



Why Cloud is Always Less Expensive

*And the risks associated
with the TCO Analysis*

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A Funny Thing Happened on the Way to the Cloud



Sometimes new technologies are confusing because they just don't fit the current model. For example, there was tremendous confusion about the first iPhone. Numerous experts predicted it would fail because of its higher price and lack of innovation. It was a reasonable conclusion, looking at the iPhone as a phone. The iPhone really didn't do much more, as a phone, than devices that were significantly cheaper. Its game-changing success had to do with the "phone's" versatility as a disruptive, mobile computing platform.

It can be a challenge to view new technologies objectively. We tend to view them in a familiar context. Disruptive technologies are those that significantly change, rather than enhance, the flow or value proposition. Another example is the personal computer. Initially, we used the PC to create or edit letters and forms, and then print and distribute them. It took time to reshape the process with email.

The general acceptance of disruptive technologies goes through a common pattern that includes changes in vendors and brands, distribution, and buying considerations. Often, many of the vendors, both suppliers and distributors, change. For example, established brands such as Kodak and Minolta struggled with digital cameras, as did specialty photo resellers. Companies like Sony and Target took advantage of the disruption that digital cameras created.

The rate of 21st century innovation is unprecedented, and as a result, many mature and steady industries are undergoing disruptive changes. Just 10 years ago, the thought of the automobile industry, taxi industry, and retail industry being disrupted by new technologies was ludicrous (Tesla, Uber, and Amazon).

This rate of innovation is disrupting enterprise communications as well, and here the primary disruptors come from "the cloud." Cloud-delivered services are much more than just a delivery mechanism, and offer an entirely different set of benefits. Unfortunately, many organizations fail to realize these benefits because they are using the wrong tools and evaluation processes.

The Problem with TCO



The business telephone was introduced as an innovation about a hundred years ago. Over the decades, the industry has benefited from numerous enhancing technologies that made premises-based telecommunications solutions faster, better, and cheaper. Brands became established, distribution channels matured, and buying considerations evolved.

The cloud is disrupting everything. Several new providers have entered the market with compelling value and choice. The sector is experiencing rapid growth, however, the costs of premises-based and cloud-delivered alternatives are difficult to compare objectively. The culprit lies in the use of the Total Cost of Ownership (TCO) analysis, which inaccurately tends to favor premises-based implementations.

The concept of TCO is correct in that the price of a product or service isn't the entire cost, so a TCO analysis is designed to normalize all costs for comparison. The problem lies in that TCO studies focus on costs and don't value flexibility and other intangible benefits.

The practice of a TCO analysis gained popularity in the 1980s. PCs were displacing mainframes, with lower initial costs, but higher decentralized administrative costs. To compare the costs fairly, multiple elements of ownership are normalized over a period of time. The financial components considered in a TCO analysis vary, but aim to collect lifecycle costs such as acquisition, implementation, administration, training, maintenance, and disposal – though this is easier said than done. The practice is common in major IT purchases including premises-based phone systems. However, the TCO tool becomes less effective when the alternatives, particularly the benefits, become less similar.

TCO is not particularly effective with premises-to-cloud comparisons for two primary reasons: accounting and flexibility.

A Dollar is Not a Dollar

From an accounting perspective, technology assets are treated the same as furniture in that the costs of the assets are depreciated over time. This made more sense with physical technological goods, but software-based solutions are different.



- Software doesn't have to depreciate. Most software vendors now offer software assurance programs.
- Software-based solutions partially depreciate, but have ongoing expenses.
- Conversely, most cloud services are "evergreen" in that they include ongoing upgrades.

It's important to understand that premises-based and cloud options are not just financing methods, and have different attributes. Since cloud-delivered solutions are a service which happens to include upgrades, depreciation becomes obsolete itself. Many financial planners prefer the simplicity of this approach – plus, it often offers tax benefits.

UC solutions require regular upgrades because of all the interrelated moving parts. For example, mobile clients are supported on various devices, with multiple mobile operating systems, connected to multiple networks (cellular and Wi-Fi) – and all of these technology areas are experiencing rapid changes that UC systems can't leverage unless they too are updated. Factor in changes to desktop operating systems, security practices, and many other technologies, and the need for regular upgrades is obvious. Cloud services include the actual upgrades, but premises-based options include only access to upgraded software, which makes it the customer's responsibility to evaluate, plan, and deploy the upgrade – likely after-hours, several times a year.

Risky Business

TCO is also misleading as it fails to compensate for risk. Instead of the customer having to put up all the capital and train all the staff, the cloud provider carries this risk. Outsourcing risk is particularly valuable due to the increased rate of technological change. Traditionally, this risk factor often is ignored because it's nearly equal among comparable premises-based solutions.

Modern communications technology is highly turbulent. Consider how different our communications methods, apps, and devices are today than a decade ago. The

changes over the past 10 years are significantly more than in the previous 30 years. The issue of risk is much broader than technical change – it also has to do with how user requirements change and user adoption itself.

Regarding requirements, consider the types of assumptions that must be made in a typical TCO analysis, such as the number of users and locations, required and desirable features, and the size of the system. Based on these requirements, several quotes can be obtained for evaluation and comparison. One of the

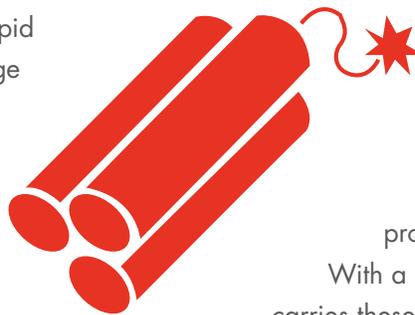
options will be crowned the TCO champion. Yet if the assumptions change, the outcome changes.

For example, what if the company didn't grow 10 percent as planned, but grew 50 percent or shrank 30 percent? Or what if the projected savings didn't materialize?

With a premises-based solution, the customer carries these risks. Cloud-delivered solutions generally offer greater flexibility.

We do our best with planning assumptions, but predicting the future is a hard thing to do successfully and consistently. Yet cloud-delivered services offer significantly more flexibility. Services can be added or subtracted. Unused features can be canceled. There are no sunk capital investments that new solutions must work around. Plus the costs of upgrades and new features are built-in – without weekend cutovers.

TCO output is a best-effort forecast. Its accuracy is as good as the quality of the assumptions that went into it. It's ironic that TCO methods are applied most critically to long-term decisions, yet consistently ignore that the likelihood of increased uncertainty over longer periods of time.



Speaking of Risk

Another important element to the risk conversation is the steady increases of risk that IT organizations are accepting. Compare today's telecommunications solutions to the appliance PBX of yesteryear, which was a dedicated processor running on dedicated hardware, connected over dedicated networks to both dedicated carriers and dedicated endpoints. When something broke, perhaps a noisy line, the troubleshooting was reasonably straightforward and usually corrected with a single service call. Comparatively speaking, modern enterprise UC systems are a truckload of lawn darts. The technology innovations enabled the convergence of everything – servers, networks, even the Wi-Fi at the local coffee shop becomes part of the IT service equation.



All this complexity and variability was justified because of the associated use-case benefits, but the result is that modern IT organizations are carrying a far higher degree of risk than ever before. The risk associated with a technology purchase is far more than the product itself. IT evaluations now must include aspects such as finding, training, and retaining staff; user adoption; dealer suitability; scalability; and more. For decades, the risks have been shifting from the vendors and providers that provided complete solutions to highly customized solutions that organizations build and maintain via multiple suppliers.

The cloud provides a relief valve to this relentless increase in risk. Cloud-based services shift risk back to provider. It is the provider that makes the technology bets, builds out the infrastructure, hires the staff, and integrates the services.

How Cloud Reduces Risk

If the TCO approach is wrong, then what's right? The first step is understanding how cloud-delivered solutions benefit an organization. Comparing costs is misleading without understanding the differences in benefits. Value is in the eye of the beholder, but here are some popular benefits that often apply to cloud-delivered solutions:

Scalability:

Scalability applies not just to increases or decreases in an organization's size, but to mergers and acquisitions, special events, seasonality, and re-organizations. If anything, these factors tend to be increasing, which further questions restricted capacities on premises-based alternatives. Cloud services simplify the operational, human, and financial aspects of scalability. Cloud-delivered services offer high degrees of scalability and can minimize capacity-management planning efforts.

Predictable Costs:

Most organizations at some point determine a cost per user of their premises-based system – or at least try. It's difficult because many components are not purchased on a per user basis. Additionally, on-premises resources require ongoing investments in training and certification, which can spike unexpectedly due to staffing changes. Cloud-delivered services simplify accounting and make advanced or specialized applications accessible for small groups (see next point). Nearly all services are priced per user, which keeps costs visible and understood.

Advanced Features:

Advanced features can involve specialized applications and servers. Thus, adding a new feature can involve significant expansion of infrastructure. This makes some features cost prohibitive for small groups. Cloud providers are more likely to have the economies of scale to enable advanced applications on a per user basis, allowing an organization increased flexibility and productivity.

Remote Users:

Remote users are often supported via virtual private networks (VPNs) established through firewall modifications and client software. Remote users increase system complexity and bandwidth requirements. With cloud-delivered services, all users are effectively remote users, receiving simplified, consistent, and efficient access.

Disaster Recovery:

Because cloud services are already off-site, they meet the first level of disaster recovery.

Cloud-based services are generally complementary to comprehensive disaster preparedness. In addition to being remote, most providers host in multiple data centers and utilize architectures with robust and distributed failover capabilities.

Evergreen:

Evergreen refers to software services that are always up to date. Evergreen services not only offset maintenance and project management, but also provide a consistent version level across users and sites.

OpEx:

Cloud-based solutions generally are treated as an operating expense to the business. Financial and tax planners usually prefer operating expenses over capital expenses, because capital expenditures require additional management and tracking, and add a restrictive element to lifecycle planning.

Staffing:

Cloud-based services are effectively a form of outsourcing. The cloud deflects human and capital costs associated with maintaining a given solution. This means less overhead associated with hiring, firing, development, shift coverage, vacation schedules, and more.

Flexibility:

Cloud-delivered services allow organizations to experiment, adapt, react, and evaluate technologies

far more effectively than premises-based alternatives.

Conclusion

The inspiration of this paper is the common misperception that cloud is more expensive. It is a common error and is largely attributed to applying premises-based best-practices when comparing solution alternatives. Because TCO studies fail to value key strengths of cloud-delivered services, they often lead decision-makers astray.

TCO studies focus on costs and ignore benefits. It is similar to comparing the sizes of gas tanks instead of estimated miles per gallon. Cloud-delivered services offer far greater nimbleness and far lower risk than the vast majority of premises-based alternatives. Because TCO models are generally incapable of capturing or quantifying flexibility and risk, the outputs from these tools undervalue the primary benefits of cloud-delivered services.

Organizations now have a choice in how they consume technology. Cloud-delivered services deserve careful consideration. For some firms, the decision will be very clear. Organizations that require a high degree of control or have highly customized applications will favor premises-based deployments. Organizations that are able to leverage standard applications are gravitating toward the increased flexibility of cloud-delivered services. The approaches are different, with different strengths and weaknesses. Cost comparisons tend to be misleading.

Agility and flexibility will likely continue to be the most critical elements of success within IT. Being able to respond to, adapt, or avoid future shifts will be of paramount importance as technical disruptions continue to occur more frequently.



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