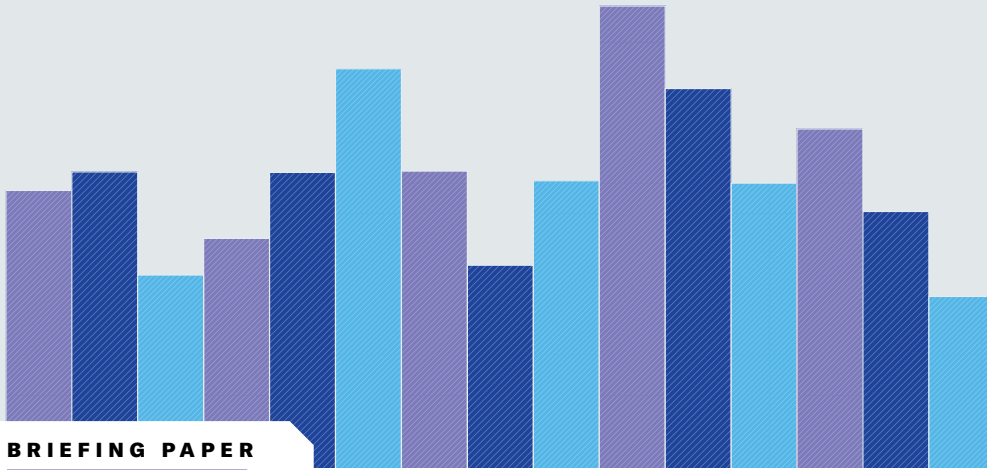




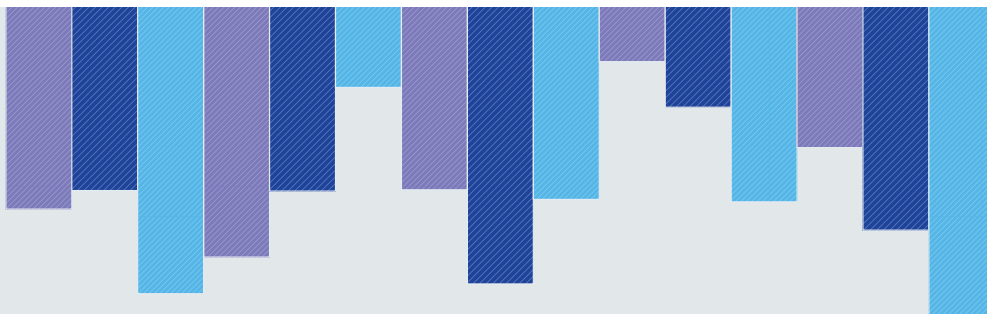
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The Evolution of FinOps:

Fueling Innovation and Enhancing Business Efficiency and Performance Across the Enterprise



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Cloud costs and performance are now a board-level concern, and most organizations with a heavy cloud presence are facing considerable pressure to maximize their cloud investments. Many are embracing cloud financial management (or FinOps) strategies to help them gain control of their costs and budget predictability as well as reduce compute waste.

But given the complexity of today's multi-cloud environments, FinOps practices can only be successful if cost management processes are inherently aligned with cloud infrastructure management practices, because they are inextricably linked. However, visibility into the cloud, the teams, the tooling and processes used to manage cloud costs, and the resources that generate those costs are separate and siloed. This misalignment often leads to problems with the performance of cloud infrastructure that applications rely on to deliver an optimal experience for end users and creates friction between the different teams involved in these processes.

As this paper discusses, to be successful in FinOps and drive optimal outcomes for the business, organizations must evolve their FinOps strategies—going beyond focusing on cost reduction tactics to address the root causes of their spiraling cloud costs.

This evolution requires a technology solution that can eliminate barriers and create a bridge between infrastructure management and traditional FinOps processes, by providing holistic visibility and data so organizations can understand how cloud costs and application performance impact each other. With this context, organizations can use the technology solution to make the right decisions for purchasing the necessary compute to support business needs, and accurately allocate those costs to their respective cost centers. Beyond the decision-making process, automation capabilities are needed to consistently and continually apply these decisions.

The practice of FinOps also comprises people and process. Therefore, organizations must develop a FinOps framework that can evolve as they mature their practices. The goal is to provide the policies and governance to ensure that FinOps is consistently and uniformly embedded and enforced within the organization. Hand in hand with the more formal constructs of a FinOps framework, organizations must build a culture of FinOps across their organizations that drives team alignment, collaboration, and accountability. These three components of FinOps—technology, framework, and culture—are interdependent and collectively are critical for FinOps success.

Through such an approach to FinOps, organizations can maximize the efficiency and impact of every dollar spent in the cloud, while ensuring the infrastructure is optimized for performance and reliability. FinOps stakeholders will have the data to drive impactful business decisions, and the organization will have aligned around a shared responsibility for the cloud and can realize the true value of FinOps and drive business growth.



Joanne Godfrey
FinOps Lead
NetApp

The Evolution of FinOps:

Fueling Innovation and Enhancing Business Efficiency and Performance Across the Enterprise

Virtually every company at every scale is operating in the cloud these days. Given the considerable spending that cloud service demands, each one of those companies must ensure they're getting optimal business value out of those investments while also safeguarding cloud service availability and accurate resource management. It is becoming increasingly critical that investments in cloud infrastructure that continue to grow across all industries are also well managed.

Cloud financial management (or FinOps) is a merging of financial operations and developer operations (DevOps) functions. This discipline was developed to bring together cloud operations, finance, and business unit leaders, as well as developers, to communicate, collaborate, and work toward optimizing cloud operations from the combined perspectives of cost, performance, and resource availability. But while the original intent of FinOps was purely to control cloud costs, it is now evolving to help deliver better business outcomes and business value. Focusing solely on cost containment had the negative effect of restricting innovation, performance, and reliability, so teams involved in FinOps are now stretching their focus to improve all aspects of the organization, from providing enhanced customer experiences to improving business outcomes and promoting innovation.

Spending on cloud will remain a critical focus for the C-suite. According to a recent Worldwide Software and Public Cloud Services Spending Guide,¹ Needham, Mass.-based research firm International Data Corp. (IDC) expects worldwide spending on public cloud services to reach \$1.35 trillion by the year 2027. IDC sees software as a service (SaaS) as the leading category, accounting for approximately 40% of public cloud spend. IDC also anticipates infrastructure

HIGHLIGHTS

With the **expanded focus of cloud financial management (or FinOps) on optimizing business value and promoting innovation**, FinOps conversations are **happening earlier in the product development process**.

As companies adopt FinOps, or further evolve their existing FinOps practice, it certainly involves **a cultural shift across all business functions and a continued fundamental focus on collaboration**.

The **expanding reach of FinOps** across more business functions and throughout the development process **is helping drive innovation**.

as a service (IaaS) to be the second largest, followed by platform as a service (PaaS) in third.

“Initially, FinOps was a reaction—a panic mode to costs spiraling out of control,” says Archana Venkatraman, senior research director of cloud operations and cloud data management at the London office of IDC. “Over the last two years, we’re seeing a lot more maturity. Organizations are seeing FinOps as a discipline to not just cut costs, but a discipline to optimize cloud spend and make sure they can leverage cloud innovation.”

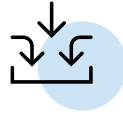
With the expanded focus of FinOps on optimizing business value and promoting innovation, FinOps conversations are happening earlier in the product development process. “My goal is to ship high-value, high-performing software that delivers profitability, so I’ve started making my way to the forefront of product design so we can understand how our customers are using new features,” says Ricky Ibarra, manager of cloud FinOps for San Diego-based SaaS provider Tealium Inc. “It has shifted from being reactive to becoming more involved in the design and planning phase.”

But with FinOps’ widening role comes other necessary changes within the organization. For example, Ibarra asserts that expanding the scope of a FinOps practice absolutely requires a cultural shift with respect to getting further involvement across the organization and getting everyone to take into account the costs of any major architectural decisions. “We’ve built a cost-conscious operating model, so during deployments, there’s a section that finance needs to review and approve,” he says. “Real cost savings projects require architectural changes, so we need to make decisions on not only financial targets, but also performance and SLA [service level agreement] targets.”

This paper will explore how companies can evaluate, refine, and evolve their FinOps practice. It will examine how FinOps principles, and the roles and responsibilities of those involved with FinOps, have evolved. It will focus on the critical collaboration among teams required for a successful FinOps practice to help drive decisions based on the business value of the cloud and promote cloud usage and cost accountability for all throughout the organization. The paper will also discuss how organizations can help effect the cultural shift required to ensure that the infrastructure and financial operations teams are truly working together, making cooperative decisions, working with the same accurate and timely data, and using the most effective tools.

The Evolving Framework

To address the growing need to manage and optimize cloud spend, a group of executives and practitioners developed the FinOps Foundation in February 2019. Today the San Francisco-based FinOps Foundation (which is part of the Linux



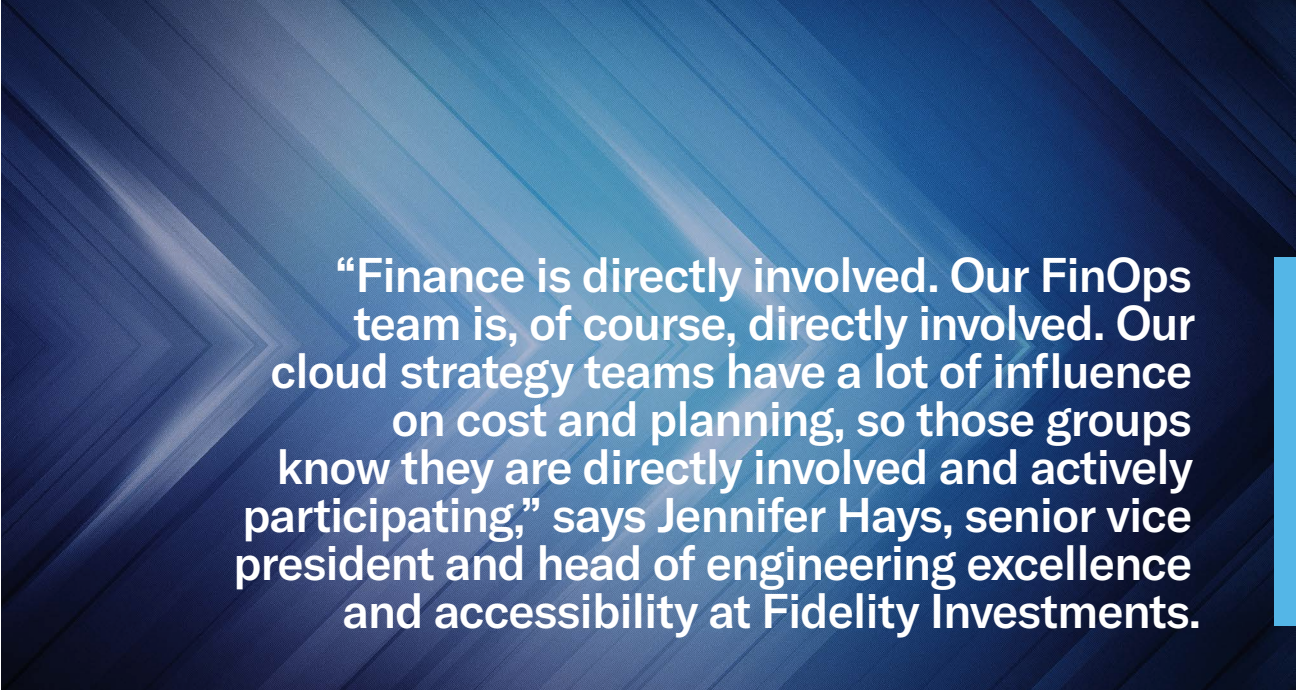
“We’ve seen a lot more integration of FinOps into the business. We’ve added a whole new set of capabilities. We’ve also integrated additional personas into the framework. Now the duties of FinOps have been distributed between engineering teams, product teams, leadership teams, and finance teams. It’s the idea that FinOps has become everyone’s job,” says J. R. Storment, executive director of the San Francisco-based FinOps Foundation.

Foundation) defines FinOps as an “operational framework and cultural practice which maximizes the business value of cloud, enables timely data-driven decision making, and creates financial accountability through collaboration between engineering, finance, and business teams.” FinOps has clearly expanded beyond its initial focus on cost control.

The reason for that expansion is clear. The emerging definition of FinOps is centered on having the technology and engineering teams directly responsible for cloud operations and the finance and business operations teams cooperating, communicating, and collaborating not only to manage costs but also to deliver a reliable and high-performing infrastructure. The FinOps Foundation in 2024 has made extensive updates to the framework that reflect the evolving best practices to maximize cloud business value and further define roles and responsibilities across the organization.

“We’ve seen a lot more integration of FinOps into the business,” says J. R. Storment, executive director of the FinOps Foundation and a member of that 2019 founding group. “We’ve added a whole new set of capabilities. We’ve also integrated additional personas into the framework. Now the duties of FinOps have been distributed between engineering teams, product teams, leadership teams, and finance teams. It’s the idea that FinOps has become everyone’s job.”

The 2024 revisions include an updated FinOps definition, changes that simplify the framework’s organization, and additional personas to support the expanded reach of FinOps efforts. The new FinOps personas are grouped into core and allied personas. The core personas are those directly



“Finance is directly involved. Our FinOps team is, of course, directly involved. Our cloud strategy teams have a lot of influence on cost and planning, so those groups know they are directly involved and actively participating,” says Jennifer Hays, senior vice president and head of engineering excellence and accessibility at Fidelity Investments.

involved on the FinOps team. These include the engineering, leadership, finance, product, and procurement teams. The allied personas include other disciplines with which the FinOps team interacts, such as IT asset management, IT financial management, IT service management, security, and cloud sustainability. The certified FinOps practitioner serves as the anchor and the conduit between all those personas.

The difference between the core and allied personas is certainly present at financial services firm Fidelity Investments. “Who is directly involved and who knows they’re directly involved are two different questions,” says Jennifer Hays, senior vice president and head of engineering excellence and accessibility at the Salt Lake City office of Boston-based Fidelity Investments. Hays is also the chairperson of the FinOps Foundation governing board.

“Finance is directly involved. Our FinOps team is, of course, directly involved. Our cloud strategy teams have a lot of influence on cost and planning, so those groups know they are directly involved and actively participating,” she says. “There are a bunch of other people who are either indirectly involved or directly involved but they don’t realize it. And in some ways, you don’t need them to know that as long as they’re thinking, ‘Are you optimized? Are you getting the most out of every dollar you spend in the cloud?’”

FinOps’ evolving involvement within the organization is also leading to a shift in the strategic decision-making process. “We talk about the iron triangle in FinOps of good, fast, and cheap. You make your decisions across one of those.

Historically in FinOps, it has been weighted to optimizing costs. There hasn’t been enough of figuring out where to invest and make strategic decisions,” says the FinOps Foundation’s Storment. “Now since [the conversation] is coming earlier in the process, it’s starting to put engineering teams in the challenging position of ‘Use the best stuff, but get it cheap, and help us with business value and carbon goals.’”

That greater impact on business outcomes is increasingly getting executive leadership more closely involved. “We’re seeing the escalation of the conversations, even to the CEO level and the board level,” Storment says. “[The conversations have] reached that level because cloud spending has gotten large enough at those organizations to matter. And the FinOps practice has become integrated enough that it’s becoming more than just managing these pesky costs. Now it’s ‘Let’s look at all these costs across all our technology.’”

Companies are increasingly managing more on-premises private clouds, as well as consumption-based services like SaaS, PaaS, and IaaS. The contract and billing cycles for these services present many of the same optimization challenges as cloud spend. “FinOps has really begun to move beyond just focusing on the public cloud,” says Storment. “At the last FinOps X (an annual conference where FinOps practitioners gather to share best practices and strategies), there were a lot of people talking about also applying FinOps principles to SaaS, even Oracle licensing, and on-prem systems. With these organizations using FinOps and getting better visibility, better forecasting, better optimization, and better allocation in

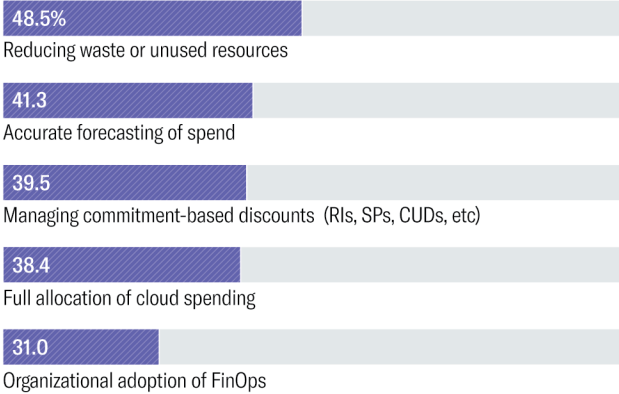
FIGURE 1

Cloud Spending Evaluated

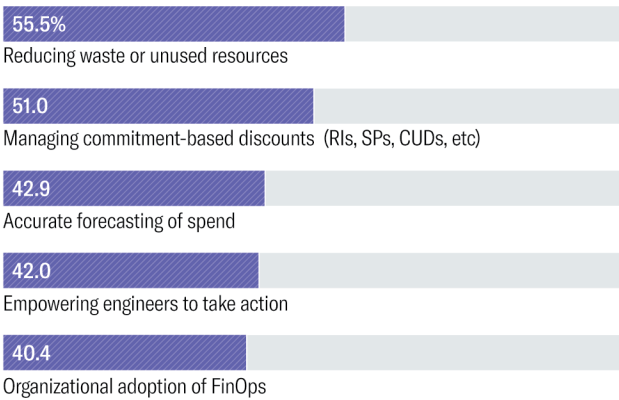
Priorities differ slightly, but reduced waste is always the top priority

Key FinOps priorities for practitioners by cloud spend

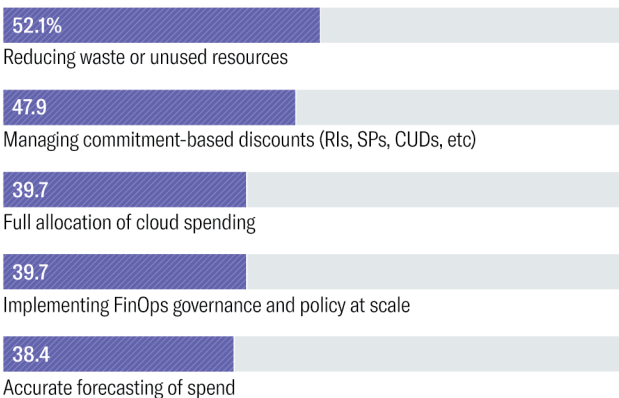
TOTAL AMOUNT OF CLOUD SPEND \$0-\$15 MILLION



TOTAL AMOUNT OF CLOUD SPEND \$15 MILLION-\$100 MILLION



TOTAL AMOUNT OF CLOUD SPEND \$100 MILLION+



Source: FinOps Foundation survey, February 2024

public cloud, they’re saying, ‘Wouldn’t it be great if we could get this level of forecasting and allocation for private cloud and hybrid cloud?’ That has been a big shift.”

Shifting Priorities for Cloud Optimization

With increasing economic pressures, many organizations are relying more heavily on their FinOps teams. For its 2024 State of FinOps study, which was released in February 2024, the FinOps Foundation surveyed 1,245 companies that have operations in the cloud and found that their key priorities were optimizing not only cloud but other compute spend, reducing waste (ranging from 48.5% to 55.5%, depending on the cloud spend amount), improving forecasting capabilities (ranging from 38.4% to 42.9%, depending on the cloud spend amount), closely managing commitment-based discounts (ranging from 39.5% to 51%, depending on the cloud spend amount), helping engineering teams get more value out of FinOps training, getting ahead of AI spend, improving sustainability, and improving automation. **FIGURE 1**

These increasing economic pressures are driving companies to focus more carefully on cost considerations for all business decisions related to operations and product development. “In the economic situation we’re in, the cost to borrow capital is expensive, so companies look to doing layoffs or decommissioning product features that burn cash,” says Tealium’s Ibarra. “We avoided a lot of those scenarios because we paid attention to this area early on.”

While other priorities continue to emerge, cost considerations are always top of mind. “Our 2024 cloud ops research showed the number one priority is to renegotiate public cloud contracts. Number two is better capacity planning and more accurately forecasting cloud spend,” says IDC’s Venkatraman. “The adjacent benefit is the environment is optimized, which also has strategic benefit from a sustainability perspective. It also has an effect on security. The leaner your environment is, the less risky it is.”

Beyond expanding the reach and scope of FinOps, the FinOps Foundation is also working to standardize billing data and nomenclature with all three major cloud service providers (CSPs). Both the CSPs as providers and the community of FinOps practitioners as customers recognize that working together to streamline interactions is in everyone’s best interest. The FinOps Open Cost and Usage Specification (FOCUS) 1.0 project, introduced at the FinOps X conference in San Diego in June 2024, is addressing data consistency in cloud service contracts and statements by encouraging all the major CSPs to use the same language and formatting in their billing statements to avoid confusion.

Fidelity’s Hays cites the FOCUS project, which began after a meeting of the FinOps Foundation’s governing board two years ago, as a significant example of how the FinOps community

“Over the last two years, we’re seeing a lot more maturity. Organizations are seeing FinOps as a discipline to not just cut costs, but a discipline to optimize cloud spend and make sure they can leverage cloud innovation.”

Archana Venkatraman, senior research director of cloud operations and cloud data management, International Data Corp.

“The biggest thing on everyone’s mind is generative AI (gen AI). What opportunities will it provide in understanding the environment even more and helping drive out cost, and how do they manage gen AI from both a business and cost perspective?” says Fidelity’s Hays.

can work together to effect change in how the major CSPs operate. “Everyone on the [FinOps Foundation] governing board said one of the biggest frustrations was the bills for all the CSPs are all different,” she says. “Reconciliation is time-consuming because everything means something different on different bills.”

The invoicing issue revealed the FinOps practitioner community’s strength. By working together, the members of the community were able to convince the major CSPs that standardizing their billing format would be beneficial to their customers and eventually to the CSPs themselves, as this measure would increase customer loyalty and help expand cloud adoption.

Another evolving priority for FinOps teams is optimizing spending on artificial intelligence (AI) and aligning AI usage with primary business objectives. This objective is another example of the expanding reach of FinOps, as companies are now using FinOps practices to get a better handle on AI spending as well as cloud spend. “Everybody is talking about how AI can help FinOps [tools]. The other side of that coin is how do you manage costs of AI today?” Storment says. “There are companies with tens of millions of spend in AI already and they’re struggling to show the value. It’s similar to where we were with cloud 10 years ago.”

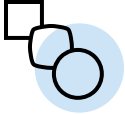
Practitioners are already applying the lessons learned from cloud investments to their AI investments. “The biggest thing on everyone’s mind is generative AI (gen AI). What opportunities will it provide in understanding the environment even more

and helping drive out cost, and how do they manage gen AI from both a business and cost perspective?” says Hays. “There’s the fear of opening a huge bill. How much will we consume? How will we control the costs? That’s what we’re all talking about from the [FinOps practitioner] community perspective and working [on] to provide solutions and best practices.”

Cultural Shift and Collaboration

As companies adopt FinOps or further evolve their existing FinOps practice, it certainly involves a cultural shift across all business functions and a continued fundamental focus on collaboration. This cultural shift is characterized by getting members of the company from across all business functions to consider cost implications as part of any business-related decision and making everyone accountable for how their decisions and actions impact cost. “It’s very much a culture shift,” says Venkatraman. “Start small and spread the good word and make everyone accountable. And one way to increase accountability is to leverage FinOps tools and capabilities and bring in more automation. You get developers to embrace cost accountability [not by] increasing their cognitive load but by bringing in tools and capabilities that give them visibility into cost impacts.”

At Fidelity, Hays feels the cultural shift was long overdue. “[Prior to FinOps,] any engineer could actually commit Fidelity to spend. That was a sobering thing when you think about it. Anytime an engineer commits code, they’re actually



“Everyone is involved. I work with senior leadership and those stakeholders that help me get things done. I have buy-in from finance, engineering, sales, revenue operations, customer success, and product development, and it’s still evolving,” says Ricky Ibarra, cloud FinOps manager at San Diego-based Tealium Inc.

committing spend at that moment,” she says. “We had to ensure Fidelity is spending money in the most optimized way. We brought [FinOps] into the engineering organization and said we now have fiduciary responsibility and have to understand what we are deploying and [how we are] committing ourselves. That was the biggest shift.”

Storment says he’s actually starting to see more organizations getting FinOps certifications for their engineers, which involves specific training on operating a FinOps practice, encouraging collaboration, and establishing cost accountability with the goal of becoming a FinOps certified practitioner, certified engineer, or certified professional. “That helps get them thinking about cost as part of their job and helps them understand how their job impacts cost,” he says. “That also ties to carbon considerations. If you’re spending less, you’re wasting less. We’re seeing a lot of evangelism from the bottom up, things like people highlighting cost wins with engineering teams and finding opportunities to celebrate those.”

In fact, many companies are expanding FinOps training and certification across multiple business functions. The 2024 State of FinOps survey found that companies planned to provide FinOps training to everyone from engineers (76%) and product managers (62%) to executives (47%) and procurement professionals (34%).

Collaboration from the top down is equally important and bears a significant impact. “We’re seeing the top-down approach more in really big organizations. They’re starting to look at tying executive bonuses to cost efficiency for cloud and making sure there are top-down goals in terms of allocation of costs. We can’t optimize what we can’t allocate,” Storment says. “We’re seeing that aspect of cloud spend and the FinOps

team managing it enough that it’s affecting margins at the public company level. We have CEOs and [chief technology officers] having to bring these considerations into their quarterly reports.”

Hays explains that she was fortunate to have executive buy-in from the start to establish a FinOps practice at Fidelity. “When we went to the [Fidelity Investments] CIO [chief information officer] council, we immediately had their backing without hesitation,” she says. “They approved it in that first meeting. They wanted to get ahead of the situation. A lot of companies don’t have that C-level backing. You get a lot of collaboration when you get that C-level backing and concern.”

Ibarra is also seeing impact from both the top-down and bottom-up approaches. “Direction comes from top down and innovation comes from bottom up,” he says. “Some of the most impactful projects come from our junior engineers. I have this mindset that I can help get approval to buy things, but we need to build the real business case around it and you need to help me find a way to pay for it.”

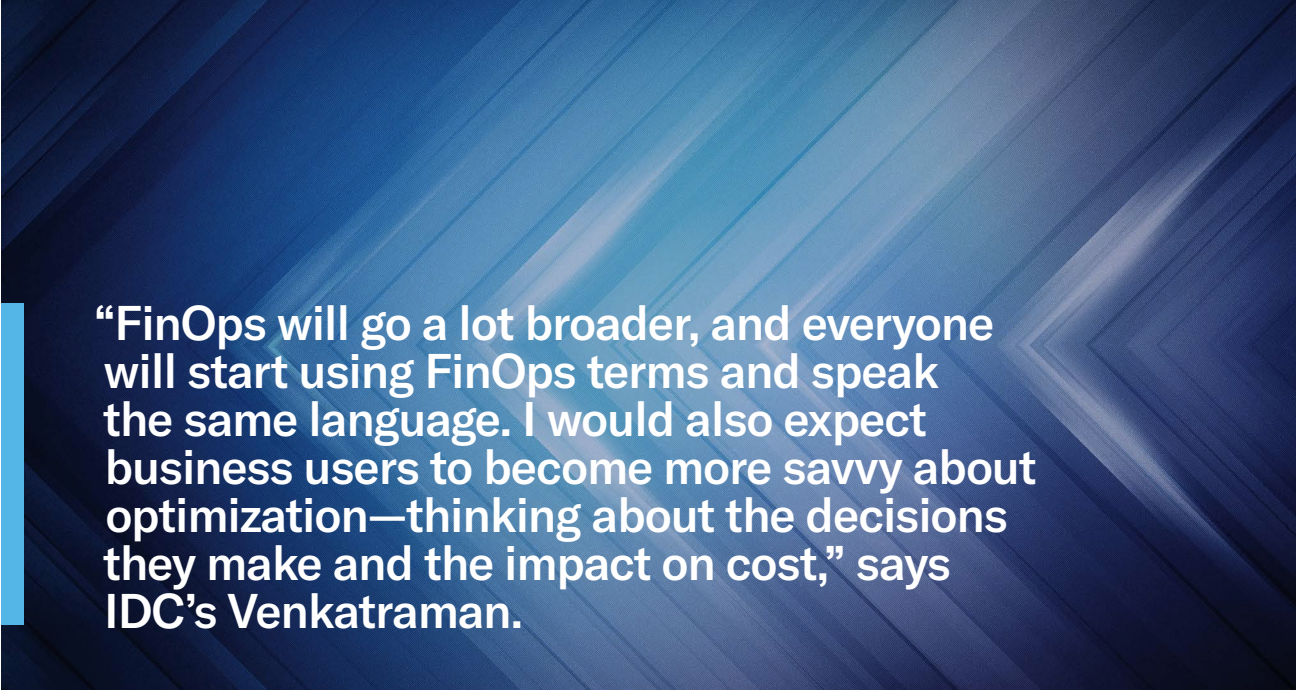
And like other FinOps practitioners, Ibarra has participation from across the organization. “Everyone is involved,” he says. “I work with senior leadership and those stakeholders that help me get things done. I have buy-in from finance, engineering, sales, revenue operations, customer success, and product development, and it’s still evolving.”

The expanding reach of FinOps across more business functions and throughout the development process is helping drive innovation. “We’re seeing cost becoming a first-class citizen earlier in the conversation in product design,” says Storment. “Historically, you would see organizations go through the software architecting process and build products that would land in cloud and the cost would be way off because they weren’t architecting in the right ways. Now we’re seeing cost and infrastructure considerations happen during the product design phase.”

There is an opportunity for those doing FinOps to be at the center of value management for an organization’s entire technology spend, according to Storment. “We’re going to see FinOps leaders turned into future CIOs, future CFOs, and business leaders. Those responsible for understanding and allocating and providing value-based decision making for technology are becoming more valuable to the business,” he says. “In the future, more of those heavily centralized functions will start to get integrated into different parts of the business. It’s not that FinOps goes away, but it becomes part of what everybody does all the time.”

The Path Ahead

FinOps is becoming more integrated with business functions and product development as it evolves. Storment says FinOps is not a one-time process and compares it to a muscle that



“FinOps will go a lot broader, and everyone will start using FinOps terms and speak the same language. I would also expect business users to become more savvy about optimization—thinking about the decisions they make and the impact on cost,” says IDC’s Venkatraman.

must be continuously exercised. “Change is constant,” he says. “You’re never really done with FinOps.”

Venkatraman expects to see FinOps extend across an organization’s full technology stack. “FinOps will go a lot broader, and everyone will start using FinOps terms and speak the same language,” she says. “I would also expect business users to become more savvy about optimization—thinking about the decisions they make and the impact on cost.”

Hays also expects to see FinOps extend across the enterprise technology landscape. “We’re going to see an evolution into SaaS products and how much of your FinOps practice you can apply to SaaS vendors,” she says. “We’ll look at the totality of it all, bringing these practices derived in FinOps back into other parts of tech spend.”

As FinOps evolves at Tealium, Ibarra hopes for increased collaboration with product development. “FinOps is focused

on cost management and cost reduction. At the end of the day, a dollar of revenue is worth significantly more than a dollar of savings,” he says. “The powerful FinOps tools we’ve built internally taught us so much about our system. We’re currently positioned in a way that we can go to other departments and say there’s a revenue opportunity, a system or contractual guardrail opportunity, or there’s a new product we can build.”

As FinOps continues to evolve, it will likely expand to impact all areas of the organization and all business functions. The focus of FinOps is growing beyond cloud cost management to help organizations deliver true business value on their cloud investments by balancing cloud availability, performance, and cost efficiency. This broader approach to FinOps helps encourage financial accountability and consideration at every step of the way and at every decision point throughout the organization.

Endnotes

- 1 International Data Corp., “Worldwide Software and Public Cloud Services Spending Guide,” August 29, 2023. <https://www.idc.com/getdoc.jsp?containerId=prUS51179523>.



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