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AWS Cloud Financial Management

Four Pillars of Capability to Take Control and
Maximize Value in line with FinOps

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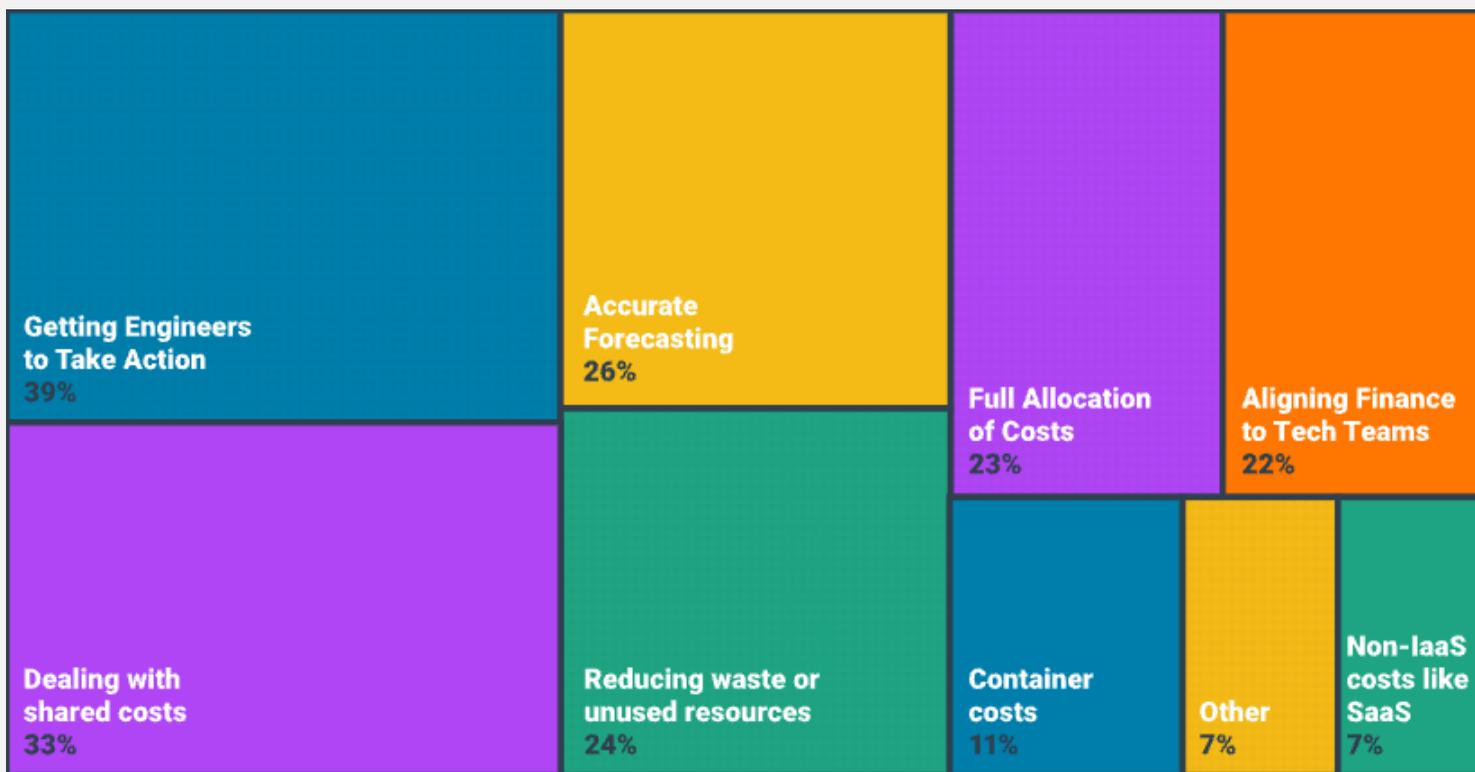
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Introduction

Cloud Financial Operations (FinOps) is one of the latest approaches to cloud cost management. As cloud usage increases, customers are seeking support to closely monitor and optimize their cloud spend. Even the cloud vendors themselves are providing tools to support their customers. This report dives deeper into the tools and mechanisms that Amazon Web Services (AWS), one of the leading hyperscalers with high cloud market share, offers to its customers. ISG has interacted with AWS customers to learn about how they use AWS cloud cost management tools and the support provided by AWS to create their own FinOps mechanism and best practices.

Enterprises Key Challenges in FinOps Ecosystem

Figure 1: Key Challenges in Cloud Cost Ecosystem



Source: www.finops.org

The FinOps Foundation (together with organizations such as the Cloud Native Computing Foundation) is part of The Linux Foundation dedicated to promoting the discipline of cloud financial management through best practices and standards. The FinOps Foundation started issuing a detailed survey to FinOps practitioners to share their learnings and received hundreds of responses. One of the interesting findings was that cloud financial management has become a standard practice in large enterprises with varying levels of cloud spending. The purpose of this survey report was to provide a current view of the industry FinOps challenges as mentioned above.



A common model for enterprise cloud adoption is for expenses to rise until it reaches a tipping point (or cost event), at which financial management becomes a focus. This causes immediate pressure for accountability and controls, often coupled with a need for better cloud invoice transparency and a strong desire to decrease cloud expenses.

FinOps isn't just for a single line of business but a cross-team effort; Cloud FinOps involves reacting to real-time demand and matching it with the best cloud solution available, whether infrastructure or service. While there are numerous cloud cost challenges that businesses confront across the board, there are several critical financial operations concerns that a centralized FinOps team, processes and cloud technologies must address.

- **Cost visibility:** Monitoring resource utilization rates for cost visibility, especially when relying on more than one cloud provider, as this will add complexity.
- **Optimization:** Removing unnecessary cloud costs resulting from overprovisioning or underutilization of resources.
- **Management:** Gaining control over resource consumption to avoid incurring needless charges and setting guardrails, where necessary.
- **Automation:** Using automation to help with various cloud procedures or to alert users when they fail to adhere to policies.
- **Accountability:** Leveraging the power of process, tools and framework to discover shared cost accountability.

The rapid expansion and growth of FinOps can be attributed to the wide range of requirements that it can address to assist with the management of various elements that contribute to a company's overall cloud cost. Traditionally, the focus of many financial processes was on predictable capital and operating expenses. Attention to overall financial operational cost is modest until organizations reach a tipping point where they observe overspending and material risk. With pay-as-you-go services, cloud adoption is moving spending from capital expenditure (CapEx) to operational expense (OpEx). This expense variable is frequently overlooked by budgeting, forecasting and reporting methods that have been utilized successfully for years. Before spending, a typical procurement team would authorize purchases. Development and operations teams should gain knowledge on topics such as supplier selection, discount negotiation and forecasting to be able to launch cloud resources on demand.

Cloud Optimization and Costing Forecast Challenge

With the budget freedom/flexibility described above comes the need to develop new mechanisms to create transparency for cloud cost. Depending on how extensively they use cloud, some businesses can receive a monthly cost and usage report (CUR) with millions of line items, often with multiple rows for the same resource when different rates apply. Allocating these costs to the right business units can be difficult without an account structure that aligns with the organizational structure and an effective tagging strategy up front. Cost forecasts from app owners are often inaccurate. Without the correct processes, SMEs, tools and framework, businesses may not notice overspend until the month-end invoice. Also, in some cases, other parts of the cloud invoice may be obscure to them and go unnoticed. Cloud providers have invested into tools and mechanisms for customers to control and optimize their cloud spend in line with their growing service portfolio. This report focuses on what AWS as a pioneer and leading provider offers to support its customers to manage cloud cost after the initial implementation.



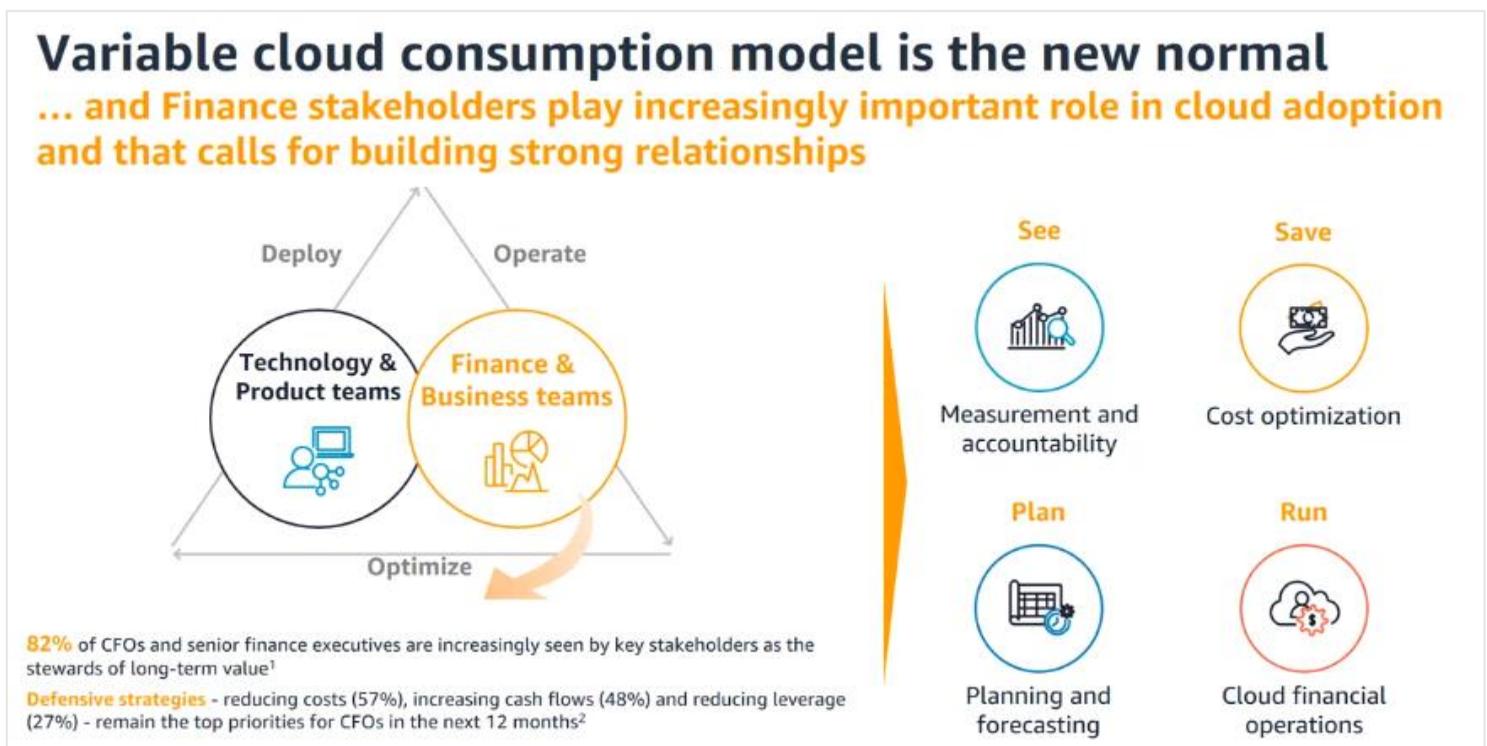
AWS FinOps Solutions/Frameworks/ Accelerators and Programs Enable CXOs

AWS' involvement entails more than just lowering customers' AWS bills. AWS is one of the early entrants in the FinOps segment to ensure that its customers' spending is in line with business goals. The company has multiple tools and capabilities. At each stage of a client's cloud journey, the AWS Cloud Economics team assists clients in identifying and quantifying value generation potential. AWS has built a cloud financial management approach and various related cost management capabilities. AWS' Cloud Financial Management recommendations are centered around four key pillars grouped under the headlines see, save, plan and run (see graphic below). The AWS portfolio of services can help finance teams see where costs are coming from, run operations with minimal unexpected expenses, plan for dynamic cloud usage, and save on cloud bills, while teams scale their cloud adoption on AWS. ISG has interacted with AWS customers to learn about how they use the tools and the support provided by AWS directly for this report. We will share some examples below.

EDF is a worldwide electric utility corporation. At EDF in the UK, the AWS customer has already implemented several AWS cloud cost optimization tools and capabilities. The AWS Cloud Economics team and Technical Account Manager helped EDF to further reduce cloud costs through the Cloud Intelligence Dashboards (CUDOS) workshop. Cloud Intelligence Dashboards created together with the customers in workshops like these are visualizations that customers can build with native AWS services in addition their CUR to get cost, usage and operational insights about their AWS cloud usage. A result of the AWS workshop and the transparency the dashboard built with AWS services provided was switching from AWS Reserved Compute Instances to AWS Savings Plans to further reduce cloud spend. Furthermore, the AWS cost optimization and FinOps mechanisms enabled tracking and attribution of cloud spend across teams, which will be critical in maximizing EDF's long-term cloud return on investment. EDF's cloud economist expressed a high degree of satisfaction from implementing FinOps tools and a cost management ecosystem.

Customer: Simon Davis, Cloud Economist at EDF in the UK.

Figure 2: FinOps is becoming a Mainstream Solution



Source: AWS



AWS Services to Control and Optimize Cost

The below graphic illustrates the broad spectrum of AWS services supporting the key pillars of its Cloud Financial Management approach, followed by some examples that ISG considers particularly useful.

Figure 3: Key Levers of FinOps Services

 Measurement and accountability	 Cost optimization	 Planning and forecasting	 Cloud financial operations
<ul style="list-style-type: none"> ● AWS Billing Console ● AWS Budgets ● AWS Budgets Reports ● AWS Cost Categories ● AWS Cost and Usage Report ● AWS Cost Explorer ● Consolidated Billing 	<ul style="list-style-type: none"> ● Amazon EC2 Spot Instances ● Amazon S3 Intelligent Tiering ● AWS Auto Scaling ● AWS Cost Explorer Reserved Instance, Savings Plans, and Rightsizing ● AWS Graviton 2 ● AWS Trusted Advisor 	<ul style="list-style-type: none"> ● Amazon QuickSight ● AWS Budgets, AWS Budgets Reports ● AWS Migration Evaluator ● AWS Pricing Calculator 	<ul style="list-style-type: none"> ● Amazon Cloudwatch ● AWS Budgets Actions ● AWS Config, AWS Config Rules ● AWS Identity and Access Management ● AWS Organizations ● AWS Purchase Order Management ● AWS Service Catalog

Source: AWS

Improve planning and cost control with flexible budgeting and forecasting: From the simplest to the most complicated use cases, AWS Budgets allow customers to create custom budgets to track costs and use. Using AWS Budgets, AWS customers can opt to be notified by email when a predicted cost and usage exceeds a certain budget threshold, or when actual or anticipated RI and Savings Plan utilization or coverage falls below the threshold which the client has specified. Clients can also configure specific actions to respond to cost and usage status in accounts using AWS Budget Actions, so that if business cost or usage exceeds or is expected to exceed a certain threshold, actions can be taken automatically or with business approval to prevent unintended overspending.

WIX is a leading cloud-based development platform with over 200 million users worldwide. As the company began to grow, its on-premises data centers were unable to cater to the increased demand for capacity. The company expanded its production environment to AWS, allowing it to spin up hundreds of servers automatically to manage traffic spikes. The WIX FinOps approach and the billing portal that it built goes beyond the short-term cost savings by enriching the information created by AWS tools with WIX's own business metrics to create deeper insights and business benefits. WIX mentioned that AWS provides it with a large set of tools for its individual FinOps strategy but pointed out, in particular, the AWS CUR for its unparalleled depth and the uniqueness of some services such as AWS Cost Anomaly Detection, which is a machine learning-enabled, out-of-the-box capability to spot unusual cloud cost patterns. The company adopted cloud cost controls and FinOps mechanisms for long-term cost optimization of capital and operational expenditure. It positively highlighted the spirit of Amazon's customer obsession in the work done with the AWS Cloud Economics team to support its efforts, beyond the tools available from the company.

Customer: Dvir Mizrahi, Head of Financial Engineering at WIX



Robust integration with cost analytics modules: AWS Budgets integrates with several other AWS services, including AWS Cost Explorer. This allows businesses to quickly view and analyze cost and usage drivers. Integration with services such as AWS chatbots enables client to receive Budget alerts in designated Slack channel or Amazon Chime chat rooms. Integration with AWS Service Catalog allows business to keep track of the costs of approved AWS portfolios and products.

Convergence and integration between tools and processes: AWS offers robust tools and processes as well as API-driven integration services to build customized FinOps tools suited to companies' individual business needs. The cloud service provider combines these with guidance from experienced internal teams and external partners, which enables clients to perform an in-depth cost analysis from operational and capital expenditure perspective. The customers which ISG spoke to confirmed that AWS has a strong Cloud economics practice to help its existing and prospective clients to establish the FinOps ecosystems for long-term financial accountability across the business.

Conclusion on AWS FinOps Approach and Related Services

Introducing FinOps best practices means connecting engineering teams with finance and other parts of businesses. FinOps is not a one-and-done scenario, but rather an ongoing process that requires monitoring and fine-tuning over time, as cloud providers offer additional services, billing constructs and discounting mechanisms. Enterprises are moving toward a digitally transformed world, and industry leaders are witnessing exceptional changes in financial, operational and cost management. Investing in the four key capabilities of Cloud Financial Management enables clients to effectively manage the fast-changing cloud consumption landscape. This is especially effective when combined with the AWS tools and support, along with its partner program.

AWS has a strong focus on cost and financial management through its various accelerators, programs and tools ecosystem. AWS tools deliver a high degree of cost transparency and the means to build a granular financial control mechanism. It drives the convergence of operational and delivery excellence to ensure that every outcome elevates the customer experience. ISG has found that AWS demonstrates multidimensional financial management capabilities: The AWS FinOps capabilities are unique, owing to its strongly built foundation based on a customer-centric principal and fact-based model. ISG believes that AWS has deeply rooted capabilities in achieving higher business value creation and cost management. The outlined approaches are an exemplary example of continuous cost transformation with well-crafted services. With financial operational excellence at its core, AWS can help its customers execute numerous complex cost-centric projects, thus accelerating and transforming the project requirements for both existing and prospective clients.



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At ISG, Manoj Chandra Jha is primarily responsible for research projects and working on the ISG Provider Lens™ (IPL) program. He actively contributes to gathering service provider intelligence through both primary and secondary research. He is responsible for writing thought leadership reports and papers on briefings provided by the service providers. In addition to these, Manoj also writes blogs on trending topics, specifically on cutting-edge technology. Manoj has executed several client requests for research and consulting assignments across industries, predominantly in IT, manufacturing and insurance.

He has handled client communications for the team, managing the client right from onboarding to understanding their custom research requests to scheduling briefing calls. Along with this, he has been closely involved with the quadrant studies around cloud services and data center outsourcing market.





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