

REPORT REPRINT

The cloud transformation journey: Great expectations lead to a brave new world

OWEN ROGERS, WILLIAM FELLOWS, JEAN ATELSEK

27 FEB 2018

Our cloud transformation model shows the enterprise cloud cost experience over time. We identify the cycle of cloud consumption: migration and implementation, cost-savings and cost-increases, governance and optimization, and transformative value - then it starts all over again. Service providers and vendors should seek to accelerate and enhance this experience.

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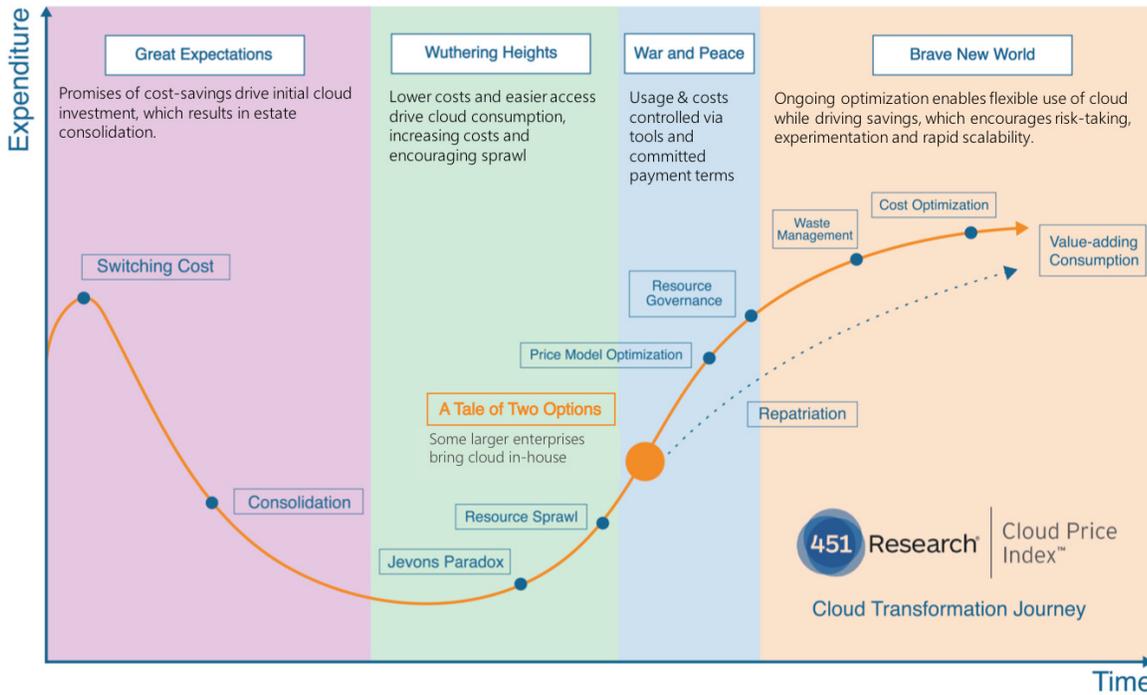
It's easy to think of cloud adoption as a one-time event – you choose a cloud and you consume that cloud, and the rest is history – but realistically, for most enterprises this is an incremental and iterative process. Traditional refresh cycles drive periodic purchases of new hardware and updates of software – for cloud, rapidly growing feature sets and on-demand consumption require frequent reassessment of the venues and technologies that best meet changing enterprise needs. No one wants to move providers all the time – enterprises naturally try and optimize what they already have; providers that are best at accommodating them are likely to have the most loyal customers.

Our cloud transformation journey model shows the enterprise cloud cost experience over time. We identify the cycle of cloud consumption – migration and implementation, cost-savings and cost-increases, governance and optimization, and transformative value. The ups and downs of this experience and the time required to realize value vary by company and by application; with experience and automation, the amplitude of the curve flattens and the time to value shortens. And then it starts all over again. It represents the costs payable at each stage of the enterprise journey to value-adding 'utility' IT.

THE 451 TAKE

Like great literature, the cloud transformation journey has highs and lows. A protagonist with a dream takes a chance and makes progress, at least in the beginning. But she faces challenges, and at points considers taking a different path. With help from her friends, she overcomes the challenges, finally reaching a happy ending. In our story, the happy ending is exploitation of the value of IT – not just using IT as a crutch to support the business, but also using IT as a driver of business value. With every resource guaranteed to be at the lowest price, and with a reduced chance of waste, each resource is in a strong position to create value – be it revenue, productivity or a better experience. A key part of digital transformation is the flexibility to act quickly and take chances. Our journey shows how the cloud experience evolves from cost-savings to scaling the business to create value. A large number of vendors are vying to accelerate and enhance this journey, while service providers and SIs are in prime position to assist enterprises in their own journeys, and future journeys as the cycle starts again.

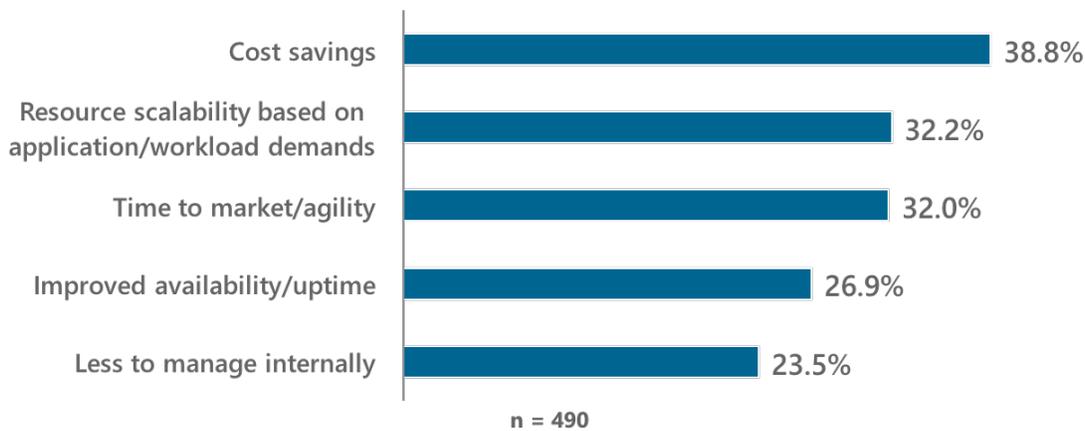
THE CLOUD TRANSFORMATION JOURNEY



GREAT EXPECTATIONS

It starts from a spark. Cloud adoption doesn't just happen; there is a reason for its use. It may be the development of a new application, it may be the end of life of existing hardware or it may be a strategic decision at the highest level. But the decision to use cloud is usually a perfect storm of factors – the current price of resources, issues in finding appropriate staff, a desire to scale and grow, or the ease of using a third party. The spark represents the 'why do this now?' The factors represent the 'why use cloud now?'

A primary factor for cloud adoption is reduced costs compared with traditional models, as shown in this chart from Voice of the Enterprise: Cloud Transformation, Organizational Dynamics 2017. CIOs have great expectations with regard to the cost savings that might be achieved relative to traditional platforms. But cost isn't the only driver: The inherent nature of pay-as-you-go pricing and the scalability and time to market it enables are also major motivations, as are availability and performance. It appears that cost reductions are important, but value beyond cost is important, too. (Unless otherwise stated, all charts in this report are sourced from the aforementioned VoTE report.)



So cloud implementation begins. Expenditure grows for migrated applications as a result of switching costs, but then money is saved by reducing dependence on dedicated kit. For net new applications, infrastructure costs slowly and surely ramp up.

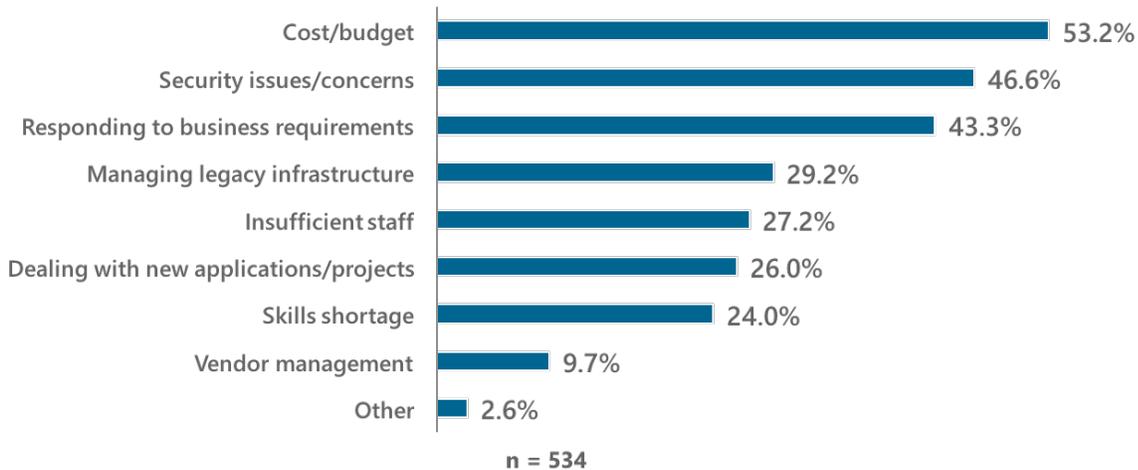
Steady growth (new applications, not shown for clarity): For net new applications, cloud costs grow steadily. Developers and administrators spin up resources, and then spin up more as demand dictates. At this early stage, there aren't enough resources in use to justify tight controls or optimization; it's too cheap to bother. Experimentation, testing and development are enabled at very low cost, allowing risks to be taken and developers to flourish.

Switching cost: For applications currently in use, there is inevitably a switching cost. At the simplest level, this could be the man hours associated with picking up and moving an application from A to B. At the most complex, it could be re-architecting and rebuilding the entire application. But once done, the investment should be worthwhile as a result of the savings made.

Consolidation: As the old platform is migrated to the new, there are cost savings as a result of increased labor efficiency and higher utilization. At this stage, the fixed requirements on the old platform have essentially been moved to the new, more flexible platform – the new cloud has yet to scale up.

WUTHERING HEIGHTS

Despite all the excitement, costs slowly and surely ramp up to wuthering heights. Post migration, cloud costs are the number one pain point:



Costs increase for two reasons. Cloud is an inexpensive and easily accessible technology. People consume more, thereby spending more, and forget to control or limit their consumption.

Jevons Paradox: Ease of access to technology and lower costs drive developers and administrators to consume more. Unit costs stay low, but total costs increase.

Resource sprawl: With ease of access, inevitably some resources get orphaned with no ownership; these continue to incur costs. Some resources are overprovisioned to provide extra capacity as a 'just in case' solution. Unexpected line items, such as bandwidth, are consumed. The IT department has limited visibility or control of these items.

WAR AND PEACE

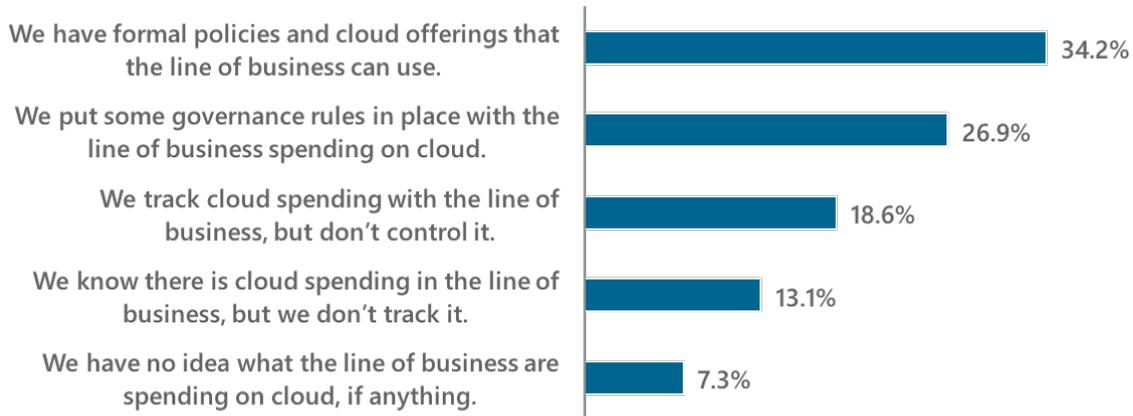
With data on consumption now available, enterprises look to reduce their spend by purchasing cloud in alternative ways. There is a battle between flexibility and convenience, and control and governance. Developers want to 'go to war' with new capability and capacity; administrators want the peace of secure and inexpensive capability.

Price model optimization: To save money, administrators start using alternative pricing models, such as AWS reserved or spot instances, Microsoft enterprise agreements, or Google's sustained-use pricing models. The Cloud Price Index average discount is 38%.

A TALE OF TWO OPTIONS

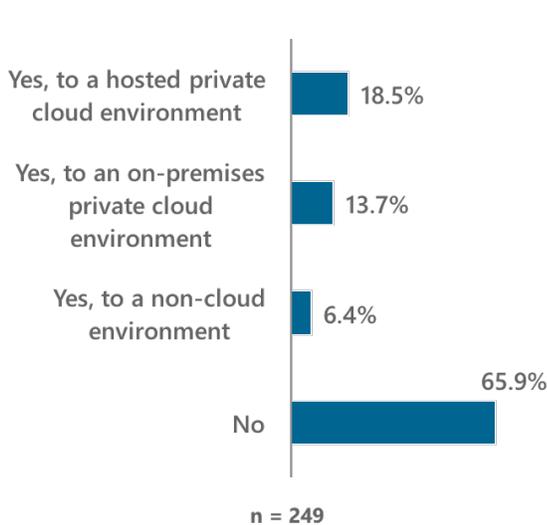
Costs are increasing, and a solution is needed. Most enterprises are likely in this stage of their cloud cycle. Does the enterprise take steps to limit consumption, or does it bring everything back under its wing?

Resource governance: Many administrators employ third-party tools to limit usage, based on policy (project, department or privilege). Others set up an approval hierarchy for consumption or use third-party reporting tools. The bolder introduce showback and chargeback, making individual departments responsible for their cloud consumption, which reduces expenditure. This chart shows that most enterprises are performing some sort of governance, but a huge 20% have little or no understanding of spiraling cloud costs.

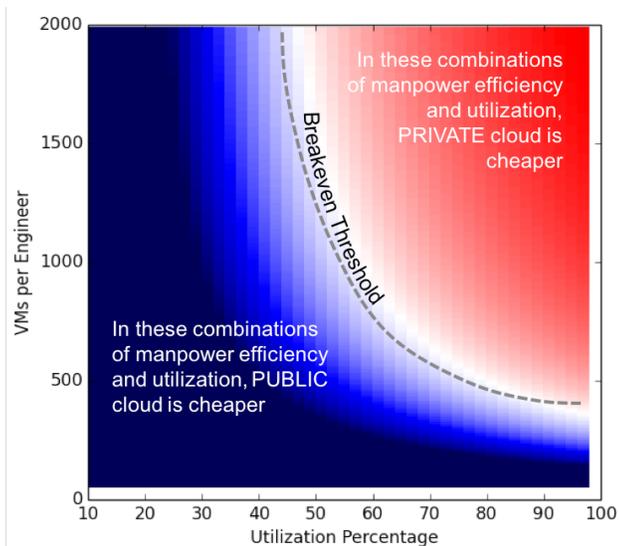


n = 521

Repatriation: A limited number of enterprises, typically larger ones, bring their workloads back in house. A critical mass has been reached at these enterprises, whereby labor and utilization have reached a threshold and private cloud can beat public cloud on price (chart on right, below, from Cloud Price Index Private Cloud Edition, 2018). This may sound unlikely for most enterprises, but when 249 VoTE commentators were asked, 'Within the last 12 months, has your organization migrated any applications or data that were primarily part of a public cloud environment to a private cloud or noncloud environment?' a huge 34% said yes (chart on left, below).



n = 249



A BRAVE NEW WORLD

With a decision made, the key objective now is to squeeze costs while enabling flexible IT consumption. We are entering the brave new world of utility computing.

Waste management: With governance in place, expenditure slows, but inevitably there is waste. Waste management technologies right-size instances, terminate unused resources and seek to ensure all resources are being consumed by real projects.

Broker dealing: Manual price optimization struggles to keep up with the complexity of the landscape. The Cloud Price Index, for example, tracks over 400,000 SKUs from AWS alone. Tools and consultancies determine the best combination of resource models to keep costs low while meeting requirements. A central party may buy on the user's behalf to keep costs low, and to balance resources across multiple providers and pricing models.

Value-adding consumption: Total costs generally do not shrink, but grow at a steady and relatively low rate. Unit costs are low, as a result of governance and the use of the best pricing models. At this point, every resource should be deriving value to the company, perhaps revenue increases or productivity gains. Rising costs are a good thing here. They are enabling the business to grow and scale, which is ultimately the greatest value of cloud. The cloud transformation has taken place – every resource consumed should be deriving value for the business.

THE TIME MACHINE

This isn't a one-off process. There will be a point when another spark comes – a new venture, a level of utilization, a newly accessible and easy-to-use technology. History repeats itself. And once again the cycle will continue – the new application, the new migration, the new cloud and new challenges. But with each iteration, enterprises are more educated in resolving them or more adept at optimizing their experience.

Each of these points along the journey requires support – from vendors, service providers and consultants. A list of players in this space can be found in the Cloud Transformation Market Map. We think most enterprises are now in the War and Peace stage, and are taking active steps against spiraling cloud costs. Many are using governance tools to control consumption, and a large number have done some rudimentary cost optimization. The brave new world will be the next phase, and some companies are already dipping their toes in this area, using tools and managed services to assist. As a result, we think the market for cost optimization is ripe for acquisition over the next 12-18 months. As our procurement model shows, invisible infrastructure that 'just works' is still years away.