



# Cloud impacts and outcomes for business leaders: Ten ways business will change



## **Executive summary**

Cloud computing has many meanings to many people, and there is an abundance of research that associates the cloud with cost reduction and agility. For the vast majority, cloud research has neither accurately captured the types of change within businesses, nor the impact on business outcomes. Cloud seen in the lens of technology, or as an IT endeavor, undermines the ultimate goals of the business: innovation and value creation. Vendors are constantly framing cloud from an IT perspective, and fighting over confusing cloud definitions, leaving business leaders unclear of the corporate or competitive importance.

To constantly brand or research cloud for its 'cost reduction and agility' ignores the full potential of its capabilities and the confluence of many other business demands and trends. Dell sees the need to go beyond infrastructure, or debates over cloud definitions, and get back to the basics of business. In this is new age, cloud computing should finally give leadership input into its services and outcomes.

Cloud has far reaching implications to leadership, employees, customers, and the corporate culture. While a document such as this can only scratch the surface of the future ahead, it's time for rebalancing the conversation for business leaders. There is no question that IT has a role in cloud and visionary CIOs recognize cloud can be a weapon for change. Business leaders need the vision and insight to understand trends influenced by cloud, not the technology that enables it. Business leaders who fail to comprehend these trends and cloud-driven transformations will see competitors ride a wave of change, while they get washed away.

## **Emerging cloud partners**

Dell sees cloud as the vehicle for 'IT enabled transformation and innovation' but IT is neither the exclusive owner nor primary beneficiary of cloud. Cloud belongs to all aspects of the business. CIOs can guide the conversation, but they themselves must also be ready to speak the language of business and capitalize on an opportunity to lead, enable, and transform.

Changing an IT culture from one that controls physical or managed assets to one that delivers agile services is possible through better alignment with the business strategy, not through typical IT cost cutting initiatives. CIO involvement in setting business strategy appears to go hand in hand with superior financial performance. Putting cloud capabilities toward business strategies would seem straightforward, but unfortunately, research has shown that the C-Suite may overlook the chance to include IT in the process. A recent [Economist Intelligence Unit](#) study has found that, **One in six CIOs are only 'consulted' or have no role at all when IT strategy is formulated. This means that they are implementing an IT strategy that they had scant influence in developing. The marginalization of the CIO is a choice, exacerbated by disconnects between CIOs and their C-suite peers about the value and priorities of the IT function.**

There are gaps between CIOs and business leaders as to where and how IT investments add the most value to the enterprise. Certainly IT could move closer to an understanding of business needs and opportunities and vice versa. The [Economist Intelligence Unit](#) study also found that, **Ideally, business executives should be able to rely upon their CIO for a briefing on the technical and business risk involved in new ways of using IT. But fewer than one-half of C-suite respondents say their CIO has a good understanding of these risks.**

Cloud offers a seminal moment for IT organizations: a new age of innovation whereby IT ultimately changes the way it's perceived by the business as a partner and competitive differentiator. Cloud initiatives that have strong cooperation between IT and line-of-business planners are **almost four times more successful** than cloud projects in which IT and business leaders remain separate. Therefore, Dell believes that a business must adopt cloud as part of an overarching business strategy; it's not a technology.

Accounting firm PricewaterhouseCoopers estimates that somewhere between 15% up to 30% of IT spending now occurs outside the standard consolidated budget of the IT department.

- [Raising Your Digital IQ survey](#)

Business leadership can be vital to sink or save any enterprise-wide cloud initiative as success can hinge on the willingness to embrace change and collaborate with IT. Leadership insights into the corporate strategies also provide the lens by which IT can better anticipate or mediate cloud use. It

stands to reason, when everyone agrees to the short *and* long-term business strategies and outcome(s), cloud decisions are easier to make. This is how cloud becomes the competitive advantage.

#### Ten ways cloud computing will change your business

- IT security will no longer be just an IT issue
- Great expectations of IT role and function
- Everyone becomes a knowledge worker
- Every idea (product or service) can go global (new generation of ideas)
- Collaboration goes up, and barriers go down (more suppliers, partners, competitors)
- Redefine time to value (TtV)
- Acceleration of career growth and direction
- Putting the client first, then doing it better
- New plateau of value creation for customers and shareholders
- Declaring business without the walls

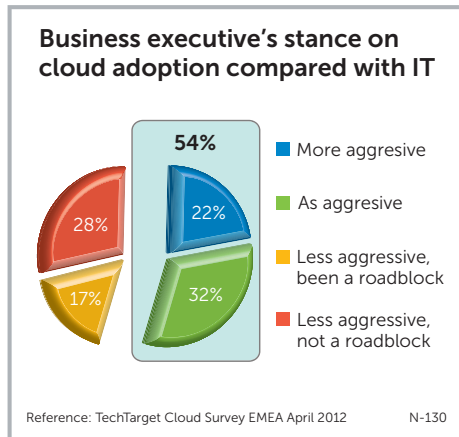
**Business leaders can lead cloud**  
Netflix did not invent cloud computing or video streaming but it had a vision for the Internet and thus named the company Netflix, not "DVD-by-Mail." Netflix had an early advantage of 100,000 DVDs in its selection as compared to 3,000-7,000 found at a traditional



store. Reed Hastings had the vision to reach the TV directly. Netflix, still a young company with 10 million subscribers in 2009, used a DVD-by-mail model to knock out much bigger competitors. Now, as of October 2012, Netflix has solidified its place as an industry leader jumping to **30 million streaming subscribers** globally.

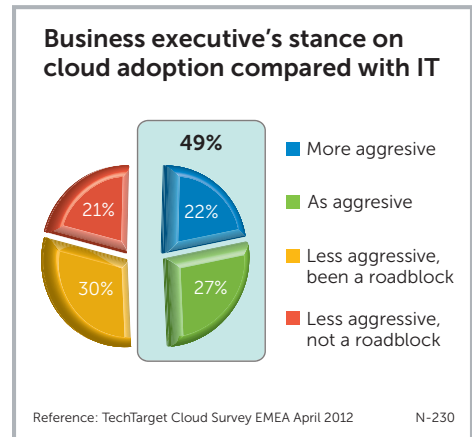
Netflix was seen as a disruptive and successful David and Goliath story largely fulfilled by the use of cloud computing. While cloud computing disrupts the dynamics of competition or markets, Dell believes it should not be disruptive to the organization. While IT vendors may declare or deride cloud as complex, if approached pragmatically, Dell believes the planning, implementation and management of cloud can be simplified.

Masking all the complexity of compute service and seeing the innovation potential of firms like Netflix, executives are taking a lead role in cloud. In a 2012 Tech Target survey, business leaders were seen to be 'more aggressive or as aggressive' as IT counterparts in their involvement with cloud projects. Cloud applications such as software as a service (SaaS) have seen greater line-of-business investment as leaders increasingly become impatient with IT spending and resources being directed toward virtualization initiatives. To compete and succeed in the virtual era, there has to be a strategy to deliver cloud advantages to all aspects of an organization, not just IT. This does not imply IT should give up on existing virtualization and hardware investments. A cloud



design should adapt to you, not the other way around. Cloud is intended to be a key to business innovation, not another lock. There are those consultancies and IT vendors often approach cloud as 'infrastructure renewal' (i.e. rip-and-replace). This forces a business to double down on cloud bets by adding new, proprietary technology and making changes to existing processes. Dell believes businesses should leverage existing investments to be consistent with processes, while adopting relevant technologies.

Certainly cloud computing has the potential to create jobs and millions in economic gains as highlighted by a recently published [EU Commission report](#) on September 9. Cloud is creating a new generation of businesses, products, and services that were not possible before. Consider that gaming was a modest growth industry until the capacity of cloud computing propelled it to new heights. PC games, a long-time staple of the industry, projects **2017 worldwide revenues** of only \$25 billion whereas online games will reach \$35 billion. Today, **33 percent of gamers play on smartphones, 25 percent on handheld devices.**



We might characterize cloud as starting an 'Innovation Arms Race' that puts even the small and midsize business on equal footing with large enterprises. The race is not about the technology providers that power the cloud but new sub-segments born from legacy industries, transformed employee environments, and entirely new business behaviors. There is much to consider in the ways cloud ripples through a business and this list of 10 is only a portion of a longer-term cloud narrative. There are always more.

### 1) IT security will no longer be just an IT issue

Long before the advent of cloud, industries were inundated with regulations pertaining to security and data privacy. In the US alone, there are more than **700 surveillance and privacy-related laws**, including data breach, identify theft, and tracking technologies.

For the security fears, often exacerbated by the media, businesses leaders should recognize that a well-managed and secure cloud can offer far better security than they might achieve on their





own. Cloud computing nonetheless has added more partners, processors, and data sovereignty into an eco-system of credit, healthcare, or supply chain. When business leaders look to improve the online transaction experience, expand into new markets, or extend supplier relationships, they will undoubtedly benefit from cloud computing solutions. They will also benefit from knowing if they have sufficient security practices in place. For those who do not take it seriously, failed data privacy practices and systems can damage a [business reputation and market valuation](#) overnight.

Fraud, identity theft, and privacy breaches damage brand identity, sales, and credibility across the mutual network. There will be a tension in the eco-system and expectation from business that security investments are taken seriously. The investment in security also affects the degree to which users trust products. Business leaders are already aware how regulatory standards affect broad areas of data privacy, notifications, security, retention, and accountability controls.

Business leaders are only going to further push the limits of collaboration and data exchange in an effort to grow sales, improve customer relationships, and extend supplier relationships. Leaders won't always accept security as the impediment to doing business but they will pay more attention to risks through formal training and policies. When organizations themselves

11.8 months is the average time it would take to restore an organization's reputation following a breach. Depending on the type of information lost as a result of the breach, the average damages to the value of the brand ranged from \$184 million to more than \$330 million.

- *Survey of 843 executives in the U.S. conducted by the Ponemon Institute*

undertake the transformation to cloud, business leaders will expect security to be embedded as a fundamental basis for business survival, not an afterthought.

### Summary

Cloud computing brings new levels of service and technology that improves the security posture and capabilities without adding headcount across the mutual network. Use of public clouds, hosted private clouds, and managed services make security and privacy achievable without limiting business potential. In the example of [SecureWorks](#) – a 24x7 service managed and monitored intrusion detection and prevention

services – it intercepts over 30 billion intrusion events per day without added software or hardware.

## 2) Greater expectations of IT role and function

Change is always constant, but cloud has accelerated its arrival in IT. A key finding from a 2012 [Economist Intelligence Unit](#) study found, "Almost six in ten (57%) of executives surveyed expect their IT function to change significantly over the next three years; 12% predict a 'complete overhaul.'"

Many business leaders have spotted cloud for its potential to help their company achieve more of their goals. To reach this potential with existing IT structures, culture, and practices may be unlikely. Leadership is rethinking the traditional assumptions of IT value and investments to strike a better balance between cost, experimentation, and innovation. In the example of Balfour Beatty, this required an organizational change for pushing IT expertise into the business units, creating leaders in the business units who are more alert to potential uses of new technology. Where IT does not see the expectation of change, it's common for business units to show frustration using their wallets. Facing traditional IT roles and functions, many business units purchasing one-off solutions in the cloud. This increase and acceptance of shadow-IT spend promotes silos and keeps innovation hidden in an organization. In organizations where IT wants to change roles and functions, it can be hindered by C-suite perceptions.

Cloud computing continues to be one of the main drivers of business model innovation and IT service delivery, with 59% of respondents saying they use or plan to use cloud services.

- *Ernst & Young 2012 Global Information Security Survey*

A disconnect exists and companies often marginalize their CIO, considering their contributions exclusive to 'back-office' efficiency rather than revenue generation or innovation. CIOs and C-suite executives have very different views about whether their IT function is aligned with business needs. According to an [Economist Intelligence Unit](#) study, fewer than one half of C-suite executives believe IT is aligned with business needs. CIOs, and their subordinates, can make use of cloud as a catalyst for change in planning, IT roles, culture, and business processes.

### Summary

IT needs to put more emphasis on delivering and measuring business value and be mindful of how cloud is forming and reforming to better address business needs. This is a unique moment for CIOs to re-frame their role as innovators, but

it may not come easily. Chris Kimm, responsible for Verizon's networks outside of the US, suggests this could be a liberating experience for many IT leaders. While it may not be apparent to the IT leadership where or when to start this change, [Dell Consulting](#) has helped other organizations breathe new life into IT and corporate strategy.

### 3) Everyone becomes a knowledge worker

Facebook, Twitter, Skype, and LinkedIn are just a few examples of how Web 2.0 technologies have connected billions of people to one another and their ideas via the Internet. Clearly we've gotten closer to our colleagues, classmates, and clients – but there's more being transferred than just photos of a vacation. The transferring of ideas, decisions, or news can improve brand recognition and awareness – so much so that three out of four [CMOs say social media impacts sales](#).

The cloud model and the breadth of new solutions it has spawned have helped create more information than at any time in history. Cloud has enabled providers to put into service leading-edge applications that collect, store, and interpret data from everywhere. According to a Gartner emerging trend, "[The Internet of Everything](#)," we will connect and collect data from cars, roads, appliances, grocery carts, and much more. Almost everything will be a node on tomorrow's network. Unlike IT delivery models of the past, Cloud offers automation and control to

knowledge workers that enables self-service access to essential applications and data.

Combining vast information, cloud capacity and self-service capabilities, we'll create more knowledge and foster greater collaboration than ever imagined. Knowledge, a highly prized asset and competitive differentiator for business, was previously limited to a subset of workers such as engineers, lawyers, and architects – those whose task is solving non-routine problems.

These 'knowledge workers' – a term first coined by [Peter Drucker](#) – were those whose main capital is knowledge. Those individuals who 'think for a living' were most likely to have access to and dependence on information technology. That has changed with the advent of cloud, Web 2.0, and mobile technology. Not only has Cloud provided the platform and concepts necessary for mobile learning or document sharing but it has effectively broken down the barriers to sharing often created by differences in device, distance or departments. And with the ubiquity of the internet, the simplicity of self-service tools, and the availability of volumes of data, everyone has the potential to be a knowledge worker.

### Summary

Cloud computing is turning knowledge into something anyone can have and innovation into something anyone can do. Much has been said and published on how Cloud improves the distribution of content and quality of learning. Beyond just document sharing, new

forms of Web 2.0 interaction improve not only the individual's learning capabilities, but it also enable the enterprise to better cultivate, capture and distribute this knowledge. There are many tools to facilitate the process, and C-suite executives should be wary of vendors who lock in critical data and knowledge with proprietary cloud platforms. Small investments in [cloud integration](#) can yield a big return should vendor economics, knowledge policies, or regulatory requirements force data back in house.

#### 4) Every idea, product or service can go global (new generation of ideas)

Assuming there are high aspirations and low nationalization, a business can take its idea to a new level with cloud computing. There is no longer a need to 'hang your shingle' at a storefront or office in each country; no need to hire in-country support to build up your Web presence, staff offices, and customize applications for local transport or tax requirements. Furthermore, the scale of business growth need no longer be inhibited by numbers of IT staff, systems or servers for each national market.

The agility and simplicity of cloud is best exemplified by the software industry. For decades, legacy software vendors employed legions of programmers, matching the growth of on-premise infrastructure. The competitive advantage always sat with larger firms, who had the depth and breadth of staff necessary to develop under the many permutations of hardware vendor and operating

systems. Of course, yet another set of staff was tasked with traveling to client offices to demonstrate and/or install products. Having the necessary staff in-country for product demonstrations and support, was often instrumental to getting the sale.

Today, businesses accept that their SaaS applications reside in the cloud, with servers, sales and support teams reached only via phone or Internet. SaaS vendors can operate from anywhere around the globe, potentially using public cloud facilities, to reach any market and compete against their larger brethren. Imagine where Salesforce.com. might be today if it relied exclusively upon on-premise software installations.

#### Summary

Masking systems complexity, offering cost flexibility, and delivering new tool capabilities, cloud has reduced the barriers to launching businesses and ideas into far flung markets. Previous barriers to expanding globally, once fraught with issues of localized staffing, leases, legalities, ownership have been largely removed. A study by analyst firm [Techaisle](#) found overwhelming agreement from SMBs that cloud offers a compelling tactical and strategic advantage.

#### 5) Collaboration goes up, barriers go down

It would seem obvious, even symbiotic, that by using the cloud to 'go global' there also exists the opportunity to improve collaboration within the supply chain and go beyond transactional relationships.

Governments and industry should invest €45 billion in cloud computing by 2020 as part of an EU strategy to generate an estimated €900 billion in GDP and an additional 3.8 million jobs by the end of the decade.

- [Communication from the EU Commission](#)

Sept. 9, 2012

While corporations have always considered collaboration as an objective among employees, it was not always that way within supply chains. Supply chains, by the nature of separate owners, business models, locations, and IT standards, have always been highly fragmented silos of data and processes. The collaboration required, and benefit obtained, goes far beyond simple electronic data interchange (EDI) tasks with trading partners. While legacy EDI solutions have existed since 1980, they also put onerous staff, training, security, and infrastructure costs upon any business at start up. Start-up businesses would see huge initial infrastructure and software costs to support relatively few transactions with EDI-based partners.

The collaboration that has often eluded the supply eco-system has to do with sharing specifications, fault tolerances, blueprints, forecasting, and historical warranty costs or quality figures. Pharma is just one example where collaboration is highly prized as competition for promising drug candidates becomes fierce. Clinical trials and drug development have always required high levels of collaboration across hospitals, scientists, patients, and government. While each may have in-house systems and data in clouds, that collaboration can take place in secure third-party public clouds where no single entity has exclusive control or full liability for security, HIPAA, or other mandates. Furthermore, forgoing the costs of each member creation of a new HIPAA compliant platform, for a single shared environment, saves millions in costs and improves the drug discovery process.

Automotive manufacturing is an industry where the creation of 'project spaces' can enable manufacturers to include suppliers in the design, engineering, and production phases of a new car. Enabling the OEMs to stay in step from the initial concept to the final details is very difficult as these stages are fluid in timeline and specifications are often shifting. A supply chain, without transparency, can be lost and waiting for instructions.

Taking our automotive example to a post-production phase, Cloud can also create a simple and agile

platform whereby any manufacture might consolidate and report upon OEM material defects and benchmark warranty claims. Using cloud to promote new levels of transparency, it can also force process or behavioral change. Sharing warranty claims, along with an expected standard, forces OEMs to start paying attention to defect rates and warranty costs -- and begin to reduce inefficiencies and implement early warning systems.

### Summary

Ultimately, the cloud enables a more extensive and interactive platform for collaboration tools that should result in lower R&D costs, better products/services and a competitive advantage. Cloud collaboration is far more than just file sharing or document co-authoring it's about enhancing visibility and promoting [change into processes and problems](#). This requires data from many different systems, clouds, trading partners, and on-premise applications. While businesses previously considered collaboration to be too costly, due to structured or unstructured data in disparate systems, this is largely solved today with [cloud integration services](#).

### 6) Redefining time to value (TtV)

Traditionally, IT organizations have made software decisions based on the performance measure of return on investment (ROI), largely considering the upfront capital expense for hardware and software. This allowed for more efficient

decision making by evaluating one software investment against another. But the gains from each investment tell only one side of the story and don't accurately take into account the speed or innovation that today's users require to keep pace with the competition.

Validating the need to build a new test-and-development environment would likely lose out based on any ROI analysis. Hard business gains are almost impossible to identify, but the work is still valuable to the enterprise. Here is where cloud can truly change the economics of IT. While a typical request for incremental on-premise test-and-dev capacity might take weeks to fulfill, request to provision these resources in the public cloud could be completed in less than five minutes. Therefore, a speed 'premium' measure needs to be part of IT decision making in cloud to more accurately capture the value of its dynamism.

While TtV is not entirely new to IT evaluation, there are differences as to when the time counter begins and ends. [David Greenwood](#), Ph.D researcher of Enterprise IT systems believes that, *"TtV measures the responsiveness of a request for value. It is measured by the point a request is made to when the value is realized. Value can be tangible or intangible."*

Dr. Greenwood's recommendation to use 'responsiveness of a request' at the 'point the request is made' captures the largest portions of

value in cloud for TtV. Comparing a request for comparable products using (1) traditional IT procurement and installation and (2) cloud computing can be drastically different. The differences can be seen as months vs. hours in demonstration, start-up and training.

There can be an argument that TtV should be limited to tangible value – since intangibles (i.e., first to market, improved collaboration, improved customer experience) are meaningless or hard to measure. This argument is bolstered by the reality that speed, agility, and innovation are not common metrics by which business or IT is measured. Further complicating matters for the TtV calculation is that it's often the case that [more than 70 percent of the IT budget is dedicated to maintaining legacy systems](#) while less than 30 percent is spent on innovation and value creation. Until those organizations reduce legacy system spend below 60 percent and get IT out of the business of maintenance, TtV simply will not seem highly relevant to them.

### Summary

TtV can become a worthwhile measure when incorporated into to a larger shift toward an IT-as-a-Service delivery model. The 'traditional' practices of software evaluation, hardware procurement, test and deployment which spanned many months are streamlined with cloud deployment models; solutions are now ready for test or use in minutes. Furthermore, application

modernization to remove the shackles of legacy systems – and spend -- is another step toward reinventing IT from 'controller' to enabler of innovation and value creation.

### 7) Acceleration of career growth and direction

Employers are always looking for ways to develop employee talent, similarly employees seek ways to improve their knowledge and career path. Both find training one of the best ways to achieve these goals – with it, employees can be efficient and cost-effective. Cloud offers the capability to ["free" content from traditional Learning Management Systems](#), transforming training strategies, accelerating the learning curve, and driving down costs.

For a North Carolina-based firm, [Global Knowledge Training](#), delivery of training carried risk: the cost and hassle of shipping 100 tons of equipment per week to provide technology training classes. Moving to the cloud, Global Knowledge Training developed an e-learning business model with virtual computer labs accessed through the Internet. Now they dynamically allocate servers based on training needs from week to week. This results in a 75% reduction of storage TCO and the avoidance of a 10-fold increase in capital expenditures.

Furthermore, the consumerization of IT, mobility, and the advent of cloud has created a tech-savvy business user less engaged by traditional delivery of content.

Employers offering new e-learning delivery models will find that [a more digital and interactive experience](#) better meets employee needs and expectations and therefore encourages greater response.

Employee productivity increased by an average of 22% when remote working was allowed...

- *The Telework Coalition report, "Wired Working"*

### Summary

Providing employee training can be a winning proposition for companies, offering benefits to both the organization and its workers. To maximize return on training investment companies can utilize new e-learning delivery models made possible by cloud computing. These models offer greater cost efficiencies over traditional delivery methods while generating better response from a workforce that has fully embraced mobile devices like tablets and smartphones. Collaboration between IT executives and HR on tools and policies to incorporate cloud into learning strategies and support the [push toward mobility](#) can lead to successful cloud-based training implementations.



## 8) Putting the client first, then do it better

Even the best leaders can become mired in pursuits not focused on the client experience. New technology can enhance the client focus needed for business success—if it supports the overall focus of the organization. In the book *Good to Great: Why Some Companies Make the Leap... and Others Don't*, author Jim Collins states, **“Great companies adapt and endure—technology is not a differentiator in and of itself, but rather something that enhances great companies. Technology is an enabler of change, not the cause of it—people factors must be in place for technology to do any good.”**

While cloud is not a technology, it can be part of an overall business strategy to accelerate growth and empower your workforce to better address client needs. Netflix, for example, did not invent video streaming, but used cloud computing to get closer to clients and deliver a better service than others. The [Salvation Army](#), known primarily for charity and not technology prowess, uses cloud to deliver social services and reach the most vulnerable people in society, which is central to their mission. Credit Agricole Center Est, known for financial services, used cloud to deploy new on-site display systems which now broadcast corporate information

and dynamic ads together with local announcements at each of its 300 branches, helping them reach more clients and with 10-fold less energy consumption than previous methods.

To properly set expectations, cloud is not a panacea to all the ills of business. Instead, cloud can be an integral part of a transformation to create more of the customer-aligned applications and services that make a company successful, deploy them faster, and off-load IT tasks that don't improve the customer experience, freeing IT to pursue more strategic tasks and higher priority outcomes.

### Summary

Improving upon an existing customer-centric approach, cloud computing can be used by organizations to implement new ways of serving clients, whether those clients are external or internal. Cloud can take user experience to another level, breaking free of availability and usability constraints found in legacy systems or software. Organizations with entrenched practices may consider utilizing [third-party consulting services to re-invent](#) or re-prioritize IT culture to place client needs above manual controls.

## 9) New plateau of value creation

Value creation — by a stock valuation, a balance sheet, or other metric — is the ultimate measure by which a business is judged. Finding new ways

to add value to the enterprise usually comes from experimentation. While trial and error is not uncommon, it is often the most cost-prohibitive means to an end for small and medium firms.

For example, tasks like risk modeling, DNA sequencing, and fraud detection require massive amounts of data and compute power. Previously only those organizations with deep R&D budgets and large mainframe capacity might move ahead with these types of experimentation since the time and costs of establishing each on-premises environment was highly prohibitive. Confusion and uncertainty about security further complicate matters and typically require additional expertise and expense. The end result is many such tasks were largely out of reach economically for organizations, creating a plateau of innovation.

What was previously a delicate balance of risk and return has now been altered by public cloud. The economics of cloud have eliminated a large portion of risk in the risk/return. Abundant computing power, fractional computing costs, and reduced IT barriers create ideal conditions for new levels of innovation and value creation.

Using the public cloud, businesses can now operate within a lower risk “sandbox” wherein they build up ideas at a new, more rapid

pace. The greater compute power of the public cloud has not only allowed for greater productivity, as measured by the number of value-creation experiments taking place on any given day, but also afforded opportunity at significantly lower costs ([on-premises solutions can be 3-7 times more expensive](#) than public cloud equivalents), allowing greater [management tolerance](#) for risk and failure. Now leaders can define new models and operate at new speeds when picking value-creation winners and losers.

Furthermore, security concerns need not be a business [barrier to public cloud](#) and subsequent opportunities for experimentation and innovation. An analyst from [Gartner recently suggested](#) that there is little evidence to support the perception that the most significant risk in using the cloud is that sensitive data can be leaked.

### Summary

On-premises solutions are often more expensive than public cloud solutions and inherently carry additional in-house IT cost burdens and limitations that constrain innovation. Migrating value creation experiments to the public cloud can be an economical way for businesses of all sizes to efficiently and economically find new ways to create value, without compromise to scope or security.

### 10) Declaring business without the walls

A [workforce study of nine large companies](#), by Cornell University, found an average of 50% of their employees work remotely,

The mobile workforce puts in an extra 7 hours outside of regular working hours answering emails and calls.

- [Computerworld](#)  
July 2, 2011

exemplifying the shift to a more mobile and remote workforce happening within enterprises. The transition to a more virtual enterprise is becoming a necessity as new ways to optimize cost savings and management of employee devices are sought.

Making the transition to “business without the walls” can now be a reality for more organizations as cloud computing is becoming easier to implement and an abundance of cloud-connected devices and SaaS applications make productivity outside the office simpler. Cloud computing as part of a business strategy can support remote workers, reduce capital expense, improve productivity and eliminate office space, helping overcome some of the market, financial, and management risks involved in starting and maintaining a successful business. For example, organizations can save on average \$20,000 a year for each full-time employee who works remotely. In addition, mobile employees feel more productive and engaged, can be distributed

closer to customers, and often use commuting time to perform more work for the company. With cloud computing, work can become “something people do, not a place people go,” according to the Workplace of the Future report from Citrix Systems. The report, which found businesses in some countries have only six desks for every ten workers, predicts that in two years, organizations can expect to further reduce workspaces by seven percent.

One barrier to transitioning to the virtual enterprise has been the need to physically administer employee devices. Now, with cloud-enabled technologies like virtual desktop infrastructure (VDI), cloud PCs, and zero clients, IT staff no longer needs to physically locate, or manually update, workstations as applications and client operating environments are hosted at remote data centers.

### Summary

Multiple studies have shown businesses get more from their employees when they establish work- from-home programs and technology is not an impediment. With a comprehensive cloud computing strategy, organizations can help their employees be productive outside of the office and free from tethers to local devices, accelerating the transition to a 100% virtual enterprise—a business without the walls—and all the benefits associated with it.

### New age of IT innovation

The CIO is at a cross-roads between many of the legacy norms versus the digitization and globalization



of information across a remote and mobile workforce. Technology is removing the impediments that traditionally kept work and knowledge workers tied to desks. In fact, according to a survey conducted by Elance, an online employment platform, 54% of business owners expect the majority of their workforce to be working online by 2017.

Legacy applications are a norm from the past that has become an IT anchor today. Legacy applications inherently lack the agility and scalability to keep pace with business change and ignoring the reality and flexibility of cloud related services diminishes your competitiveness. Those CIOs 'delaying a modernization shift' might take inspiration in a recent NASA announcement. In the ultimate "signpost" signaling an end of an era in legacy systems, [NASA decommissioned its last mainframe](#) in February 2012 and migrated to Microsoft Windows Server.

Executives, their information storage, and organizational compute services are no longer static but moving at a pace that forces new paradigms of decentralizing and personalizing IT service. Trends like cloud also erode the entrenched IT structure, forcing CIOs to align themselves with

business executives or be seen as not providing value to the business. The [Economist Intelligence Unit](#) study offers these three tactics which CIOs can pursue to better align themselves with business, and hopefully connect with an increasingly tech-savvy leadership:

1. Push budgeting further down into the business so the people who pay for the IT service(s) are the ones who benefit from it. This can help manage costs and better align IT with the business because business executives are less likely to pay for services they don't need.
2. Encourage the cultural expectation that IT staff should play an active role in growing the business and not just facilitating the efforts of other employees.
3. Experiment with IT that will help build knowledge or skills that will pay off later, even if the experiment increases short-term technology costs.

While may almost seem a cliché, IT must change the way it does business and how it serves the organization. While still working under constraints of flat budgets and performance metrics based on cost cutting, business leaders must empower and challenge IT to "reboot" its culture, priorities, and value proposition.

## Summary

Years from now, cloud computing may be looked upon with admiration equal to the assembly line, as the enabler of the age of industrialization of IT. Whereas the division of labor occurred as parts moved down the assembly line, now information is divided between clouds with each performing certain operations for the enterprise, based on users, data, application, or service levels. Taking specialized tasks such as CRM or Big Data and moving them into private cloud services, or public cloud providers, potentially produces higher quality outcomes for the business. Solutions that ensure portability and application integration are here today, ensuring all the parts and processes of a cloud "assembly line" can be joined together. In what might be a golden age for IT, it can unlock innovation across the enterprise in ways never imagined under previous technologies.

IT can only reach these new heights with the engagement and support of visionary business leaders. Once you are ready to begin a strategy and transformation, Dell has all the tools to make the journey a success.

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