

CASE STUDY

How Nubank Automates AWS Cloud Cost Optimization for Dynamic Workloads



INDUSTRY

Financial Services

CLOUD PROVIDER

AWS

PRODUCT USED

Autonomous Discount Management (ADM) for AWS

KEY METRICS

ESR:

Increased by 11.65% in six months

ON-DEMAND COST:

Decreased by 53.59% in six months

Overview

Nubank is one of the largest digital financial services platforms in Latin America, serving nearly 119 million customers across Brazil, Mexico, and Colombia. It is redefining financial services with digital-first offerings that include credit cards, personal loans, and digital accounts. Nubank’s core mission is to fight complexity by offering fully digital financial services to individuals historically unable to access traditional banking services at an industry-leading cost to serve. This social mission requires Nubank to operate with high efficiency, making cloud cost optimization a core business priority.

To support this mission, the FinOps team at Nubank adopted ProsperOps Autonomous Discount Management (ADM) to reduce the manual overhead of commitment management and optimize cloud spend effectively for their highly dynamic AWS workloads.

Nubank’s Workload and Commitment Management Challenges

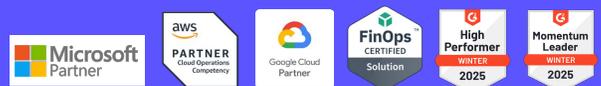
As a digital-first organization, Nubank relies on AWS cloud infrastructure to host a range of mission-critical workloads, including customer data management, transaction processing, and application hosting. Compute processing represents their largest cloud workload, demanding scalability and high availability to meet the needs of tens of millions of users.

A centralized FinOps team oversees the financial management of Nubank’s cloud usage. Their focus includes spend and budget transparency, reporting, cross-functional engagement, and driving cost optimization.

Nubank’s fluctuating workload patterns complicate the team's efforts to optimize cloud spend. Demand varies intraday, for example, surging during major events like Black Friday, Mother's Day, and national campaigns, requiring flexible and scalable cost strategies.

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Despite a sophisticated FinOps operation and the use of multiple discount instruments, including Compute Savings Plans, Spot Instances, and Reserved Instances, Nubank’s cloud rate optimization strategy faced key limitations. Their manual DIY approach and reliance on static Compute Savings Plan coverage constrained their ability to fully align commitments with usage.

Manual Commitment Management Slowed Impact and Increased On-Demand Cost

Managing commitment-based discounts manually at Nubank's scale was a constant balancing act. The FinOps team relied on manual processes to regularly analyze usage patterns, monitor spend trends, calculate safe purchase thresholds, and execute commitments, all while avoiding overcommitment or undercommitment.

At a scale where usage shifts quickly and commitments involve financially material decisions, manual management was not just time-consuming, but slowed the team’s ability to optimize, and diverted time away from other FinOps priorities.

A Static Compute Savings Plan Approach Could Not Match Dynamic Workloads

“Our cyclical and dynamic workloads really needed something different than the static Compute Savings Plan approach.”

Thomas Hammer

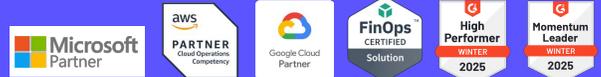
Product Ops and FinOps Lead, Nubank

Nubank’s reliance on Compute Savings Plans (CSPs) made sense for scale but lacked the flexibility to keep up with the company’s highly dynamic usage patterns. Their environment experienced constant fluctuation, such as spiking by hour, day, and season, making it difficult to align static commitments with real-time demand. Even with EC2 usage generally trending upward, any unforeseen dip could lead to overcommitment and locked-in spend, increasing the risk of waste.

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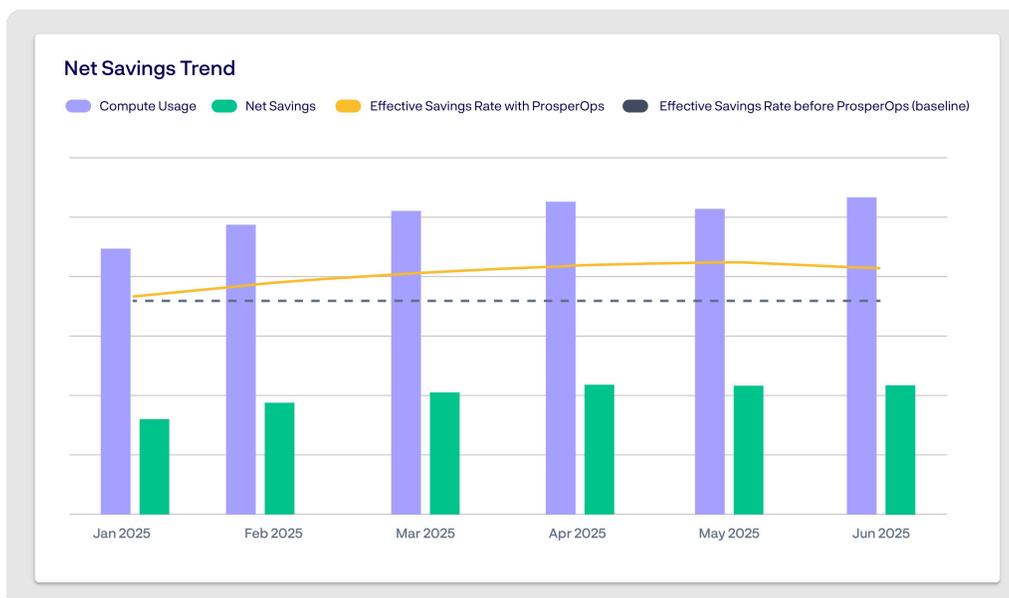


While CSPs offered some cost control, they couldn't be allocated to specific workloads and allowed little room to adjust coverage as usage shifted. This rigidity led to persistent On-Demand costs, often flagged by engineering teams who had no control over how CSPs were applied. To strike a better balance between savings, workload adaptability, and commitment risk, Nubank's FinOps team recognized the need for a more adaptable approach that blended CSPs with Convertible and Standard Reserved Instances.

However, implementing a more advanced strategy required significant oversight, particularly to manage Convertible Reserved Instances (CRIs), which are complex and time-intensive at scale. Without automation, the team lacked the bandwidth to execute and optimize such a strategy effectively.

Solution: Nubank Partners with ProsperOps for Automated Cloud Cost Optimization

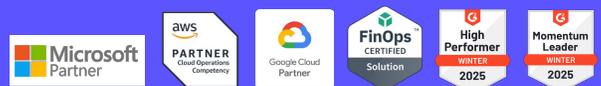
Following ProsperOps's strong performance in the proof of concept phase, Nubank adopted ADM for AWS to re-architect its approach to commitment management, shifting from a static, manual process to an autonomous, risk-aware strategy that scales with usage. Within 6 months of using ADM, Nubank saw an **11.65% increase** in its Effective Savings Rate (ESR) and a **53.59% decline in on-demand costs** from 27.8% to 12.9%, returning millions of dollars in incremental savings.



Nubank's ESR increased by 11.65% within six months of using ADM.

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Accelerating ESR and Reducing On-Demand Spend with Automation

Nubank uses ESR and incremental savings generated from ProsperOps, among other KPIs, to measure success in cloud cost management. Nubank already maintained a strong Effective Savings Rate (ESR). However, within just six months of using ProsperOps ADM, their ESR increased by 11.65%, elevating them into the top percentile of performance compared to industry peers, according to the [ESR Benchmarking Report](#). The shift was substantial, considering they were already using CSPs, Spot Instances, and some Reserved Instances, but ProsperOps automated the management of these instruments as a coordinated portfolio customized to Nubank’s environment, rather than isolated savings instruments.

Instead of relying solely on long-term CSPs, ProsperOps’ platform introduces a dynamic mix of Convertible RIs and other commitment types. This blend allows coverage to flex in response to Nubank’s intra-day, intra-week, and seasonal usage patterns, improving savings while minimizing lock-in risk and on-demand spend.

What previously required monthly analysis, historical modeling, and engineering alignment for major purchasing decisions is now handled autonomously. ProsperOps continually executes thousands of adjustments in the background, without the team needing to intervene or coordinate across teams.

“For us, ProsperOps is really helpful because it improves our savings without us having to do anything, and it takes away the effort of manual savings plan calculation and purchases.”

Thomas Hammer

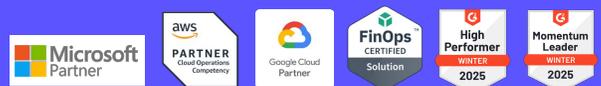
Product Ops and FinOps Lead, Nubank

Measuring Impact and Sharing with Stakeholders

The ProsperOps console brings visibility to Nubank’s cloud cost management efforts. Dashboards for Effective Savings Rate, commitment lock-in risk, incremental savings, and coverage trends help the FinOps team track progress, report impact to leadership, and guide internal budget conversations with real data.

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“ProsperOps is so easy to use and keeps driving down our on-demand spend without us having to lift a finger. The platform runs in the background, adapts automatically to usage patterns, and gives us the visibility we need to make data-driven decisions. Implementation was simple, and the Customer Success team is genuinely great to work with. I’d recommend ProsperOps to any organization looking to manage cloud costs more effectively.”

Nathalia Penzini,
Product Operations, Nubank

Optimize to Innovate: ProsperOps Adds Time Back

In addition to savings generated, ProsperOps gives the FinOps team something equally valuable: more time. With commitment management off their plate, the team can redirect its focus to higher-order initiatives, such as improving forecasting models, enhancing financial planning workflows, and supporting AI-based cost strategies.

For most Nubankers, the savings generated by ProsperOps are like an unexpected gift. They don’t have to change a single compute workload. It automatically gets cost-optimized. Engineering teams immediately benefit from reducing on-demand costs without needing to change their workloads. For them, the optimization is invisible i.e., extremely low effort and for FinOps, it’s measurable and centralized.

By removing the manual overhead, reducing on-demand costs, and increasing flexibility, ProsperOps gives Nubank a foundation that matches the scale and speed of its cloud environment.

Final Thoughts

For a company like Nubank, where efficiency directly supports financial inclusion, optimizing cloud spend is more than a cost-saving exercise—it’s a strategic enabler for scale, agility, and impact. ProsperOps helps the FinOps team scale their impact without scaling effort. With automation handling commitment execution in real time, the team now spends less time chasing coverage and more time on other FinOps initiatives.

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About **nu**

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Let ProsperOps show you what fully autonomous optimization can do.

Schedule a [Free Savings Analysis](#)

About ProsperOps

ProsperOps is the leading FinOps automation platform for cloud cost optimization on Amazon Web Services (AWS), Google Cloud, and Microsoft Azure. Eliminating waste and achieving cost-saving goals is challenging when cloud usage is elastic, but commitments are inelastic. Founded in 2018, ProsperOps reduces costs by synchronizing rate optimization with workload optimization, eliminating waste and boosting cross-team efficiency for FinOps. Our platform drives world-class Effective Savings Rates and mitigates Commitment Lock-In Risk for our customers.



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