, with higher numbers in Asia Pacific and the Europe, Middle East and Africa (EMEA) regions.

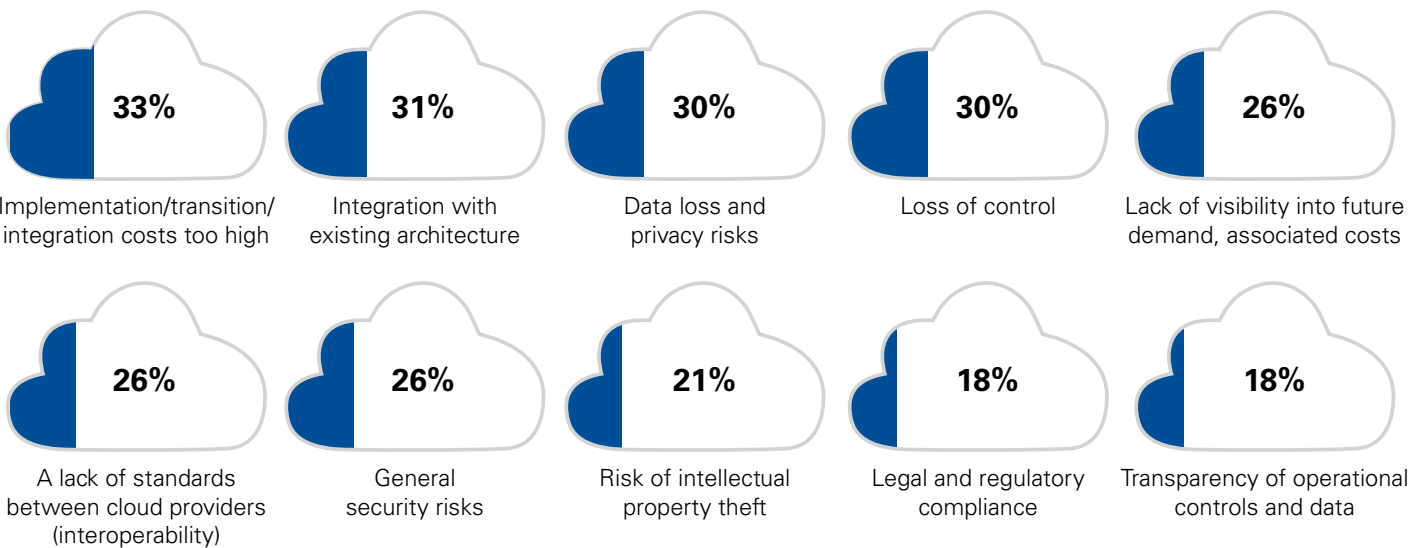
Survey respondents also noted that they are increasingly concerned about the loss of control that may come from moving data and processes into the cloud. This concern is most keenly felt in the Americas where there has been greater cloud experience and uptake to date, illustrating that this concern may grow with greater cloud experience and usage elsewhere.

“ The ability to develop and deliver an integration capability within IT will be a key success factor for CIOs and their organizations going forward. ”

Steven Salmon
Principal Advisor,
KPMG in the UK

Which of the following are the key challenges of your approach to cloud adoption?

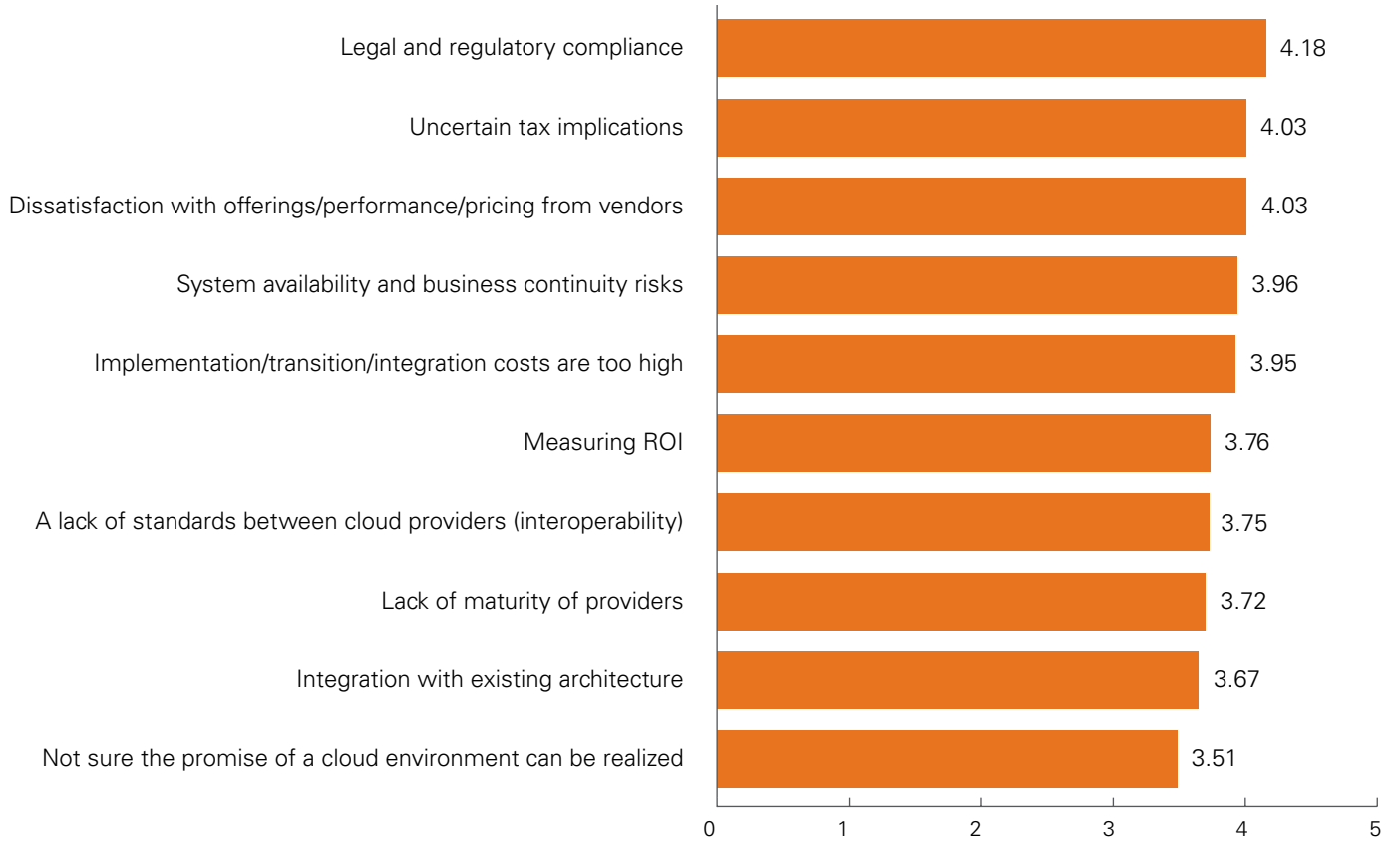
Total respondents (n = 674)



Source: KPMG International's Global cloud survey: the implementation challenge

How skilled do you feel your organization is at overcoming these challenges?

(Using a scale of 1 to 5, with 5 being the highest)



Source: KPMG International's Global cloud survey: the implementation challenge

Total respondents (n = 674)

KPMG viewpoint: Understanding the reality of implementation and integration

Steven Salmon

Principal Advisor, KPMG in the UK

The rise of cost and complexity as major cloud implementation challenges is inevitable, in part because of some common misconceptions and hype surrounding cloud. Cloud is not simply a 'buy, bolt on and go' solution. Rather it requires organizations to fundamentally transform the way they procure, manage and use their IT applications and services which, in turn, drives up the cost and complexity of implementation.

In the context of the hype, confusion and simplistic vendor models, we come across organizations that have assumed that cloud could be implemented within their existing business and IT architecture without recognizing the significant transformation that must occur before cloud benefits can be fully gained.

However, the findings in this survey indicate that – as organizations gain more experience in the cloud – they are increasingly starting to recognize that it is not simply a case of flipping a switch; business process redesign, IT management capabilities, systems integration, infrastructure and configurations are all part of the transition process and each require investment to get it done right.

Respondents also tended to underestimate the costs and complexity of integrating multiple cloud provider platforms and traditional systems into cohesive and interoperable business services that span functions across the organization. The reality is that most organizations will engage with many cloud service providers to support different business processes and functions but – with no clear industry standards yet in place – will find the process of ensuring interoperability to be rather complex. This is especially true for organizations that have already adopted alternative service delivery models such as shared services and

outsourcing, which also must be integrated into the mix and managed alongside cloud efforts.

According to the survey, organizations are starting to dedicate a larger portion of their IT budgets towards cloud implementation and subscriptions. But given that – in most organizations – overall IT budgets are only growing in the single digits, many organizations will likely struggle to determine where best to decrease other types of IT spend.

We therefore believe that the ability to develop and deliver an integration capability within IT will be a key success factor for CIOs and their organizations going forward. So while some observers suggest that cloud will diminish the role of the CIO, particularly as IT decision-making and budgeting move further into the business, we see the CIOs role as becoming ever-more critical as the business' service integration broker on a commercial level, a process level and a technical level.

This survey has also shown that control and governance risk have moved up the IT and business agenda as more of the core processes move into the cloud. Given that the ownership of cloud within the organization is often fractured within the separate business functions, the lines of risk ownership are rapidly becoming blurred. As such, it will be critical that organizations address and understand the various elements of loss of control – whether that be technical, legal or regulatory – as part of their implementation and integration planning.

Given these concerns and challenges, a number of organizations are saying that the cloud is not yet ready for adoption. And while that is debatable, the real question for them should not be whether the cloud is ready for them, but rather whether their organization is ready for the cloud.

Taking a sober look at security:

Comfort increases but challenges remain

“ Executives must ensure that they have thought carefully about creating a cloud security strategy. ”

Greg Bell
Principal,
KPMG in the US

Not surprisingly, challenges relating to security and privacy continue to rank highly on the list of concerns for both IT and business executives. However, the data indicates that organizations are becoming more confident in the security of cloud providers.

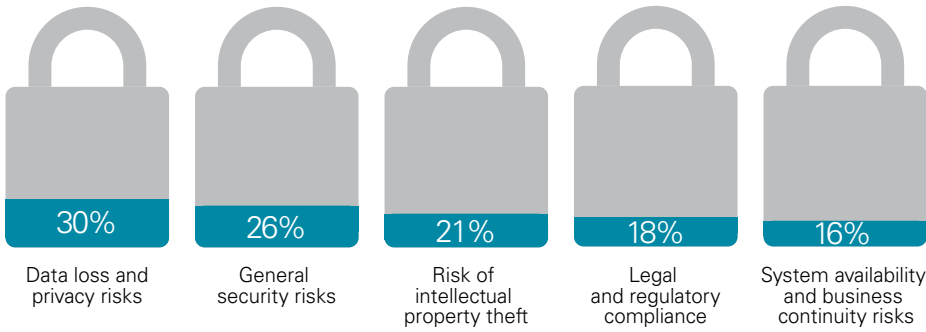
Whereas in our 2011 survey, security ranked as the top challenge facing executives, in this year's survey, security-related challenges such as data loss and intellectual property theft ranked below other issues such as integration challenges and implementation costs.

This does not mean that security is no longer a key issue for executives. Of the possible security concerns, data loss and privacy risks were cited the most often by respondents, while general security risks and risk of intellectual property theft were only somewhat

less frequently identified. Other key security challenges were also noted, including legal and regulatory compliance – which is often security related – and system availability and business continuity risk.

However, when asked how challenging they believed each of these problems to be, survey respondents rank security-related challenges as some of the most difficult to overcome, indicating that they still have not come to grips with the extent of the security-related challenges that they face.

Security-related challenges to cloud adoption



Total respondents (n = 674)

Note: Value will not add up to 100 due to extraction of data.

Source: KPMG International's Global cloud survey: the implementation challenge

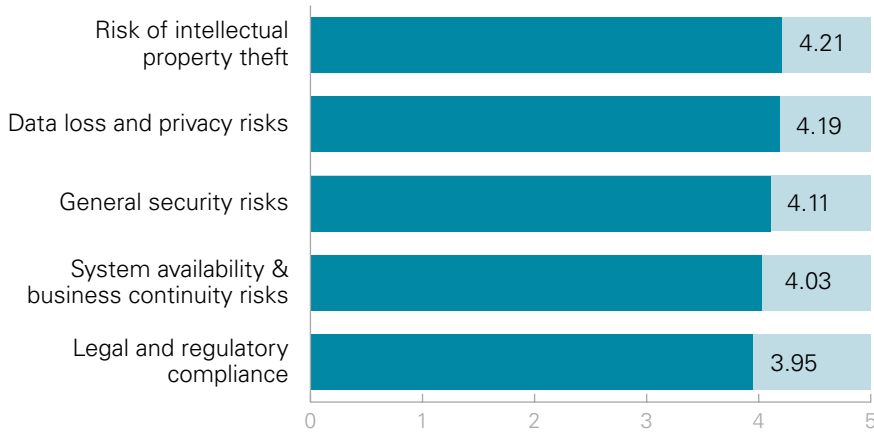
“The fact remains that security is still a significant concern for business and IT leaders.”

Greg Bell

Principal,
KPMG in the US

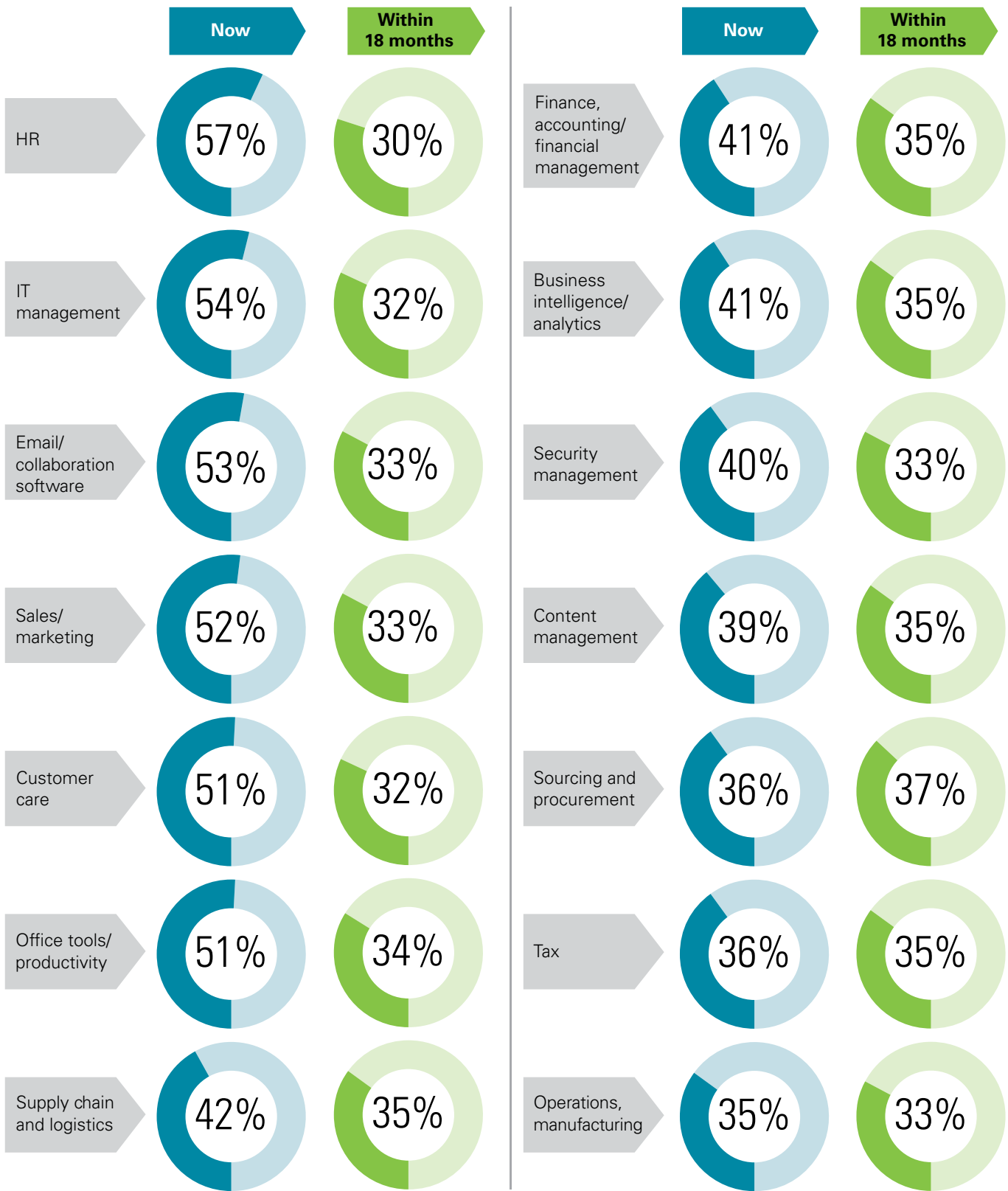
How challenging do you believe each of these areas to be?

(Using a scale of 1 to 5, with 5 being the highest)



Source: KPMG International's Global cloud survey: the implementation challenge

In which functional areas of your business are you using cloud-enabled services today, and which are you *likely to adopt* within the next **18 months?**



Total respondents (n = 674)

Source: KPMG International's Global cloud survey: the implementation challenge

It is worth noting that concerns related to security do not seem to be slowing cloud adoption. In fact, more than a third of respondents suggest that their organizations will adopt cloud within the next 18 months in areas such as sourcing and procurement; supply chain and

logistics; finance, accounting and financial management; business intelligence and analytics; and even tax. Clearly, this indicates that organizations continue to move more core and sensitive data and processes to the cloud, despite ongoing security concerns.

“Functions that – until just recently – were considered too sensitive or complex for cloud are now being put on the table.”

Greg Bell
Principal,
KPMG in the US

KPMG viewpoint: Confidence in security grows

Greg Bell
Principal, KPMG in the US

While the data shows that security-related concerns are still top-of-mind, the real story underlying these findings is that organizations are quickly gaining more confidence in the security of their cloud services providers.

Through our experience conducting dozens of cloud security reviews, we have found that – with few exceptions – leading service providers tend to have a very firm grasp on security. In most cases, these providers offer robust and resilient security measures and controls that may enhance some companies' security rather than diminish it.

Although some organizations are starting to realize that the cloud environment is often as secure as traditional internal IT systems and architecture, security remains a significant concern for business and IT leaders.

This in no way means that security should slide down the cloud agenda. In fact, before organizations move one piece of data into the cloud, they must ensure that they have thought carefully about creating a cloud security strategy that takes into account the broad array of service providers that the organization may engage. Ideally, this will include key measures for data security, integrity and availability.

Most importantly, developing a robust cloud security strategy will require IT and the business to work closely together to ensure that the organization's security posture and approach are well thought out and articulated. The business, for example, will need to decide how fast they need their data, how accessible it needs to be and what level of security is appropriate. The technology function, on the other hand, will need to translate those needs into specific security requirements and then manage their providers to maintain and monitor those security protocols and controls.

The reality is that Information Security (IS) departments will continue to guard the organization's key information assets, whether or not those assets are stored in-house or in the cloud. But this movement to cloud will require IS leaders to start thinking and communicating about security in terms of how it impacts the business operations and the services they use, rather than the security of infrastructure such as servers and networks.

The bottom line is that the business and its executives don't need to understand the nitty-gritty of cloud security; they do, however, need to know that their data, applications and intellectual property are reliable, accessible and safe.

Aiming for the blue sky:

Managing legal and regulatory concerns

“It will not be long before regulators start to enforce new rules that will have a significant impact on the way organizations (particularly global ones with cross-border activities) use the cloud.”

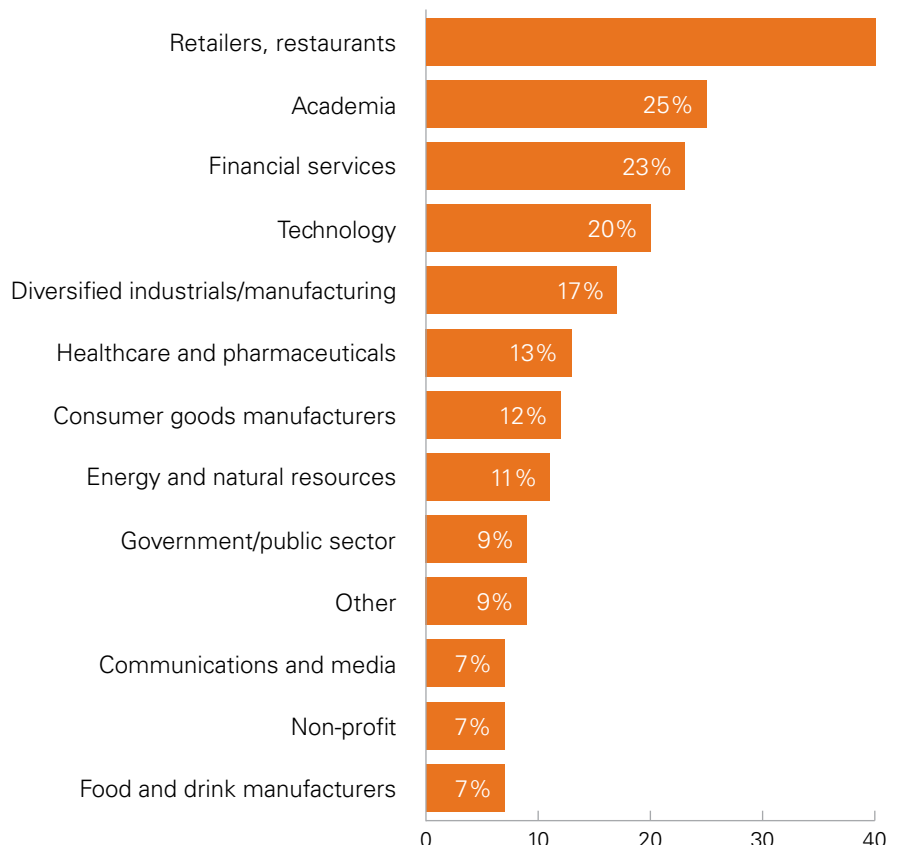
Shahed Latif
Principal,
KPMG in the US

While experience shows that legal and regulatory compliance is often a complex challenge for many organizations, and can vary from one region and industry to the next, only 18 percent of respondents said it was impacting cloud adoption within their organization. However, this result is likely to be more a function of complacency or lack of awareness of regulatory challenges and risks than of buyers' skills or prowess at actually addressing these challenges.

Regional differences emerged from the data, with respondents from the Americas around 10 percent more likely to cite legal and regulatory

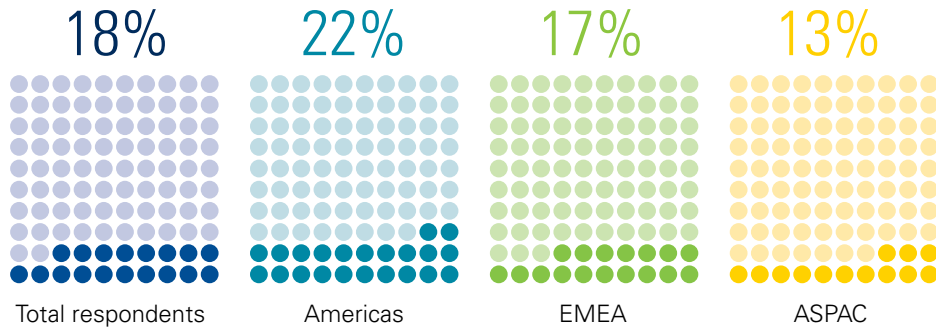
compliance as a key challenge in their approach to cloud adoption than respondents from Asia.

Key legal and regulatory challenges to cloud adoption by industry



Source: KPMG International's Global cloud survey: the implementation challenge

Key legal and regulatory challenges to cloud adoption by region



Source: KPMG International's Global cloud survey: the implementation challenge

A number of organizations are exploring how private cloud environments may help them to solve potential legal and regulatory challenges, with almost a quarter (24 percent) citing these as reasons for exploring private cloud, particularly by respondents in the retail and academia sectors.

Other factors related to legal and compliance were also seen to be increasing private cloud's perceived value. Almost a third of respondents said their decision to use a private cloud was related to concerns about data loss and privacy and loss of control, while only slightly fewer respondents cited transparency of operational controls.

“Given the quantum of government investment into this area and the mass of infrastructure and capabilities already available in the market, we fully expect that – once China clarifies some of the remaining legal and regulatory questions – the country will quickly become one of the fastest and most dynamic cloud markets in the world.”

Egidio Zarrella

Clients and Innovation Partner
and Cloud Leader,
KPMG in China

“ Organizations need to first understand how cloud will impact compliance across each of the jurisdictions they operate within. ”

Shahed Latif

Principal,
KPMG in the US

KPMG viewpoint: Increasing regulation on the horizon

Shahed Latif

Principal, KPMG in the US

Ask any executive to list their top three business challenges this year and you are likely to find both cloud and regulation at the top of the list. Yet few seem to be aware of the complex challenges that arise when you combine the two.

That being said, while somewhat problematic, it is not entirely surprising that legal and regulatory compliance was low on the list of cloud considerations in this survey. For one, there are few regulations specifically related to cloud in most major markets. Some, like the US, the UK and China, are slowly moving forward with various efforts to standardize aspects of cloud, such as the FedRAMP initiative in the US. But even where regulations are being promulgated, enforcement is weak and public visibility is low (compliance breaches rarely hit the front pages of the newspaper in the same way that breaches in security or privacy do).

In our experience, the issue has received little serious attention on the corporate cloud agenda within many organizations and, since few organizations have yet to move all of their core sensitive data into the cloud, many executives currently believe that the issue is moot for the time being.

This is an unfortunate and potentially dangerous oversight. Yes, regulations are generally not well formed or evolved in many markets, but the point is that they are forming and evolving. It will not be long before regulators start to enforce new rules that will have a significant impact on the way organizations (particularly global ones with cross-border activities) use the cloud.

Most global organizations over the past few years have largely decentralized their global compliance standards to allow local alignment and more direct lines of responsibility. But once their data starts to become aggregated in the cloud, they are often opened up to unanticipated exposure to regulation that may seriously impact their proposed cloud operating model.

According to KPMG's survey of cloud providers¹, most major vendors have now started to develop their global compliance frameworks, largely to help them expand their reach into new foreign markets and highly regulated industry sectors. This may be good news, particularly for smaller organizations that may lack their own internal compliance capabilities for cloud.

But through no fault of their own, progress has been slow from the cloud providers. Therefore global organizations would be well advised to ensure they understand their providers' global compliance roadmaps early on in the engagement process, regardless of whether they are adopting public, hybrid or private cloud solutions.

While private cloud and global compliance roadmaps may make these legal and regulatory considerations easier to manage and measure, the fact remains that organizations need to first understand how cloud will impact compliance across each of the jurisdictions they operate within. And with the rapid pace of regulatory change these days, developing the capability to monitor and react to changes will be key to 'future proofing' the cloud environment.

¹ *Breaking through the cloud adoption barriers*, KPMG International, 2013



From liability to **opportunity**:

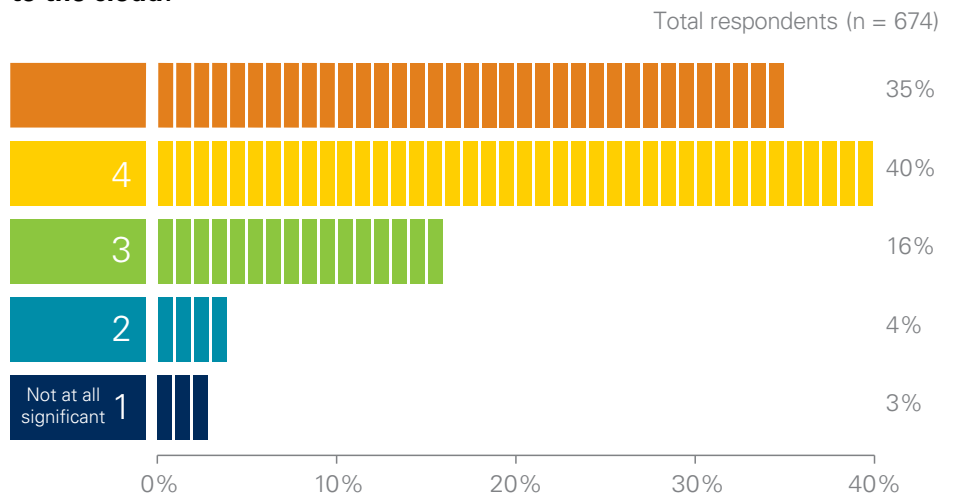
The role of tax in the cloud

“Getting strategic tax advice should be a critical step in the cloud planning process.”

Steven Fortier
Principal,
KPMG in the US

A high portion of respondents agreed that the tax implications of cloud adoption play a role in the cloud decision-making process. However, it is interesting to note that they also believe that their organization is appropriately skilled to overcome the challenge of uncertain tax implications.

How significant is the role of tax when making a decision to migrate to the cloud?



Source: KPMG International's Global cloud survey: the implementation challenge

Three quarters of all respondents to our survey rated the role of tax in the decision to migrate to cloud as either a 4 or 5 (out of 5) in terms of significance, indicating broad recognition that tax structures may change as a result of the adoption of cloud.

While respondents tended to point out the shifting of IT expenditure from

capital costs to operating expenses, as well as issues related to transfer pricing, as the most significant tax challenges when dealing with cloud, none of the identified tax issues were deemed to be especially significant. However, in our experience, there continues to be a sizable disconnect between the business' awareness of

“The precise business structure of a cloud service can make a significant difference in the company’s tax position. Consequently we would advise that understanding the tax position is an essential factor when planning a cloud service.”

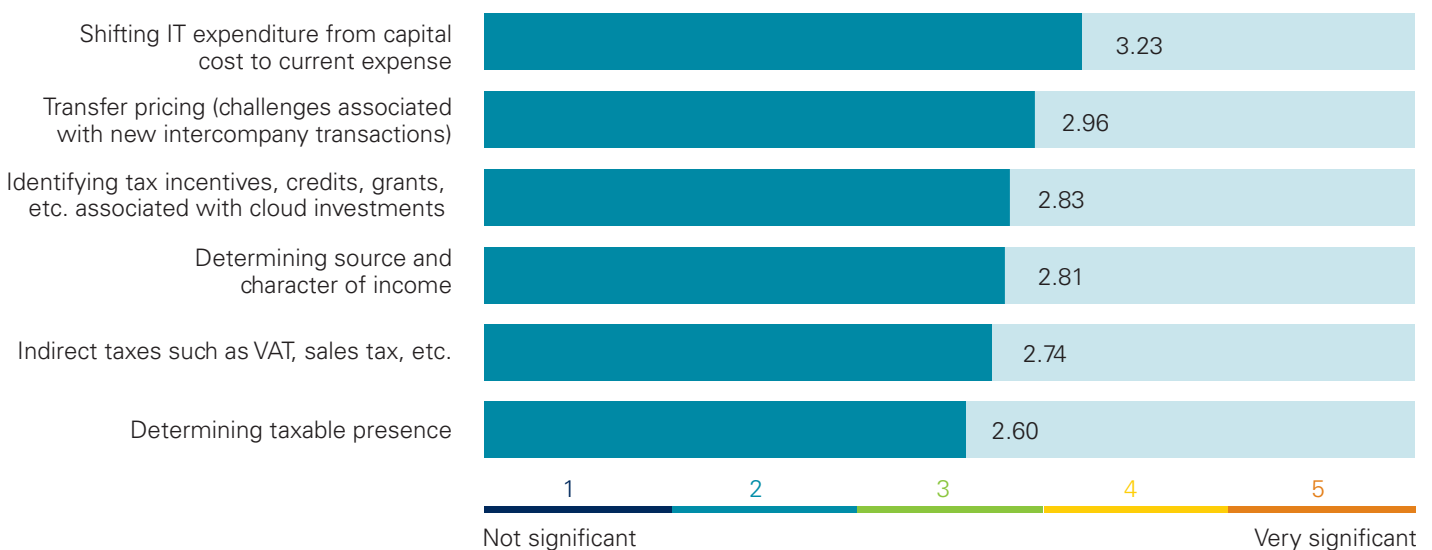
Deborah Green
Tax Partner,
KPMG in the UK

tax and its willingness to include the tax department in the cloud planning process.

It is concerning, therefore, that the challenge of facing uncertain tax implications ranked among the lowest

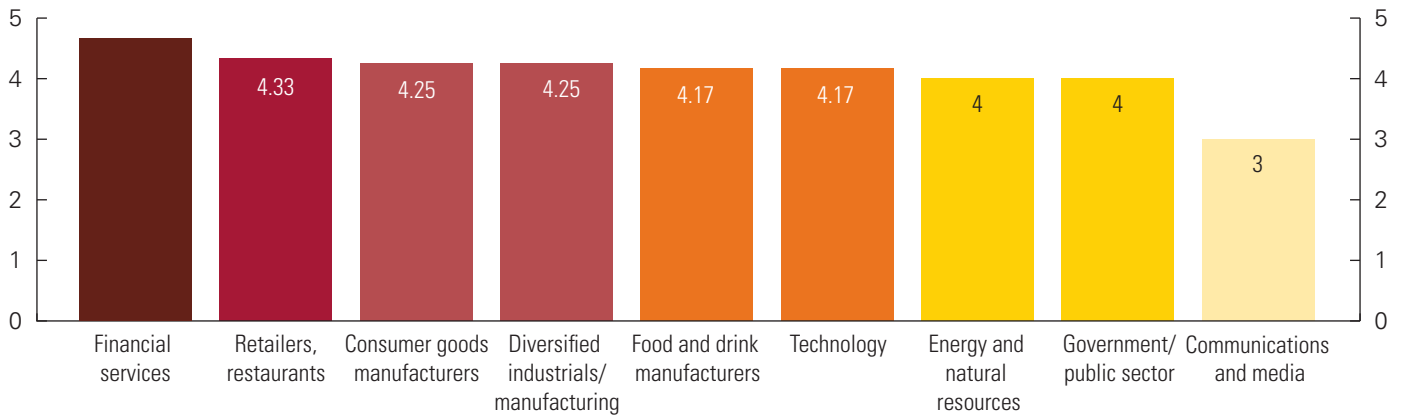
of the concerns facing cloud adoption within organizations, while, at the same time, respondents were also likely to rank their ability to manage tax implications rather highly (a 4.03 on a scale of 1 to 5).

How significant are the following tax issues?



Source: KPMG International’s Global cloud survey: the implementation challenge

How skilled do you feel your organization is at overcoming these tax issues (identified on page 23)?
 (Using a scale of 1 to 5, with 5 being the highest)



Source: KPMG International's 2012 Global cloud providers survey.

KPMG viewpoint: Making tax a strategic priority

Steven Fortier, Principal, KPMG in the US

Deborah Green, Tax Partner, KPMG in the UK

On face value, these results seem to show a remarkable awareness of cloud-related tax implications by IT and business executives. But according to a recent survey of 200 senior corporate tax professionals in the US², less than half of all companies include their tax department in up-front discussions on cloud initiatives.

The reality is that getting strategic tax advice from the internal tax department should be a critical step in the cloud planning process. There are significant tax implications in how cloud service agreements are contracted and structured that must be considered and managed.

That the respondents were more likely to be concerned about shifting IT expenditure to current expense and possible issues related to transfer pricing only reinforces the fact that tax specialists are often not consulted within the cloud decision making processes.

Our experience shows that business and IT leaders are largely aware of how issues such as transfer

pricing and current expense taxes work and therefore tend to implicitly understand that these issues may be challenges. But if you ask a tax professional what the biggest challenges are, they would likely point to issues around indirect taxes such as VAT and sales tax or the identification of tax incentives and grants associated with cloud investments.

Take, for example, the question of whether the contracting of cloud services results in a perceived investment in land. If so, the organization may well be subject to indirect taxes on that asset holding. Similarly, the way that intra-group licenses are structured and maintained may result in an unexpected VAT liability.

Business and IT executives tend to consider tax in the cloud as a primarily compliance-driven issue that the tax team can sort out once the contracts have all been signed. In reality, the tax structure of the cloud service can make a significant difference in the company's tax position, when it is approached strategically.

² Tax in the cloud survey report, KPMG Institute, 2012

Conclusion

Our survey finds that the majority of organizations around the world have already begun to adopt some form of cloud (or 'as-a-service') technology within their enterprise, and all signs indicate that this is just the beginning; respondents expect to move more business processes to the cloud in the next 18 months, gain more budget for cloud implementation and spend less time building and defending the cloud business case to their leadership. Clearly, the business is becoming more comfortable with the benefits and associated risks that cloud brings.

With experience comes insight. It is not surprising, therefore, that the top cloud-related challenges facing business and IT leaders has evolved from concerns about security and performance capability to instead focus on some of the 'nuts and bolts' of cloud implementation. Tactical challenges such as higher than expected implementation costs, integration challenges and loss of control now loom large on the cloud business agenda, demonstrating that – as organizations expand their usage and gain more experience in the cloud – focus tends to turn towards implementation, operational and governance challenges.

Ultimately, this has led to an overall maturing of the market that can only come from experience: new lessons are being learned, best practices and challenges are starting to emerge, and a body of knowledge is starting to form.

We hope that this report, particularly when combined with *Breaking through the cloud adoption barriers* (our survey of cloud providers), helps business and IT leaders to derive greater value from their cloud approach, strategy and adoption plans.

About the Survey

In late 2012, KPMG International, in partnership with Forbes Insight, conducted a web-based survey of 674 senior executives at organizations using cloud across 16 countries to assess the status and impact of cloud adoption around the world. Approximately 50 percent of respondents represented C-level executives, with 57 percent of all respondents identified as IT executives and 43 percent as business executives.

The survey spanned a broad scope of industry sectors including Financial services (22 percent of total respondents), Technology (19 percent), Diversified industrials/manufacturing (10 percent), Retailers/restaurants (9 percent), Healthcare and pharmaceuticals (8 percent), Consumer goods manufacturers (6 percent), Food and drink manufacturers (5 percent), Energy and natural resources (4 percent), Communications and media (4 percent), Government/public sector (3 percent), Non-profit (2 percent), Academia (1 percent), and Other (7 percent).

Of the respondents, 11 percent were from organizations with revenues in excess of 20 billion US dollars (USD), 26 percent with revenues of between USD1 billion and USD20 billion, 29 percent with revenues of between USD500 million and USD999 million, and 34 percent with revenues of between USD100 million and USD499 million.

Countries included in this survey were: Australia, Brazil, Canada, France, Germany, India, Israel, Italy, Japan, China, the Netherlands, Saudi Arabia, Singapore, the UAE, the UK, and the US.



◀ **Breaking through the cloud adoption barriers**



◀ **Clarity in the Cloud**



◀ **Embracing the Cloud**

Acknowledgements

We would like to thank the following people for their valuable contribution to this study:

All survey respondents, Forbes Insights, KPMG sponsoring partner Rick Wright, Marketing Director in the US Leslie Schiffer, our external writer Peter Schram, and the KPMG research team in India.

KPMG's firms' partners and principals who provided their insight, including: Steven Salmon, Shahed Latif, Greg Bell, Steven Fortier and Deborah Green.

The KPMG International project team: Joanna Wells, Natalie Cousens, Maria Omega, Sarah Pallotta, Jennifer Samuel, and Nancy Barrett.

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Designed by Evalueserve.

Publication name: The cloud takes shape

Publication number: 121450

Publication date: February 2013