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MASTERING CLOUD SAVINGS

**WHITE
PAPER**

Khursheed Hassan

FOUNDER & CEO

EXECUTIVE SUMMARY

Cloud computing offers numerous benefits, including scalability, flexibility, and accessibility. However, managing cloud costs poses significant challenges for organizations. The need to utilize a variety of cloud-provisioned services for the development, deployment, and operation of cloud applications creates significant hurdles for businesses in accurately forecasting, monitoring, and controlling expenses. Organizations that adopt a reactionary approach and treat cloud cost optimization as sporadic fire drills risk falling behind in effectively managing their cloud budgets. A proactive management of cloud costs necessitates a comprehensive grasp of the underlying cloud management lifecycle, which encompasses the establishment of robust cloud governance mechanisms overseen by FinOps experts. By employing our recommended three-step actionable plan, organizations can effectively implement cloud savings in a continuous closed loop. This loop involves cloud expense planning, strategic cloud purchasing, vigilant monitoring for cloud waste, and usage fine-tuning to eliminate any unnecessary expenditure.



WHY CLOUD SAVINGS IS NON-TRIVIAL

Cloud cost management in the cloud environment is far from trivial due to several intricate factors. Firstly, the dynamic nature of cloud computing introduces complexities in predicting and controlling costs. Cloud service providers offer **diverse pricing models**, including pay-as-you-go (on-demand most expensive), reserved instances or savings plans (40%-60% cheaper), and spot instances (50-90% less cost), each with its own set of nuances. Organizations must navigate this labyrinth of pricing structures while accurately forecasting demand and optimizing resource allocation to avoid unnecessary expenditures. Furthermore, the elasticity of cloud resources enables rapid scalability, but it also requires vigilant monitoring and adjustment to ensure cost efficiency. Without robust cost management practices in place, businesses risk overspending on unused or underutilized resources, leading to ballooning expenses and diminishing returns on cloud investments.

Micro services-based cloud applications are built with **dozens of services**. Moreover, the **decentralized nature** of cloud environments exacerbates the challenge of cost management. With multiple teams and departments provisioning a large number of services with hundreds of resources independently, achieving visibility and accountability across the organization becomes daunting. **Siloed** approaches to cloud usage can result in redundant purchases, inefficient resource allocation, and difficulties in tracking spending across disparate accounts and services.

For example, a recent organization distributed across multiple global locations used AWS to build and test a new SaaS product.

After successful testing, they decided to terminate all development-related AWS resources to free up costs. This included EC2 Compute, RDS, VPC, ASG, Internet gateway, NAT gateway, and

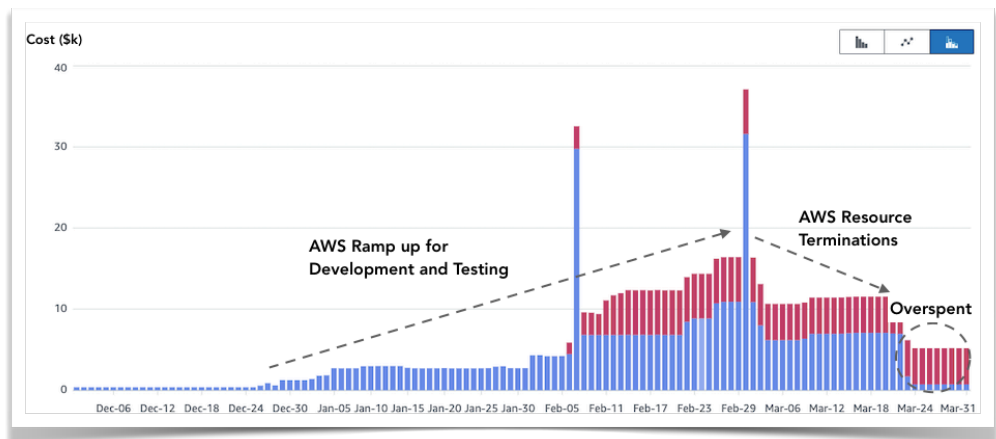


Figure 1. Impact of failure to terminate resources

Lambda among many other cloud-native services. After weeks, when they reviewed the cloud bill, to their surprise they found that some costs were still being incurred. On deeper investigation, it was identified that a service used by a developer account was incurring charges (Figure 1). The developer had left the project and failed to delete resources from an overly complicated dashboard of options.

COST MANAGEMENT LIFECYCLE

Centralizing cost management efforts and implementing frameworks are essential to gaining control over cloud spending. Thus, cloud cost management must be viewed as a full 360-degree life cycle (Figure 2) underpinned by **Cloud Governance** and **Cost Optimization** foundational pillars.

CLoud GOVERNANCE

Cloud cost governance is critical to managing expenses effectively in cloud computing environments. It involves implementing policies, processes, and controls to monitor, optimize, and allocate costs across the organization's cloud resources. By establishing clear guidelines and accountability structures, cloud cost governance ensures that spending aligns with business objectives while maintaining financial transparency and control.

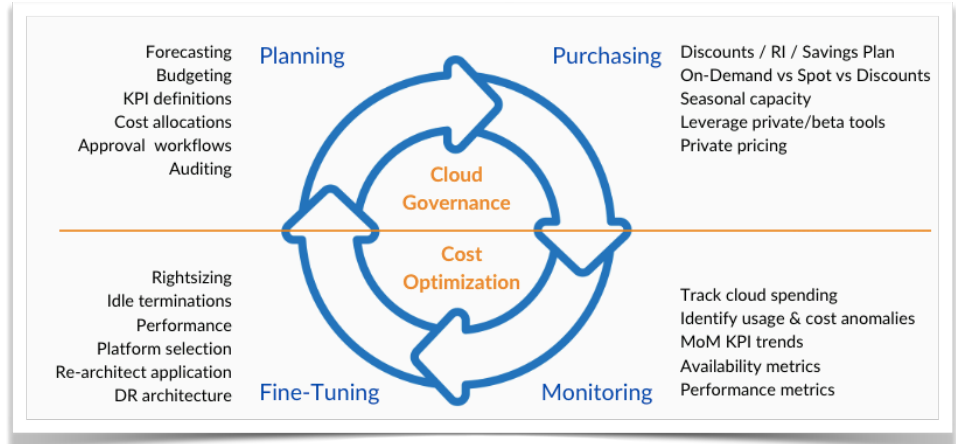


Figure 2. Cloud Cost Management Lifecycle

- **Planning:** Governance starts with annual planning which encompasses the establishment of budgeting frameworks, key business KPIs (like cloud spend per customer/revenue per customer), cost allocation methodologies (monthly incremental spend), and oversight mechanisms such as approval workflow for unplanned cloud usage.
- **Purchasing:** Cloud purchasing strategies allow organizations to design intentionally, and partition applications across different cost tiers and to negotiate the right amount of usage discounts. Further by forecasting future growth and daily peaks and troughs of usage, various price-efficient scheduling tools can be effectively leveraged.

By enforcing governance-driven best practices and fostering a culture of cost consciousness, organizations can achieve greater efficiency and value from their cloud investments while mitigating financial risks.

COST OPTIMIZATION

Cloud governance must be supported by a robust cost optimization practice. Cost optimization involves continuous monitoring and fine-tuning of cloud usage, resources, and billing across the whole organization spanning geo locations and global teams.

- **Monitoring:** It involves leveraging tools to automate cost tracking, which is helpful to swiftly identify under-utilized resources or excesses that diverge from baseline budgets and KPIs established during the governance process. Cloud providers provide many free tools that can be utilized instead of spending on 3rd party expensive cost optimization tools.
- **Fine-tuning:** The insights from monitoring are fed into the fine-tuning phase. Here, multiple strategies are deployed like terminating idle resources to right-sizing down to more cost-optimized versions of storage and virtual machines.

FinOps

A relatively new expert discipline called **FinOps** or **Cloud Financial Operations**, has evolved to address the complexity of cloud cost management. FinOps combines financial management practices with governance to optimize costs, increase transparency, and drive efficiency in cloud operations. Cloud FinOps aims to bridge the gap between finance, engineering, IT, business, and operations teams to ensure that cloud resources are utilized effectively while aligning with business

Governance can be considered as the preventive mechanism to pull in the cost curve while cost optimization is the adjustment process to push down the cost curve based on real operational learnings. Cost optimization feeds into governance when new use cases or outliers are detected and vice versa to deliver a holistic approach to cloud cost management solutions.

ACTIONABLE PLAN

Cloud cost management is a multi-layered effort. It starts with putting the right organizational structure to drive cloud efficiency and staffing the organization with a dedicated team of cloud cost management or FinOps specialists. These specialists should be carefully selected for their breadth of expertise and deep familiarity with the cloud cost management lifecycle (Figure 2). The right combination of structure in tandem with FinOps specialists can have a substantial impact on the company's financial performance, covering the specialist costs and delivering significant accrued savings. Some of the practical steps that businesses can adopt are;

1. ESTABLISH CLOUD EFFICIENCY LEADERSHIP

Every business is unique in regards to the maturity of its cloud journey and overall cloud spending. Some are migrating to the cloud, others are maintaining

a hybrid environment, and still others are fully native to the cloud. Hence, every business should familiarize itself with the best industry practices and create a cloud-efficiency leadership structure that works best for them. This plays a pivotal role in setting cloud governance policies, driving cloud-related initiatives, and promoting cost optimization initiatives across the organization. Some ways to achieve this are highlighted below;

- **Cloud Center of Excellence (CCoE):** Large businesses with tens of millions of annual cloud spend should consider setting up a centralized Cloud Center of Excellence. CCoE serves as the nucleus of cloud adoption within an organization. Ideally, it should be led by a seasoned FinOps leader with representation from various domains, including IT, finance, security, and development to streamline the adoption and management of cloud technologies.
- **FinOps Czar:** Smaller businesses spending under \$1 million to \$20 million in the cloud can sidestep the overhead of establishing a CCoE. They can achieve cloud cost savings by designating a skilled FinOps specialist as the primary leader responsible for overseeing all facets of the cost management lifecycle. Optimal results are achieved through the dedication of a singular resource, as opposed to dispersing responsibilities among DevOps, SRE, infrastructure, or development team members who are often occupied with their workload commitments.

Essential Skills of a FinOps Specialist

An ideal FinOps specialist possesses a unique blend of skills and expertise spanning an understanding of **financial management** - budgeting, forecasting, cost analysis, reporting, **cloud computing technology** - pricing models, services, billing, **DevOps** - best practices, infrastructure as code, and **business metrics** - growth, scaling, cost vs. profit. On top of it, they need to drive continuous improvements in governance and cost optimization across the organization, thus requiring strong interpersonal, communications, and project management skills.

2. OPERATIONALIZE CLOUD COST MANAGEMENT LIFECYCLE

The effectiveness of CCoE and the FinOps Czar requires integrating and operationalizing the entirety of the cost management lifecycle: Planning, Purchasing, Monitoring, and Fine-tuning, as depicted in Figure 2. Achieving this involves establishing closed-loop internal processes and tools that are lightweight, feed into each other, and yet offer just enough checks to prevent inadvertent cloud usage and spending.

3. INTEGRATE CLOUD COST DATA IN BUSINESS REVIEWS

Incorporating cloud cost data alongside operational metrics enhances transparency and accountability within an organization's decision-making processes. Teams can track progress towards cost-saving goals, and prioritize KPIs that drive efficiency and maximize ROI. As a pre-requisite, this requires planning as part of the governance by laying out annual trackable budgets and KPIs for all the teams.

FINOPS AS A SERVICE

Effectively implementing the 3-step action plan outlined above necessitates adept cloud cost management, embodied by the FinOps leader. However, finding and retaining a FinOps specialist with comprehensive cross-functional expertise (see sidebar above) can be daunting. Consequently, businesses often resort to hiring a program manager or reassigning an internal employee, both of whom may possess only superficial experience in cloud operations. Without a thorough understanding of cloud working, they become incapacitated in negotiating and driving *governance* changes across the organization. Moreover, they may face challenges in earning the trust of engineering colleagues regarding strategies for *cost-optimizing* architecture and cloud applications. When the essential skills are missing in a FinOps leader, the cost management efforts often devolve into a sluggish cycle of blame-shifting.

Businesses have the option to expedite their cloud cost management confidently by leveraging CloudiDR's **FinOps as a Service (FaaS)**. In our FaaS practice, we source a dedicated FinOps specialist who drives and operationalizes all the aspects of the cloud cost management lifecycle for our client. What distinguishes us is not only the expertise of our team in constructing cloud applications but also our deep inner working know-how of

Benefits of FinOps as a Service

1. Save **\$150,000** or more per year versus full time hires
2. Continuous monitoring and fine-tuning to lower cloud bill by **30%** or more
3. Deep dive audit of cloud waste and process gaps
4. Operationalize cost management lifecycle
5. Best in industry cloud governance design
6. Cloud purchasing strategies
7. Cost optimization playbook with best practices
8. Free tool & dashboard for cost monitoring and reporting (where applicable)
9. Independent unbiased recommendations
10. Fix monthly fees (no surprises)
11. Cancel service anytime (with 30-day notice)

cloud infrastructure and operations. This unique insight along with experience in strategic and financial planning enables us to meticulously devise and implement the cost management lifecycle framework, resulting in sustainable and immediate cost savings for our clients.

CONCLUSIONS

In essence, cloud cost management is non-trivial due to its multifaceted nature, encompassing technical and organizational that demand careful navigation and continuous optimization. By adopting a holistic approach to cloud cost governance and optimization with skilled FinOps professionals or leveraging FinsOps as a Service, businesses can confidently navigate the complexities of cloud financial management, ultimately achieving greater cost-effectiveness.

CONTACT US

Our specialized managed FinOps service can assist you on your cloud cost management journey. Get in touch with us to discover how we can support you;

hello@cloudidr.com