



RATIONALIZING CLOUD COSTS FOR MAXIMUM EFFECTIVENESS

Cloud is now so popular that controlling spend has overtaken security as the biggest challenge for corporations. But traditional financial accounting doesn't work in the cloud. Instead, a cloud finance management framework that embraces the cloud paradigm and brings together perspectives from technology, finance and the business must be devised. The result can turn cloud from a cost center to a value driver.



Cloud costs are ballooning. Eighty percent of large corporates will overshoot their cloud budgets this year, according to Gartner.¹ The success of cloud is in many ways its own worst enemy. Once firms are in the cloud, one-click or automated provisioning of cloud resources can quickly lead to hefty bills.

In 2018, Intuit, a financial software company, paid \$145 million to AWS for cloud services, an increase of 93% from the year before. Capital One was unpleasantly surprised as its own cloud bill rose 73% to \$220 million over the same period.² Left untended, this overspending will negatively impact the bottom line. In a recent survey, 80% of corporations acknowledged that poor cloud cost management slows further cloud adoption and cripples innovation.³

Getting cost optimization right can reduce TCO by as much as 15%

Effective cloud finance management is therefore an immediate need for corporations. Eighty-four percent of IT professionals say that managing cloud spend is a top priority.⁴ In the same line, a recent survey found that for 57% of firms, cloud cost management is a daily worry.⁵ Despite this urgency, corporations must very carefully approach the development and enablement of this cloud competence

by evolving their current operating model capabilities. For those that get it right, cost reduction on total cost of ownership can be as much as 15%.⁶

What makes cloud finance so complex?

For some corporations that have adopted cloud, the first reaction has been to use their existing IT finance processes to manage cloud costs. This approach doesn't work very well, however. Reasons include:

- The financial cycle in the cloud is shorter and monthly or quarterly IT financial reviews do not work. Continuous control and timely alerting is key in the cloud. When Adobe made core products like Photoshop available through subscriptions in the cloud, their development team unintentionally racked up \$80,000 a day for a computing job that ran on Azure.⁷
- On-premise architectures will carry inefficiencies to the cloud, mainly due to unused or idle resources. Lift-and-shift migrations from on-premises data centers carry a lot of excess capacity with them, with inefficiencies in memory, database, computing and storage. Gartner estimates that up to 70% of cloud costs are wasted.⁸
- Financial CapEx models or manual tracking should not be used in the cloud. However, according to 451 Research, 73% in the US and 81%

in the UK still manage cloud using a CapEx rather than OpEx model. Further, 82% rely on spreadsheets and manual tracking or cloud vendor portals, or have no visibility into cloud costs.⁹

- Outdated negotiation approaches do not take advantage of the utility service model. Firms also fail to take advantage of pricing models and discounts that could be leveraged from their cloud service provider; these discounts sometimes reach up to 75% of the total price.¹⁰

Advanced monitoring tools can help to get a handle on cloud spend, but they are only point solutions

Some organizations have tried to implement cost management solutions from Densify, Apptio's Cloudability, Cloud Health, Flexera, AWS or Azure. These technologies decrypt billing trends across hybrid or multicloud configurations and recommend where to eliminate inactive storage, change instance types or opt for lower-cost clouds and regions. However, they are only point solutions and fail to align the business objective, plans, P&L and processes.

Firms need to evolve their in-house financial management capabilities towards a more holistic cloud oriented model.

Three design principles for a holistic cloud finance management framework

1. Start with the basics of traditional financial management

The business must be able to track how money is spent on cloud (accounting), plan how much money to spend in the future (budgeting) and secure payment from various business units for cloud services provided (charging). How well these activities are performed will determine how well the business can control cloud costs.

2. Incorporate the characteristics of the cloud paradigm

The cloud has several unique characteristics that influence finance management. To keep pace with the utility spending pay-per-use cloud model, infrastructure financial planning needs to shift from CapEx-based to OpEx-based. This will have far

reaching consequences for industries like Utilities or other capital intensive industries that favor CapEx. The on-demand access to a vast pool of dynamic virtual computing resources require continuous monitoring, policy based guardrails and shorter planning cycles for frequent reconciliation to prevent over-spend. Traditional financial management competencies must evolve to accommodate the nuances of the cloud paradigm.

3. Use an integrated multi-departmental approach

Proper stewardship of cloud resources is possible only when technology works in concert with both finance and business departments. Each of these units has its own perspective and must take ownership over particular cost activities:

- **Technology:** Do we have the cloud resources we need, organized in an efficient way?
- **IT Finance:** Do we have the right balance of cost and business value?
- **Business:** Are we using cloud resources in an effective way?

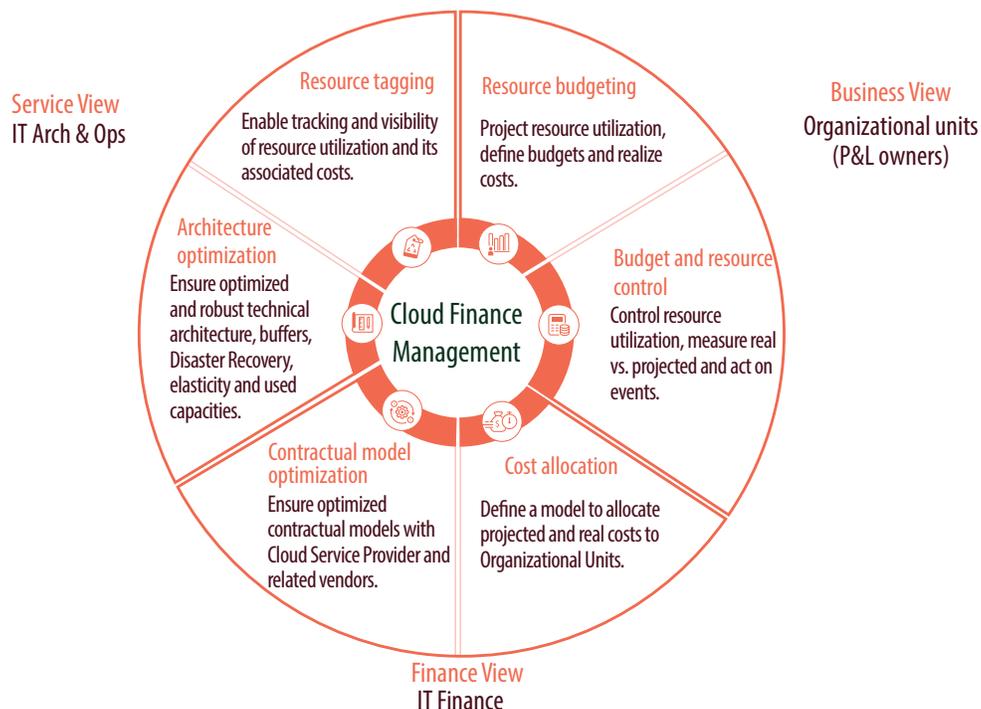
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Technology teams must work out the most cost-effective architecture for the business, making sure workloads run as efficiently in the cloud as possible. The IT finance team must get used to the utility cost model of cloud computing, including elasticity and usage-based billing. Business, for its part, must be able to budget for projects based on projected usage and defined policies.

The cloud finance management framework

The design principles inform the development of a holistic cloud finance management framework with six core competencies that when executed in a continuous cycle across technology, finance and the business, provide effective cloud cost governance (Figure 1).

Figure 1. The cloud finance management framework, the key to eliminating friction in cost optimization practices



Source: Infosys Consulting

Resource tagging: This is the process to define and implement metadata (tags) that will properly identify all the cloud resources (storage, network, compute, etc.) that are used in the corporation. The tags allow other capabilities to function, including cost tracking, reporting and allocating resources to various business units. The technology group governs this capability, with naming conventions aligned to and agreed upon by finance and business entities. This process can be manual but a more mature resource tagging capability will involve automated tagging of every new cloud resource and tagging compliance control.

Resource budgeting: Run by business units that own P&Ls, this capability estimates the usage of cloud resources based on historic trends, together with estimated future demand. Budgeting starts with business service usage but can be applied to more granular projection of cloud resource usage. This enables the business to estimate budget per service once cost allocation rules are applied and should be carried out monthly (as well as yearly and quarterly) to allow for the definition of shorter-term objectives. There is no point in leveraging the agility of cloud resources if the financial planning cycle can't keep up.

Budget and resource control: This capability compares the actual cost of running in the cloud versus the budget and takes immediate actions to turn off (or add) resources as needed. When significant gaps are identified, corrective actions should be performed. Variations between what is forecast and what is used may be due to errors, changing conditions or unmet expectations. Given the elastic nature of the cloud, a continuous control is required and a mature capability will include some automatic corrections. Other corrective actions may require longer planning such as

cloud vendor contract negotiations. The business controls this function with facilitation from the finance and technology teams.

Cost allocation: Here, the IT finance team oversees the allocation of direct and indirect costs on the general ledger to cost centers (hardware, software, labor, services) as well as core business practices and capabilities. These allocations must be done automatically using a set of rules pre-aligned between all parties. A well-executed tagging of cloud resources and a set of rules predefined and aligned in advance will provide transparency and cost accountability that will enable business managers to make the right decisions. The IT finance group will facilitate and own the definition of the allocation rules as well as oversee the automatic implementation of these rules.

SI partners are able to offer deeper discounts on cloud contracts due to their premium partnership with CSPs

Contractual model optimization:

This process ensures optimized contractual models with the CSP and related vendors. Now that the business has greater insight into how much money is being spent and where, it can work with IT finance to negotiate the best billing structure and potential discounts with the CSP. Additionally, several contract model strategies, if known, can be applied to squeeze more for less. System integrator partners like Infosys are able to offer deeper discounts on cloud contracts due to their premium partnership with CSPs. All CSPs offer some or other incentives to accelerate the migration journey. Consolidating billing across multiple accounts into

a master account allows the benefit of reaching the higher discount slabs faster. Use of reserved instances and spot instances where appropriate can further optimize cost.

Architecture optimization: Finally, technology practitioners must work with the business and finance teams on the technical architecture to make use of cloud-native functionalities that can further optimize the bills. Tools like AWS Auto Scaling or serverless functions can be used to adjust capacity to maintain steady, predictable performance. In addition, re-platforming to take advantage of PaaS solutions can bring additional operational and financial benefits. Speed of deployment, which improves efficiencies, is possible only when workloads are refactored to take advantage of DevOps, microservices and dynamic scaling.

With these foundational pieces in place, cloud cost management can become a core cloud capability that delivers tangible value to the business. But this isn't a simple undertaking. Business, IT and finance teams must all be on the same page, and upskilled across the board. Finance must have an understanding of the dynamics of managing technology; and P&L owners must interpret spend across the whole IT stack, including additional elements of the CSP offering.

Alexander the Great ordered his men to burn their ships upon landing on the shores of Persia. This same ethos must underpin all cloud initiatives. Only those that are all in for the journey ahead will achieve the highest ratios of value-to-spend.

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