

Revolutionizing Financial Efficiency with **Cloud Cost Optimization for a Leading Bank**

CASE STUDY



About Client
**Leading
Financial Institution**



Industry
Financial Services



Service
Cloud





Business **Need**

In the fast-paced world of finance, our client, like many other banking institutions, found itself at the crossroads of traditional infrastructure limitations. The sheer volume of transactions, coupled with the need for real-time data access, prompted the bank to seek innovative solutions. Embracing the cloud emerged as a strategic move to overcome the constraints of on-premises infrastructure, ensuring scalability, agility, and improved customer experiences. As the technological landscape and the customer expectations evolved, our client recognized the imperative to modernize its infrastructure to enhance operational

efficiency and adapt to dynamic industry trends.

This transition to the cloud represented more than a mere shift in infrastructure; it signified a paradigm shift in their approach to banking operations. The move to the cloud was driven by a vision to streamline processes, provide enhanced digital services, and stay ahead in an industry marked by rapid technological advancements. The decision to migrate was not just a technological upgrade but a strategic move to future-proof the bank against evolving market demands.

Business Challenge

Cloud adoption comes with its complexities, particularly when organizations venture into the cloud without a comprehensive understanding of the nuances involved. Our client, in its early foray into cloud computing, faced challenges that are not uncommon for enterprises transitioning to the cloud without thorough preparation.

Navigating cloud pricing models proved to be a daunting task, with the bank inadvertently overspending due to a lack of clarity on the cost implications of different service models. The complexity of understanding various pricing structures, such as PAYG, Spot Instances, Reserved Instances, and Savings Plans, led to inefficiencies in cost management and the squandering of resources.

The adoption of a lift-and-shift migration strategy, while expedient, resulted in the over-provisioning of resources. The bank found itself paying for unused or underutilized resources, inflating costs without corresponding benefits. This lack of visibility into resource utilization, combined with a failure to conduct comprehensive capacity planning, exacerbated the situation, resulting in overprovisioned or unused resources.

Moreover, the absence of efficient monitoring, accountability, and governance structures posed significant challenges. From misconfigured WAF rules to inefficient storage utilization, the bank grappled with a spectrum of issues that hindered optimal cloud usage. Here is a detailed list of challenges the client faced:



- 1. Understanding Cloud Pricing Models:** Inaccurate cost estimates due to a lack of understanding of cloud pricing models, leading to overspending.



- 2. Over-provisioning Resources:** Adoption of a lift-and-shift migration strategy resulted in the allocation of more resources than necessary, causing higher costs.



- 3. No Capacity Planning:** Failure to conduct thorough capacity planning led to overprovisioned or unused resources, increasing costs.



- 4. Inefficient Use of Discounts:** Inefficient assessment of long-term needs resulted in the inefficient purchase of reservations and savings plans, leading to wastage.



- 5. Inefficient Storage Utilization:** Failure to utilize storage options properly increased storage costs due to overprovisioned IOPS and throughput.



- 6. Not Exploring Cost-Effective Alternatives:** Failure to evaluate and adopt cost-effective alternatives prevented potential cost savings.



7. Unoptimized Databases: Lack of database optimization led to non-performant database servers and higher costs.



8. Ignoring Data Transfer Costs: Overlooking costs associated with data transfer triggered unexpected expenses.



9. Misconfigured WAF Rules: Unnecessary rule evaluations in AWS WAF added to additional costs.



10. Manual Resource Deployments: Manual deployments led to increased effort costs.



11. Unused Marketplace Software: Lack of visibility resulted in ongoing costs for unused Marketplace subscriptions.



12. Lack of Visibility and Transparency: Absence of tools and processes for cost tracking and budgeting created challenges in understanding and visualizing costs.



13. Lack of Tagging and Cost Allocation: Failure to tag resources for cost allocation hindered accurate cost attribution.

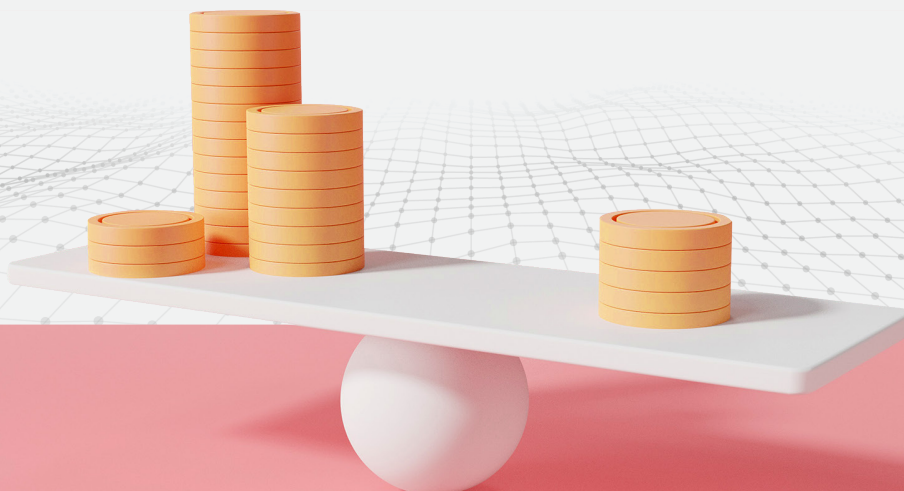


14. Failure to Set Budgets and Alerts: Absence of budget alerts resulted in uncontrolled spending.



15. Lack of Financial Governance: No clear financial governance policies led to unmanaged growth and escalating costs.

Facing challenges in managing escalating cloud costs, the client sought to optimize expenses without compromising availability, scalability, and user experience and approached NSEIT for a solution.



Business **Solution**

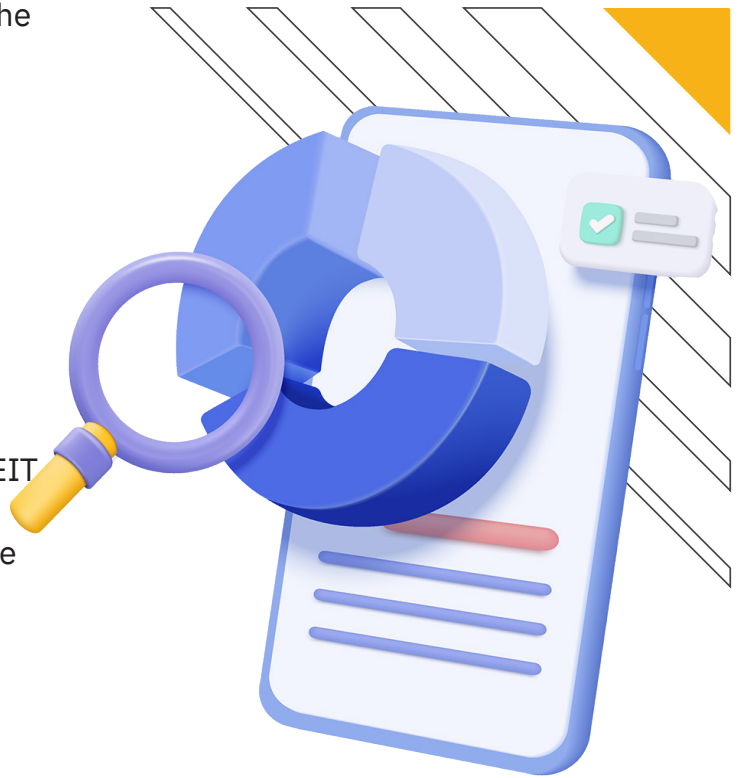
NSEIT approached the challenges that the client was facing as an opportunity to launch a comprehensive and strategic Cloud Cost Optimization initiative. The journey involved a meticulous understanding of the bank's operational landscape, combined with a tailored approach to address each challenge effectively.

To tackle the overspending and inefficiencies in resource utilization, NSEIT implemented a systematic rightsizing strategy. This involved adjusting resource allocations to match actual usage, avoiding overprovisioning and unnecessary costs. Auto-scaling and auto-shutdown mechanisms were introduced to dynamically adjust resources based on workload demands, optimizing costs during peak times and saving on compute costs during non-business hours.

Database optimization played a crucial role in enhancing performance while managing costs. NSEIT implemented strategies such as proper indexing, query optimization, efficient storage utilization, and leveraging managed database services to ensure cost-effectiveness.

The move towards cloud-native applications and services, including the strategic decoupling of applications into microservices, brought agility and cost efficiency to the forefront. This transformation not only optimized costs but also enhanced flexibility, scalability, and overall robustness.

NSEIT's implementation of data transfer



optimization strategies, efficient resource allocation, and the introduction of robust cost governance structures, including centralized FinOps, brought about a paradigm shift in cost management.

Continuous monitoring and optimization reviews, facilitated by tools like AWS Trusted Advisor, ensured ongoing efficiency gains. The introduction of Infrastructure as Code (IaC) streamlined resource provisioning, management, and decommissioning, reducing manual efforts and associated costs.

Here are key components of the NSEIT's solution:



1. Rightsizing Resources: Adjusting resource allocations to match actual usage, avoiding overprovisioning.



2. Auto-scaling and Auto-shutdown: Dynamically adjusting resources based on workload demands, optimizing costs during peak times.



3. Database Optimization: Implementing strategies for performance and cost optimization, leveraging managed database services.



4. Cloud-Native Applications and Services: Decoupling applications into microservices for improved flexibility, scalability, and cost efficiency.



5. Data Transfer Optimization: Strategically deploying resources to minimize data transfer costs.



6. Efficient Resource Allocation: Aligning instance types, storage configurations, and network options with application requirements.



7. Cost Governance: Establishing centralized FinOps, implementing cost allocation tags, and introducing show-back and chargeback reports.



8. Monitoring and Optimization: Continuous monitoring, optimization reviews, and visualization of cloud spend through cost dashboards.



9. Infrastructure as Code (IaC): Utilizing Terraform and AWS CloudFormation for automated infrastructure provisioning.

Project **Differentiators**

Strategic Decoupling: The project strategically decoupled applications, embracing microservices and serverless architectures. This not only optimized costs but also enhanced flexibility, agility, and overall robustness of the applications.

Innovative Data Tracking Technologies: Introduction of innovative data tracking technologies across the data lifecycle ensured data integrity and usability, differentiating the project from standard optimization initiatives.



Business **Impact**

The implementation of Cloud Cost Optimization yielded significant results for the client:

- ▼ **Cost Savings:** Achieved a 25% reduction in monthly cloud consumption.
- ▼ **Improved Efficiency:** Optimized resource usage without compromising performance.
- ▼ **Application and Infrastructure Optimization:** Decoupling applications and leveraging cloud-native services enhanced flexibility, agility, and overall robustness.
- ▼ **Enhanced Cost Governance:** Established a strong cost governance structure, ensuring better control and management of cloud expenses.
- ▼ **Educated Teams:** Increased awareness and understanding of cloud costs among teams, fostering a culture of financial responsibility.

In conclusion, NSEIT's expertise in navigating the intricacies of cloud adoption and its tailored solutions not only addressed the challenges our client faced but also paved the way for a resilient, agile, and cost-effective cloud infrastructure, positioning the bank for sustained success in the ever-evolving financial landscape.

About **NSEIT**

NSEIT Limited is a digital native technology company that engineers world-class solutions to help our global customers accelerate their digital transformation journeys. Our key service pillars are Application Modernization, Business Transformation, Data Analytics, Infrastructure &

Cloud Services, and Cybersecurity, through which we create intuitive digital experiences and tangible business impact. For over two decades, our innate drive for excellence has made us the partner of choice for global organizations. At NSEIT, we fuel digital progress.

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