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ISSUES

Clarity in the cloud: the impact, opportunity and risk of cloud

An executive summary of
KPMG's global cloud study

It's here.

It's now.

Find out what your peers are doing today.

Transform your business with the cloud. This drumbeat has punctuated just about every technology and business conversation over the past few years. Fueled by hype, oversimplification and promotion, cloud provocateurs can carry on at length about what cloud is and how it can transform your business. Few can tell you what companies are actually doing to benefit from the cloud or how to create and deploy a cloud strategy that is truly transformative.

Not surprising. Cloud adoption is fraught with business and operational challenges surrounding technology, security, total cost of ownership (TCO), and the intersection with business strategy and operations. Most have very little experience with actual implementation. What's more, few have addressed the full impact of cloud integration with other applications and data, organizational redesign and change management, compliance, taxes, and security.

To bring some clarity to the issue, KPMG and Forbes Insight conducted a global survey in 2011. The survey was conducted among more than 900 individuals from 15 countries worldwide. Respondents were

from both the client community of end-users, with input from both IT directors and executive management in companies with more than US\$200m in revenues, and cloud vendors.

From all angles the responses showed increased readiness to accept and exploit the benefits of cloud. And while the cloud continues to have many definitions, the report highlights where it is going, underscoring that this seemingly simple and flexible solution can create complexity if not managed properly.

The real transformative impact of the cloud

Cloud *is* transformative in that it is creating new business opportunities as companies harness its power to efficiently facilitate new revenue, services and businesses. It is breaking down barriers in the supply chain, creating more effective and timely interaction between clients and suppliers. It is delivering speed, agility and cost reduction to IT and other functional areas within the enterprise. The transformative impact of cloud can readily be seen across the enterprise in areas from HR, CRM, and IT infrastructure.

81% of businesses are either planning their initial forays, are in early or advanced stages of experimentation or have full implementations.





Many early adopters have implemented the cloud in areas that are self-contained, primarily in areas that are not rife with complexity and multiple applications, and that do not require integration with core enterprise applications or infrastructure. Others have pushed forward more broadly in new, startup or evolving businesses, often with increased speed over their sister organizations burdened with legacy systems. And while there are notable groundbreakers pushing cloud to the edge, the majority has focused on controlled implementations to improve the odds of success.

Key findings include:

The cloud is commonplace, but its scope varies widely. Over half of the businesses and government enterprises surveyed have already conducted either a full (24%) or partial (35%) cloud implementation of some functions. The vast majority has tested these new technologies and processes, and they are using them on a small scale. Some typical areas of cloud implementation are for email, sales management and other available Software as a Service (SaaS) offerings. The research notes that in

2011, 19% of the respondents indicated spending on cloud represents 10% or more of total IT expenditures with 65% citing 10% or less.

Early investment centers on software as a service (SaaS). Again, the majority of early adopters are getting their feet wet using basic, available tools in the cloud. Of the respondents, 46% of planned implementations are in a SaaS environment. However, significant numbers of end users are also exploring the use of infrastructure as a service (IaaS) and platform as a service (PaaS) models.

Executives believe that cloud environments have the potential to transform business and operating models. Eighty-seven percent say, at the very least, the coming change will be significant. This view is consistent among companies of all sizes and whether the respondents work within IT functions or business units. It is not a surprise that cloud providers believe business and corporate IT executives underestimate the degree of change that could result from cloud adoption.

Approximately 10% of Cloud providers are over-estimating the levels of savings demanded by end-user organizations.

The vanguard already resides in the cloud. Right now, 81% of businesses are either planning their initial forays, are in early or advanced stages of experimentation or have full-on cloud implementations. While the scope may be controlled, and the approach measured, there is indeed activity. Remarkably, respondents at one in 10 businesses say they are already running their core IT services using cloud technology, although this number varies widely by geography.

Substantial cost savings are on their way. Both business and IT executives as well as providers believe cloud environments will deliver cost savings. The prevailing wisdom points to economies of scale, meaning the cost of each unit of computing value within a cloud environment will fall dramatically over time. As for business processes, executives believe innovation will lead to streamlining. But an intriguing finding is this: while most providers promote up to 30% savings, most business executives would be happy with 10%-15% savings.

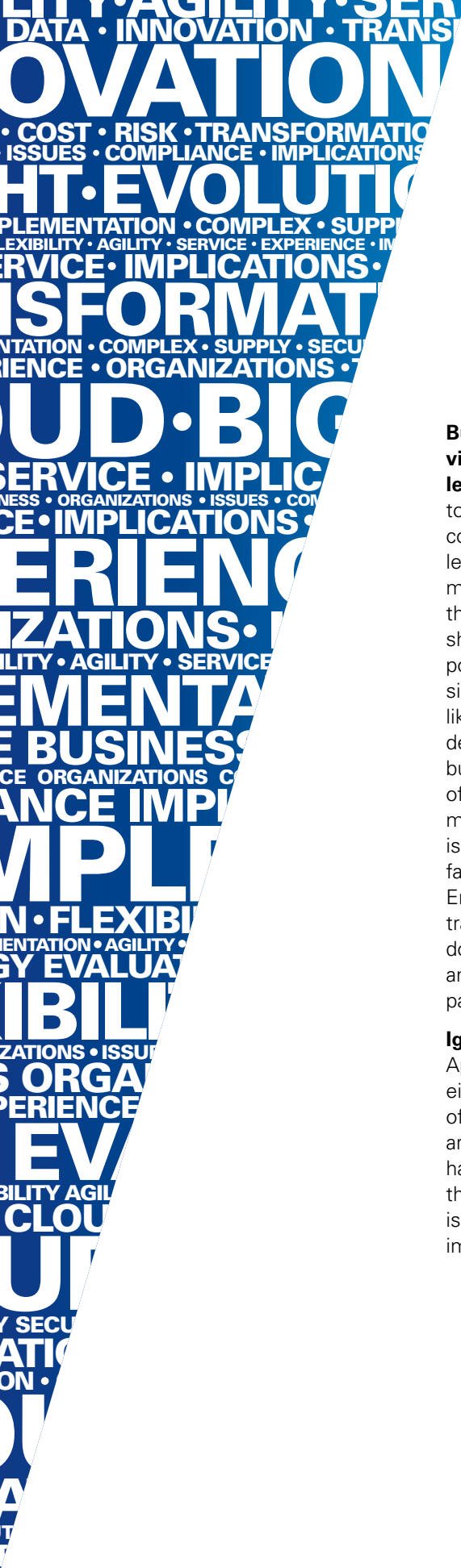
Opportunities exist to overcome barriers to success. Executives are particularly intrigued by potential gains in areas such as speed to solution and widespread accessibility as well as

flexibility, scalability, security and advanced technology.

Buyers are concerned by risks of provider performance, downtime and data security. Recent headlines exposing compromised data and temporary shutdowns of various name-brand organizations and cloud providers remain front and center for many potential adopters. However, provider input suggests that such fears are overstated—and that in reality, the cloud will be a safer, more secure and more reliable IT environment than these customers have ever known.

Private clouds will dominate the most critical functions. Many factors drive the decision to public or private cloud. Industries with the strongest adoption of private clouds are financial services, healthcare and diversified industrials (averaging 45% of respondents). Financial services and healthcare face heavy regulatory and compliance issues that are exacerbated, though not impossible to overcome, in the cloud. Organizations' custom-configured applications and infrastructure also contribute to the need for private cloud solutions versus the standardized solutions among public clouds.





Business unit executives and CIOs views diverge when it comes to cloud leadership. IT executives see migration to the cloud as their initiative; and, consequently, they believe that it should be led by the Chief Information Officer. In the minds of business executives, however, the natural leader of cloud-based initiatives should be the CEO. Not surprisingly, post-implementation expectations are similar. Ultimately, responsibilities will likely be shared with relative influence depending on the services in question: businesses will tend to control ownership of applications; IT executives will tend to manage infrastructures. Unless this trend is managed properly, organizations will face new silos and integration challenges. Enter the Chief Integration Officer as the traditional CIO's role expands to break down potential silos and integrate internal and external business needs, systems and partners.

Ignoring tax issues raises concern. Approximately 45% of the respondents are either not evaluating the tax implications of cloud or don't know if these factors are being evaluated. Ignoring tax issues has never changed the responsibility of the payer, which makes taxation a critical issue for those wishing to evaluate all implications of the cloud environment.

Approximately 45% of the respondents are neither evaluating the tax implications of cloud nor do they know if these factors are being evaluated within their organization.

Insights & Implications

Many cloud studies and research reports exist, providing a view into cloud trends and deployments. This research study is based on input from over 900 executives. KPMG has gained insights not only from this survey, but from our firms' clients who are actually experiencing transformation enabled by cloud. Based on this, we offer below a 'What's Next?' guide for executives to appropriately measure the opportunities, set against the challenges, of the cloud.

For All Executives Evaluating Cloud Solutions:

- Identify gaps in your business – performance, competitive, geographic, etc. – and determine if the cloud can help fill those gaps.
- Evaluate collaboration and information exchange needs with providers and clients. Are there elements of your business where information is exchanged that could be migrated to a cloud environment? Could these be converted to new business opportunities and ways to expand revenue? Will the cloud create new efficiencies?
- Assess the economics of a private versus public cloud. The economic differences can be significant, based on individual requirements, while the risks, such as security, need to be actively managed.
- Measure risks versus rewards as you assess cloud providers claims and capabilities.
- Understand where the cloud provider – internal or external – will force organizational process changes, and assess the change management implications and plan. Are there any organizational redesign factors to consider? Does your current operating model support the cloud migration plan? If not, have you properly designed your target operating model?
- Focus on deciphering and validating cloud computing cost savings claims. Test these claims against total cost of ownership calculations that include compliance, tax and change management implications. As these are unique by organization? (They are often inaccurate when provided by a vendor.)
- Test the customization needs of your business. The more customization needed the less likelihood of cloud success. Is the desired customization critical?





- Define business integration issues, with specific emphasis on data that may now be scattered across the enterprise. Understand how the data architecture must evolve to address the cloud and inter-cloud and inter-enterprise operability.
- Assess internal staff, current roles and changes needed and how well current skills map to the cloud model being designed or implemented.
- Consider if a cloud project does not enter the typical capital budgeting and approval process, will it exist outside corporate governance models? What mechanisms are in place to ensure corporate governance is maintained?
- How will business continuity and disaster recovery factor into your cloud migration strategy?
- Understand the contracting process. As offerings become more standardized, so goes the contract. Make sure your organization can flex to the provider's requirements and you understand what is negotiable. Understand the optimum contract length such that your project provides the flexibility needed to move as the market evolves.
- Remember to consider Service Level Agreements and how they will be

managed. Are the right mechanisms in place with your current vendor management strategy to effectively manage cloud projects?

- Assess your vendor management risk strategy with a cloud lens. Vendors are also going through their own transformation to cloud delivery models, delivering significant financial and operational impact. Ensure your management strategy properly measures the vendor's financial ability to restructure its business model.
- Determine assurance reporting needs for your cloud vendor. Requirements that worked for outsourcing, such as the historic SAS 70, may not provide the assurance you need in a cloud environment. Assess the shift of testing an entire process versus a transaction and whether this is sufficient.
- Don't forget internal audit, global security and regulatory implications of data – privacy, storage, co-location, tax nexus, etc. How do you audit the co-mingled world of cloud? How do you determine that all regulatory requirements are met? Will you give your data encryption key to your vendor? Is your vendor required to disclose a data breach?

For IT Professionals

- Work closely with business unit leaders to develop a comprehensive cloud strategy and plan of action. Create the enterprise vision and roadmap for cloud. Identify proof of concept opportunities to leverage.
- Are your technology platforms an accelerator or inhibitor to your corporate strategy?
- Educate business unit leaders on the cloud's realistic capabilities and potential from an IT perspective.
- Deploy competent specialists to study the cloud market, its capabilities, offerings and providers.
- Evaluate the interoperability of cloud solutions against current applications, platforms and infrastructure. Assess their readiness for cloud migration. Ensure the assessment is objective.
- Re-define the role of the CIO as it evolves from IT provider to Chief Integration Officer, who has the opportunity to drive business models and innovation.
- Develop various scenario plans for cloud adoption and deployment across each cloud layer and across different IT and business operating areas.

- Interpret cloud services and capabilities in the context of having to contract them with third party providers (e.g., ramping capacity up and down may be easier technically than the provider contract allows).
- Design, develop and deploy operating governance and risk management programs from the IT perspective of cloud computing services.

For Business Professionals

- Work closely with IT leadership to develop a comprehensive cloud strategy and plan of action to ensure critical integration points are managed and to ensure all opportunities for efficiencies and effectiveness are leveraged.
- Focus on the business value and potential of cloud over its technical capabilities or merits. At the same time, work with the IT organization to avoid pockets of capabilities that will create disparate data sets to manage.
- Understand the risks of cloud services deployment without the input and support of the IT group and in context of the prevailing IT architectures (including data and other technical architecture).





- Assess the implications of deploying more standardized and less customizable 'applications' now that your business process is enabled by a service.
- Develop various scenarios for cloud adoption and deployment across different business operating areas.
- Understand if cloud is a mechanism to replace and/or modernize back-office applications.

For cloud service and technology providers

- Under-promise and over-deliver: success stories will add fuel to an already fast-growing marketplace whereas failures will prove costly.
- Be realistic on cost savings claims; back up examples with proof.
- Educate customers and prospects on the benefits of cloud beyond the economics. Optimization and new agility to respond to market opportunities are not widely understood and require a long term strategy including the business and IT.

- Assess and be proactive about the challenges clients will face from rapid and multiple cloud investments and deployments.
 - Assist in developing an integration roadmap with existing infrastructure and other cloud offers.
 - Plan to continuously address ongoing cloud-to-cloud/cloud-to-on-premise requirements.
 - Address security, governance and data ownership concerns.
- Assist clients in developing new KPI's to measure their investment. Measurements may include increased efficiency, reduced cost, improved productivity and higher adoption rates.
- Ensure, as a cloud provider, you have optimized your business model in key areas such as customer management, risk & compliance, revenue recognition and tax structures especially as you grow your international business.

For Risk professionals, internal auditors, tax and audit committees

- Ensure adequately skilled professionals are in place to assess and monitor the risk and controls management aspects of cloud.
- Embed risk and controls consideration in cloud selection processes.
- Understand that traditional IT controls may be nonexistent in a cloud service provider. Funding, development, and the implementation lifecycle now may all require a new governance model.
- Understand that users have access to public cloud services, and that policies need to be developed to protect your enterprise. It is unrealistic to think your employees are not accessing these public tools.
- Involve risk, audit and audit committee groups in cloud services planning and selection processes. Require regular reporting on risk and controls management monitoring in deployed cloud services.
- Evaluate how information will be secured and confidentiality will be maintained.
- Determine how cloud computing adoption will affect regulatory and compliance requirements.
- Establish a formalized assurance program, whether through Internal Audit or independent assurance reporting (SOC reports).
- Understand the global, regional and local tax implications of the cloud environment.



Contact us

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