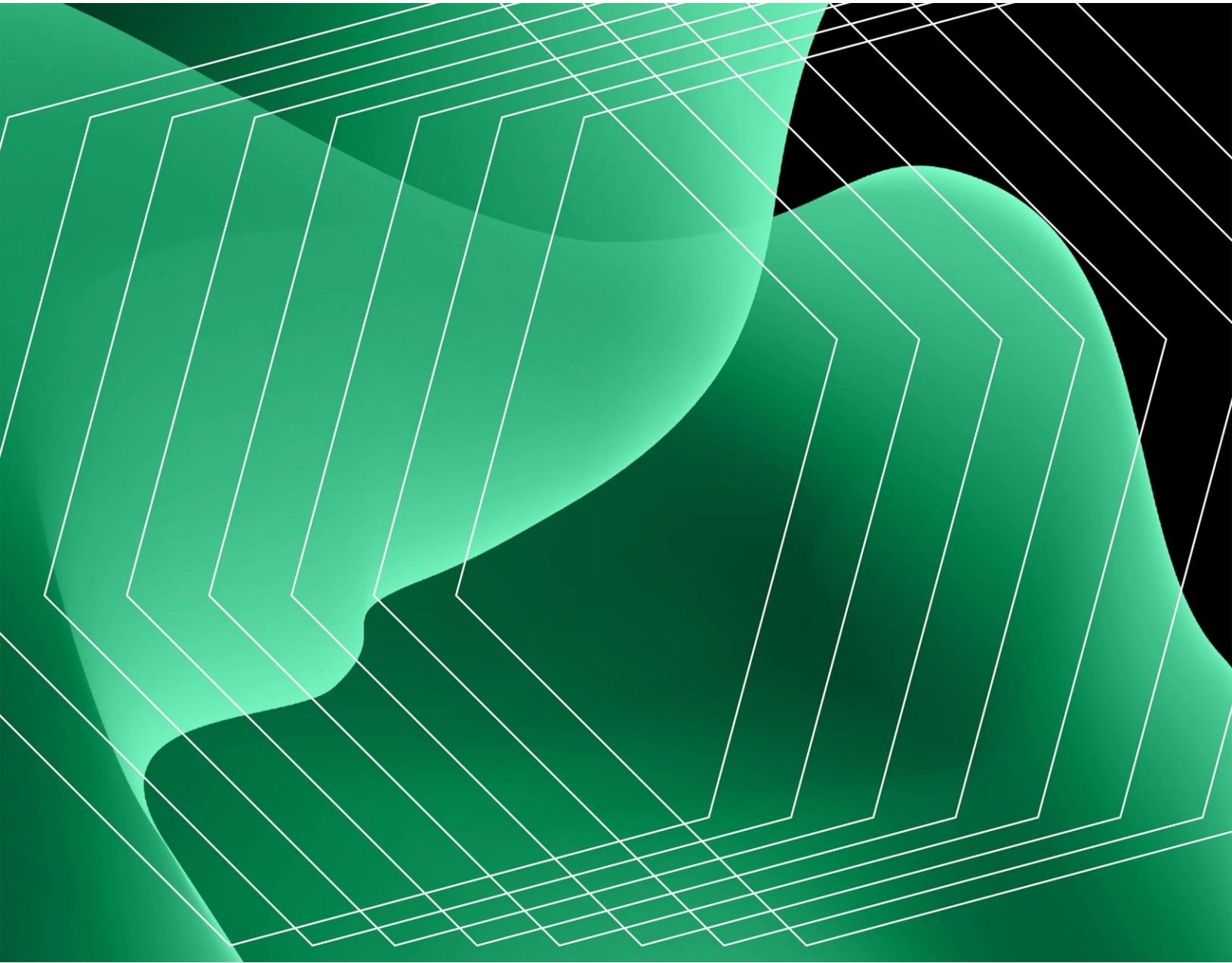
FORRESTER®

The Total Economic Impact™ Of The Snowflake AI Data Cloud

Cost Savings And Business Benefits Enabled By The Snowflake AI Data Cloud

A Forrester Total Economic Impact™ Study
Commissioned By Snowflake, October 2024



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ABOUT FORRESTER CONSULTING

Forrester provides independent and objective research-based consulting to help leaders deliver key outcomes. Fueled by our customer-obsessed research, Forrester's seasoned consultants partner with leaders to execute their specific priorities using a unique engagement model that ensures lasting impact. For more information, visit forrester.com/consulting.

Executive Summary

Organizations increasingly need an easy-to-use and scalable AI and data platform to automate infrastructure management and performance improvements so that teams can focus on completing projects and launching new products, not routine maintenance and tuning. AI is another pivotal moment for cloud; enterprises must undergo yet another refresh to understand the capabilities required and its role in their broader strategy/vision.[1]

The Snowflake AI Data Cloud provides a unique architecture that supports multiple data types, workloads, languages, and runtimes to connect businesses globally at any scale through a single engine. The Snowflake AI Data Cloud is a fully managed service with automated cluster management, maintenance, and upgrades. Regular performance improvements are also rolled out across all workloads. With Snowflake, organizations can automate costly and complex platform management and performance tuning to focus on accelerating value delivery. Snowflake delivers key business impacts by optimizing workloads across analytics, data engineering, AI/machine learning (ML), and applications to accelerate time to market, thereby driving faster revenue growth for organizations of all sizes.

Snowflake commissioned Forrester Consulting to conduct a Total Economic Impact™ (TEI) study and examine the potential return on investment (ROI) enterprises may realize by deploying the Snowflake AI Data Cloud.[2] The purpose of this study is to provide readers with a framework to evaluate the potential financial impact of the Snowflake AI Data Cloud on their organizations.

Return on investment (ROI)
354%

Net present value (NPV)
$19.45M

To better understand the benefits, costs, and risks associated with this investment, Forrester interviewed four representatives with experience using the Snowflake AI Data Cloud. For the purposes of this study, Forrester aggregated the interviewees'

experiences and combined the results into a single composite organization that is a US-based, global organization with $15 billion in annual revenue.

Interviewees said that prior to using the Snowflake AI Data Cloud, their organizations leveraged fragmented on-premises solutions. In these legacy environments, interviewees struggled with infrastructure complexity, high technology and operational costs, data silos, and limited agility, which restricted the scalability and success of their AI and data initiatives.

After the investment in the Snowflake AI Data Cloud, the interviewees consolidated their data solutions. With Snowflake, interviewees increased incremental profit from data-driven innovation, improved operating margins, streamlined data operations, and reduced legacy infrastructure licensing, hardware, and maintenance costs.

KEY FINDINGS

Quantified benefits. Three-year, risk-adjusted present value (PV) quantified benefits for the composite organization include:

- **A 6% increase in incremental revenue thanks to data-driven innovation.** The composite organization sees significant top-line revenue growth fueled by data-driven innovation. AI/ML models developed with the Snowflake AI Data Cloud lead to faster time to value, reduced customer churn, increased market share, and minimized revenue loss. Over three years, the increase in incremental profit is worth more than $5.4 million to the composite organization.
- **A 3-basis-point improvement to the operating margin due to Snowflake.** The composite organization experiences improvements in its operating margins by harnessing the Snowflake AI Data Cloud's advanced analytics and AI/ML models for more informed decision-making. The composite improves real-time customer insights, which enables better, data-driven decisions, improves supply chain management, and enhances productivity for business analysts and non-data teams like accounting, finance, and supply chain. With faster access to accurate, consolidated data, the composite optimizes its operations, reduces waste, and increases efficiencies across these departments. Over three years, the improvement in operational efficiency is worth over $6.2 million for the composite organization.

- **Faster time to value and an improvement in data engineer, data scientist, and data analyst productivity of 10% to 35%.** The adoption of the Snowflake AI Data Cloud significantly improves the productivity of data engineers, data scientists, and data analysts by streamlining and enhancing their respective workflows. Snowflake eliminates the need for data engineers to manage complex infrastructure and data integration tasks, enabling them to focus on optimizing data architecture. Data scientists benefit from consistent, reliable data sources, reducing the time they spend on data preparation and allowing them to focus on refining ML models and deriving insights. Meanwhile, data analysts gain from the Snowflake AI Data Cloud's self-service analytics capabilities, which boost productivity by enabling independent querying, data transformations, and reporting without reliance on IT. The platform's speed and easy data sharing further accelerate project timelines, driving faster time to market and enhancing overall organizational innovation. The composite organization realizes nearly $7.7 million in savings over three years.
- **Reduced infrastructure and management costs.** The Snowflake AI Data Cloud's fully managed, cloud-native architecture simplifies data operations by eliminating the need for legacy licensing costs, hardware management and refreshes, extensive configuration, planned downtime for upgrades, and other routine maintenance. By migrating to Snowflake, the composite organization retires costly and complex legacy data systems and reallocates six IT administrator roles to focus on other strategic tasks. The legacy technology and management savings are worth over $5.6 million for the composite organization.

Unquantified benefits. Benefits that provide value for the composite organization but are not quantified for this study include:

- **Improved business continuity and uptime.** The Snowflake AI Data Cloud robust architecture — including automatic failover, continuous data replication, and high availability across multiple cloud regions — reduces the risk of unplanned downtime for the composite organization compared with legacy environments.
- **Automatic performance improvements.** The composite organization automatically benefits from the regular performance improvements to query

processing and storage management that Snowflake rolls out across all workloads.

- **Proactive cost optimization.** Snowflake helps the composite organization rightsize its compute resources and deprecate unused storage, and it recommends serverless capabilities to optimize compute and storage. Combined with a pricing model that lowers costs as usage scales, these efforts help the composite more effectively manage spend and reduce waste.
- **Out-of-the-box governance and security.** Snowflake provides built-in governance and security with a unified set of capabilities that make it easy for the composite organization to protect and take immediate action on data and apps across clouds, teams, partners, and customers — both inside and outside organizations. Snowflake helps secure the composite's environment with capabilities like encryption by default, Tri-Secret Secure rotating keys, multifactor authentication, and a built-in Trust Center for security posture management.
- **Data employee uplift and retention.** Snowflake enhances the experience of data engineers, scientists, and analysts at the composite organization by reducing technical hurdles and allowing them to focus more on innovation, which improves job satisfaction and makes recruiting new talent easier.
- **Strong customer support.** Snowflake provides a high level of customer support, including effective professional services, issue resolution, and expert guidance on optimizing platform usage, which minimizes downtime and facilitates a successful implementation.

Costs. Three-year, risk-adjusted PV costs for the composite organization include:

- **Snowflake licensing costs of $3.8 million over three years.** The cost of using the Snowflake AI Data Cloud is based on a consumption-based pricing model, where organizations pay for the storage and compute resources they use. Storage costs are charged per terabyte per month, while compute costs are typically measured in credits.
- **Implementation, training, and ongoing costs of $1.7 million over three years.** Implementation costs for the Snowflake AI Data Cloud include internal labor for data migration, platform setup, and configuration. Training for data engineers, data scientists, and analysts is essential to optimize workflows, while

ongoing management requires resources for performance monitoring, data storage, and security. Continuous cost optimization is also necessary to manage operations effectively.

The representative interviews and financial analysis found that a composite organization experiences benefits of $24.9 million over three years versus costs of $5.5 million, adding up to a net present value (NPV) of $19.4 million and an ROI of 354%.

> “Snowflake has quite literally enabled us to rebuild and revolutionize our retail business, and that’s not an exaggeration.”
>
> **SENIOR MANAGER OF DATA PLATFORMS, ENERGY**

> “Before Snowflake, data was seen as a cost to the business, whereas data is now seen as a value enabler to the business. It is literally that big a change. Prior to Snowflake, a lot of senior stakeholders would regularly be in meetings debating the value of data and whether it’s worth the investment that they were making in the time, which naturally is measured in the millions. And now I no longer have those conversations. I no longer have to sit in meetings and justify why we spend millions of pounds on data.”
>
> SENIOR MANAGER OF DATA PLATFORMS, ENERGY

Return on investment (ROI)

354%

Benefits PV

$24.9M

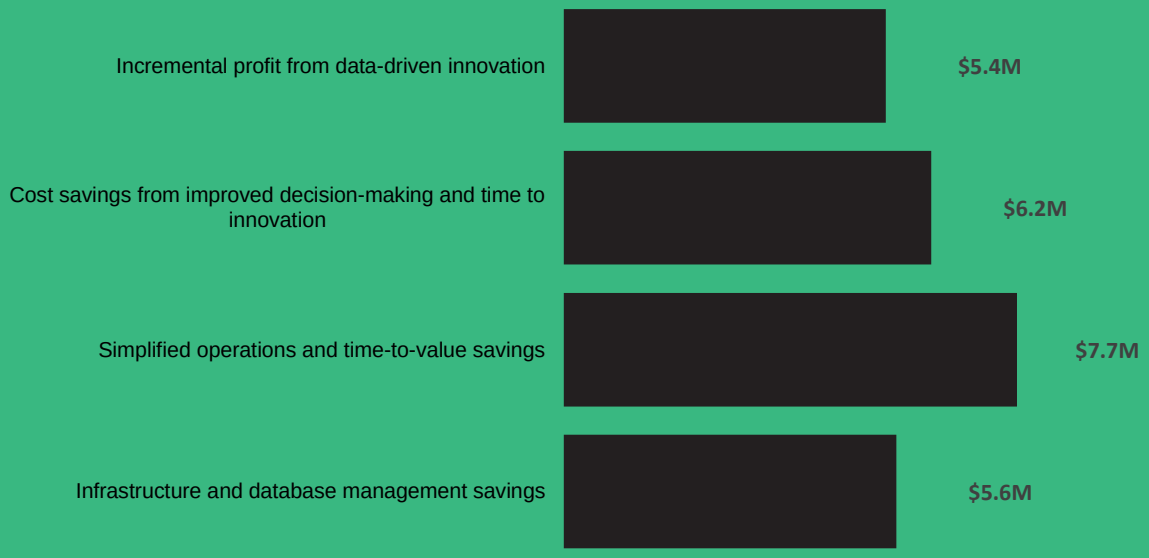
Net present value (NPV)

$19.4M

Payback

<6 months

Benefits (Three-Year)



TEI FRAMEWORK AND METHODOLOGY

From the information provided in the interviews, Forrester constructed a Total Economic Impact™ framework for those organizations considering an investment in the Snowflake AI Data Cloud.

The objective of the framework is to identify the cost, benefit, flexibility, and risk factors that affect the investment decision. Forrester took a multistep approach to evaluate the impact that the Snowflake AI Data Cloud can have on an organization.

DISCLOSURES
Readers should be aware of the following:

This study is commissioned by Snowflake and delivered by Forrester Consulting. It is not meant to be used as a competitive analysis.

Forrester makes no assumptions as to the potential ROI that other organizations will receive. Forrester strongly advises that readers use their own estimates within the framework provided in the study to determine the appropriateness of an investment in the Snowflake AI Data Cloud.

Snowflake reviewed and provided feedback to Forrester, but Forrester maintains editorial control over the study and its findings and does not accept changes to the study that contradict Forrester's findings or obscure the meaning of the study.

Snowflake provided the customer names for the interviews but did not participate in the interviews.

Due Diligence
Interviewed Snowflake stakeholders and Forrester analysts to gather data relative to the Snowflake AI Data Cloud.

Interviews
Interviewed four representatives at organizations using the Snowflake AI Data Cloud to obtain data about costs, benefits, and risks.

Composite Organization
Designed a composite organization based on characteristics of the interviewees' organizations.

Financial Model Framework
Constructed a financial model representative of the interviews using the TEI methodology and risk-adjusted the financial model based on issues and concerns of the interviewees.

Case Study
Employed four fundamental elements of TEI in modeling the investment impact: benefits, costs, flexibility, and risks. Given the increasing sophistication of ROI analyses related to IT investments, Forrester's TEI methodology provides a complete picture of the total economic impact of purchase decisions. Please see Appendix A for additional information on the TEI methodology.

The Snowflake AI Data Cloud Customer Journey

Drivers leading to the Snowflake AI Data Cloud investment

Interviews			
Role	**Industry**	**Region**	**Annual revenues**
Director of data intelligence	Food services	US	$35 billion
Director of global data and analytics	Mining	US HQ, Global	$20 billion+
Senior director of data engineering and analytics	Financial services	US HQ, Global	$10 billion
Senior manager of data platforms	Energy	UK	$10 billion+

KEY CHALLENGES

Prior to their investment in the Snowflake AI Data Cloud, interviewed decision-makers leveraged multiple on-premises and open-source data solutions. These multiple siloed data warehousing solutions presented common challenges for interviewees' organizations, including:

- **Complex infrastructure.** Disparate legacy systems were often difficult to administer, requiring specialized knowledge and resources to manage each tool individually. The lack of integration among systems led to data silos, hindering interviewees' ability to get a unified view of their organization's data, which complicated decision-making and analysis. Building, maintaining, and supporting these fragmented environments also demanded substantial effort and coordination, increasing the risk of errors, inefficiencies, and operational bottlenecks. This fragmented approach slowed down innovation, escalated costs, and reduced organizations' agility in responding to business needs. The senior manager of data platforms at an energy company said: "By having data spread

across multiple solutions, it led to multiple challenges …. We had multiple solutions that we needed to administer, build, maintain, and support. Then we had the challenges of competency because we had so many different technologies supporting data platforms that it's hard to find people with the necessary skills and then to upskill people internally to support it all. You then had the data quality and accuracy challenges because you didn't have a consistent version of the truth."

> "We had sizable operations and DBA who were managing [our legacy] platform. We knew that [our legacy solution] was not working well for us and needed to move to a platform that was not only high performing but scalable. We wanted to consolidate everything onto one platform for data warehouse. It was [an] easy decision for us to move to Snowflake."
>
> SENIOR DIRECTOR OF DATA ENGINEERING AND ANALYTICS, FINANCIAL SERVICES

- **Scalability issues.** Interviewees often faced difficulties scaling their data operations in legacy environments. As data volumes grew, they struggled with the limitations of on-premises infrastructure, which required costly and time-consuming hardware upgrades to accommodate increased demand. The process of scaling up was cumbersome and often involved complex configurations and prolonged downtime, which hindered business agility. Additionally, these legacy systems couldn't easily adapt to the rapidly evolving needs of interviewees' organizations, leading to performance bottlenecks and inefficiencies. Decision-

makers within the organizations worried about the impact on users of long query times and breaches of internal and external service-level agreements (SLAs).

- **High technology and operational costs.** Interviewees said self-managed on-premises data solutions incurred high costs that extended beyond their initial purchase prices, including ongoing expenses for licensing, hardware, networking, and support. These costs escalated as systems aged and required frequent upgrades or custom modifications to keep up with evolving business needs. Moreover, organizations relied on internal and external specialized personnel to manage these complex systems, adding to the overall expense. The director of global data and analytics at a mining organization said: "[In our prior environment] we had the classic problems with both on-prem and a bifurcated environment. We didn't have the ability to scale up and scale down based on workload size. We all know when data scientists are training models, they can quickly ramp a lot of capacity up and then need to ramp it down because once you've trained the model, you no longer need it. It was very costly and ineffective. If I did have to install capacity, I would have to pay for that capacity at peak loads whether I [was] using it or not."

> "There were a ton of gaps in supporting architecture [before Snowflake]. It took us a long time to get things up and running and working, and we ended up spending a lot of money on expensive consultants."
>
> DIRECTOR OF GLOBAL DATA AND ANALYTICS, MINING

- **Data silos and integration challenges.** As mentioned above, interviewees frequently encountered difficulties with data silos and integration challenges.

Their data was often scattered across multiple on-premises systems, each with its own architecture and format, making it nearly impossible to achieve a unified view of their information. This fragmentation led to inconsistencies and redundancies, hindering user productivity, the user experience, and stakeholder trust. Integrating these disparate systems was a complex, time-consuming process that required significant manual effort and often resulted in delayed insights. The lack of seamless data sharing and collaboration across organizations stifled innovation, impeded decision-making, and created operational inefficiencies, preventing them from fully leveraging their data assets. The senior manager of data platforms at an energy organization said: "We had a lack of trust from the stakeholders because of the inconsistencies in the data setup and challenges with availability and accessibility. Our end users would typically have to navigate to half a dozen places to get the data they needed, and that led to barriers and silos and presented challenges to enable things like machine learning."

> "[Before Snowflake] we constantly found ourselves moving data back and forth between the two environments so that we could get the full picture in our downstream applications. That was very inefficient and very resource intensive to manage."
>
> DIRECTOR OF GLOBAL DATA AND ANALYTICS, MINING

- **Limited agility and time to value.** Prior to Snowflake, interviewees often struggled with limited agility and slow time to value for their data analytics and AI/ML use cases. The rigid infrastructure of on-premises systems made it difficult to quickly adapt to new data requirements or scale resources to meet the

demands of complex analytics and AI/ML. Data engineers and scientists faced long lead times to access and prepare data, hampering their ability to experiment and iterate rapidly. The process of provisioning resources for new projects was cumbersome; it often involved lengthy approval cycles and manual configurations, which delayed the start of initiatives. These constraints slowed the pace at which insights could be generated and acted upon, reducing the overall impact of data efforts. The senior manager of data platforms at an energy organization said: “We had so many different technologies, and all these barriers meant that [we] would occasionally breach some critical SLAs. Our ability to support key metrics in the organization was hindered by the fact that we didn’t have an optimal data platform.”

> “Prior to [Snowflake], we had SQL Developer where it took 45 minutes to run a query potentially and our SQL users were restricted to IT. When we selected Snowflake, part of the use case was that we could now open up the SQL development. It doesn’t have to live in IT, it can now be one step closer to the business, so you have folks that are interacting with business users every day also writing the code. That was a huge benefit.”
>
> DIRECTOR OF DATA INTELLIGENCE, FOOD SERVICES

SOLUTION REQUIREMENTS

The interviewees' organizations searched for a solution that could:

- **Provide cost efficiencies.** The director of data intelligence at a food services organization said: "Snowflake is easy and it's flexible, that's why we picked it. It was affordable, easy, very flexible in terms of the ability to connect to a lot of different front-end tools. I don't think we had the foresight to know just how ubiquitous Snowflake would become. That was lucky."
- **Improve agility and time to value.** The director of global data and analytics at a mining organization said: "[Snowflake] was part of a larger transformation to support data-driven innovation in our operations at a pace that made sense for our business. … [Our investment decision] was really around their ability to parallelize loads and help scale compute dynamically based on the workloads that I need to achieve. … I can store it once in the environment, and then I can bring compute up and down based on the workload from the SLAs."
- **Simplify data management.** The senior manager of data platforms at an energy organization said: "The challenge we had with our previous platform was our lack of ability to scale compute and storage independently of each other, and that led to the bottom of the bottlenecks. What stood out for us with Snowflake was the fact that it is being built from birth as a cloud-native platform. The architecture was compelling to us because of this scalability with regards to compute and storage being scalable separately. Other things that stood out for us with Snowflake is its volume of integration with other technologies, vendors, and our solutions stack … the direction they were clearly set on with regards to ML and data science and AI adoption."
- **Improve scalability and performance.** The senior director of data engineering and analytics at a financial services organization said: "The number one thing for us was scalability. We were able to get [an] infinite kind of storage as we load a huge amount of data on a daily basis. We load almost 100-plus terabytes a day onto our [business] platform. We wanted to have a platform which is scalable and without worrying about the cost and also … available to us without going to [the] operations team or others."

- **Improve data sharing and collaboration.** The senior director of data engineering and analytics at a financial services organization said: “Another one of the biggest draws to Snowflake is the concurrency and making sure that the read and write can happen at the same time. We rarely hear any noise from end users saying that my query is not running or running slow. That’s because they never get affected by other queries or other loads.”
- **Ensure strong data security and governance.** The senior manager of data platforms at an energy organization said: “We’ve got hundreds of terabytes of data in our data platform and in some tables, hundreds of billions of rows of data. We didn’t see anything that would concern us with regards to how [Snowflake] would support our business objectives. We also were aware of its security postures, the ability for it to be set up in AWS according to our security setup. It met all of our requirements around things like encryption.”

> “The ability to bring massive amounts of parallel computing power to a problem and scale up effortlessly at the click of a button or even automatically and then have that capacity scale back down is really the power of the platform. That’s what we value because depending on the problems we’re solving and the types of solutions we’re developing, we can have major spikes in compute needs and then it drops back down. That’s where Snowflake shines.”
>
> DIRECTOR OF GLOBAL DATA AND ANALYTICS, MINING

COMPOSITE ORGANIZATION

Based on the interviews, Forrester constructed a TEI framework, a composite company, and an ROI analysis that illustrates the areas financially affected. The composite organization is representative of the four interviewees, and it is used to present the aggregate financial analysis in the next section. The composite organization has the following characteristics:

Description of composite. The composite organization is a US-based organization with global operations that generates $15 billion in annual revenue. The composite has a robust data program that seeks to uncover new insights from AI/ML models to increase revenue and optimize costs.

Deployment characteristics. Prior to the Snowflake AI Data Cloud, the composite organization used multiple on-premises legacy solutions that introduced fragmentation, technological complexity, and high costs. The composite organization begins consolidating its data analytics and AI/ML needs onto the Snowflake AI Data Cloud in Year 1, following a nine-month implementation period. The composite continues to expand usage and proficiency in Snowflake for a year following the initial rollout and achieves a steady, proficient state in Year 2. The composite employs 15 data engineers, 30 data scientists, and 200 business analysts across data teams in various functions who use Snowflake.

Key Assumptions

$15 billion revenue

US HQ, global operations

15 data engineers

30 data scientists

200 business analysts

Analysis Of Benefits

Quantified benefit data as applied to the composite

Total Benefits						
Ref.	**Benefit**	**Year 1**	**Year 2**	**Year 3**	**Total**	**Present Value**
Atr	Incremental profit from data-driven innovation	$1,377,000	$2,363,850	$2,978,451	$6,719,301	$5,443,168
Btr	Cost savings from improved decision-making and time to innovation	$1,188,000	$2,970,000	$3,564,000	$7,722,000	$6,212,231
Ctr	Simplified operations and time-to-value savings	$2,419,369	$3,462,750	$3,462,750	$9,344,869	$7,662,819
Dtr	Infrastructure and database management savings	$1,865,835	$2,487,780	$2,487,780	$6,841,395	$5,621,336
	Total benefits (risk-adjusted)	$6,850,204	$11,284,380	$12,492,981	$30,627,565	$24,939,554

INCREMENTAL PROFIT FROM DATA-DRIVEN INNOVATION

Evidence and data. Interviewees at organizations that adopted the Snowflake AI Data Cloud said they saw significant top-line revenue growth fueled by data-driven innovation. They optimized key areas such as product marketing and sales, supply chain, and mining production. This led to faster time to value, reduced customer churn, increased market share, and minimized revenue loss via algorithms that avoided stock-outs and expedited shipping costs. Snowflake also enabled their organizations to create new data-sharing products for their customers, generating net-new revenue. This agility and enhanced data insight helped develop new revenue streams and optimize existing ones, directly driving profitability. Interviewees provided the following evidence.

- A food services organization leveraged Snowflake to build models that optimized the supply chain and expanded sales processes. On the supply chain front, the food services organization reduced revenue loss from stock-outs, expedited shipping costs, and reduced inventory loss. On the sales side, the organization reduced customer churn by 4.5%, translating to $18.5 million in profit — $925,000 of which it attributed to Snowflake. In total, the organization increased case volume by 2.3%, translating to a $55 million increase in profits — $2.8

million of which it directly attributed to Snowflake. The director of data intelligence summarized the total impact: “If we’re improving in our market share, that’s a direct relationship to the insights that we’re able to provide to our sellers to flag opportunities and risks [using Snowflake]. In terms of a value, we estimated almost $3 million with the ability to provide some of that customer experience.”

- A mining organization leveraged Snowflake to create models that optimized mining production, improved time to value for new insights, and reduced reliance on expensive third-party consultancies, leading to over $360 million in increased revenues — $74.5 million of which it attributed to Snowflake. The interviewee explained: “Snowflake gave us the ability to grab data from the field, stream it into an analytics environment in near real time, and then bring the compute power to actually analyze and run it through an optimization engine such that you can deliver that insight. … Snowflake, combined with other technologies, allowed us to import 11 billion data points from sensors across the globe per day into Snowflake and be ready for analysis in less than 5 minutes. … It took us eight weeks to do that in the previous architecture, and now I can deliver that in 5 minutes.”
- An energy organization improved the time to value of releasing data science products faster; examples included providing financial vulnerability models to target specific segments of its customer base with more appropriate products as well as models that improved customer targeting and marketing. The senior manager of data platforms said: “[There is] definitely time to value because if we can release data science products and machine learning products quicker, it means that we can realize value quicker because the pipeline to success is a lot quicker.”

> “The business benefits are just so diverse in terms of negotiating costs with vendors and being able to look at your rebates, freight components, and costs … looking at both the product costs and the operational expenses together to provide a holistic recommendation for RFPs. That saves the company millions and millions of dollars every year. That’s a huge business benefit in terms of our vendor negotiations, in terms of the time savings to deliver insights, [and a] huge benefit in terms of our employee satisfaction.”
>
> DIRECTOR OF DATA INTELLIGENCE, FOOD SERVICES

Modeling and assumptions. Based on the interviews, Forrester assumes the following about the composite organization:

- $450,000,000 or 3% of the composite’s $15 billion in annual revenue is addressable with data-driven innovation in year 1.
- The Snowflake AI Data Cloud drives a 3% to 6% impact on incremental revenue from Years 1 to 3 due to improved data-driven decision-making, new revenue streams from data sharing and marketplaces, faster innovation and time to market, and improved customer experience and insights.
- Year 2 and 3 total addressable business opportunities incorporate the prior year’s additional revenue generated with Snowflake.
- The composite organization has an operating margin of 12%.

Risks. Forrester recognizes that these results may not be representative of all experiences. The impact of this benefit will vary depending on:

- The scope and scale of the Snowflake AI Data Cloud implementation.
- The organization's data management maturity and expertise.
- The organization's technical maturity and expertise.
- The number and quality of addressable use cases for data innovation.
- Economic pressures, competition, customer demand, and industry-specific risks.

Results. To account for these risks, Forrester adjusted this benefit downward by 15%, yielding a three-year, risk-adjusted total PV (discounted at 10%) of $5.4 million.

6%

Increase in incremental revenue addressable with data-driven innovation

Incremental Profit From Data-Driven Innovation					
Ref.	**Metric**	**Source**	**Year 1**	**Year 2**	**Year 3**
A1	Addressable business opportunity to grow with data-driven innovation	Composite+A3PY	$450,000,000	$463,500,000	$486,675,000
A2	Percentage of revenue increase due to the Snowflake AI Data Cloud	Interviews	3.0%	5.0%	6.0%
A3	Incremental revenue due to the Snowflake AI Data Cloud	A1*A2	$13,500,000	$23,175,000	$29,200,500
A4	Operating margin	Composite	12%	12%	12%
At	Incremental profit from data-driven innovation	A3*A4	$1,620,000	$2,781,000	$3,504,060
	Risk adjustment	↓15%			
Atr	Incremental profit from data-driven innovation (risk-adjusted)		$1,377,000	$2,363,850	$2,978,451
	Three-year total: $6,719,301			**Three-year present value: $5,443,168**	

COST SAVINGS FROM IMPROVED DECISION-MAKING AND TIME TO INNOVATION

Evidence and data. Interviewees' organizations experienced improvements in their operating margins by harnessing the Snowflake AI Data Cloud's advanced analytics and AI/ML models for more-informed decision-making. Specifically, interviewees saw value in areas such as real-time customer insights, which enabled them to make better, data-driven decisions; improved supply chain management, which allowed proactive customer order management and optimized shipping costs; and enhanced productivity for business analysts and non-data teams like accounting, finance, and supply chain. With faster access to accurate, consolidated data, interviewees' organizations optimized their operations, reduced waste, and increased efficiencies across these departments. This data-driven approach led to notable improvements in their operating margins. Interviewees provided the following evidence.

- A food services organization used Snowflake to create workflows and applications that optimized supply chain, operations, and customer satisfaction. The organization avoided revenue loss from stock-outs, expedited shipping costs, and reduced warehouse labor and loss-of-inventory costs — leading to savings of between $8 million and $16 million in operating costs. The director of data intelligence gave one example of how they automated supply chain reporting: "Before Snowflake, we had very limited access to our supply chain metrics. Every single supply chain dimension and metric had to be downloaded so that it can be used out of the systems themselves. With Snowflake, we migrated that data into a database and automated all of that. Instead of having to calculate customer profitability using all the Excel files, we can just reference tables and views instead."
- A mining organization leveraged Snowflake to create an auditable calculation engine that streamlined finance and accounting workflows, replacing manual, spreadsheet-based processes. Tasks that once took 1.5 hours in Excel were completed in minutes with Snowflake, reducing risk, minimizing errors, and speeding up insights. This improved auditing capabilities and boosted the productivity of 16 accountants by 10%, saving over $700,000 in three years. The organization also automated reporting for security and governance, efficiently meeting the Sarbanes-Oxley Act (SOX) compliance requirements.

- A financial services organization used Snowflake for back-office reporting across sales, operations, marketing, and more. Snowflake was used to support regulatory reporting for over 15 global regulators, improving SLAs and avoiding fines. The organization also used Snowflake to improve its on-time customer billing, which enhanced operational efficiency and reduced risk.

Modeling and assumptions. Based on the interviews, Forrester assumes the following about the composite organization:

- The composite organization's total operating expenditure is 88% of its revenue.
- Snowflake enhances operating margins by 1 to 3 basis points by streamlining workflows in core business functions like finance and accounting and optimizing costs in areas like supply chain management.

Risks. Forrester recognizes that these results may not be representative of all experiences. The impact of this benefit will vary depending on:

- The scope and scale of the Snowflake AI Data Cloud implementation.
- The organization's data management maturity and expertise.
- The organization's technical maturity and expertise.
- The number and quality of addressable use cases for cost savings.
- Economic pressures, competition, customer demand, and industry-specific risks.

Results. To account for these risks, Forrester adjusted this benefit downward by 10%, yielding a three-year, risk-adjusted total PV (discounted at 10%) of $6.2 million.

> **3 basis points**
>
> Improvement to the operating margin due to the Snowflake AI Data Cloud

Cost Savings From Improved Decision-Making And Time To Innovation					
Ref.	**Metric**	**Source**	**Year 1**	**Year 2**	**Year 3**
B1	Operating expenditures	$15 billion revenue*88% operating expense	$13,200,000,000	$13,200,000,000	$13,200,000,000
B2	Percentage improvement to operating margin due to the Snowflake AI Data Cloud	Interviews	0.010%	0.025%	0.030%
Bt	Cost savings from improved decision-making and time to innovation	B1*B2	$1,320,000	$3,300,000	$3,960,000
	Risk adjustment	↓10%			
Btr	Cost savings from improved decision-making and time to innovation (risk-adjusted)		$1,188,000	$2,970,000	$3,564,000
	Three-year total: $7,722,000		**Three-year present value: $6,212,231**		

SIMPLIFIED OPERATIONS AND TIME-TO-VALUE SAVINGS

Evidence and data. Interviewees told us that the adoption of the Snowflake AI Data Cloud significantly improved productivity across data engineering, data science, and data analysis by streamlining and enhancing these teams' respective workflows.

- Data engineers saw Snowflake eliminate the need to manage complex infrastructure and hardware, automate processes through robust data pipelines, and remove the burden of complex data integration tasks. With automatic scaling, data engineers no longer had to worry about infrastructure limitations, allowing them to handle increasing workloads seamlessly and focus on optimizing data architecture rather than routine maintenance.
- Data scientists benefited from Snowflake's data platform, which provided consistent and reliable data sources as well as reducing the time spent resolving data inconsistencies and managing disparate data sets. This allowed data scientists to focus more on developing and refining ML models and deriving actionable insights, rather than being bogged down by data preparation challenges.
- Data analysts experienced a significant boost in productivity with Snowflake's self-service analytics capabilities. The platform allowed them to independently write queries, perform data transformations, and create reports and visualizations

without relying on IT or data engineering teams. The platform's querying performance enabled the efficient execution of complex analytical queries, cutting querying times from dozens of minutes to mere seconds in several cases. The ability to easily share data and collaborate with external partners or customers further enhanced their efficiency and business impact. As a result, these teams were able to accelerate project timelines, reduce time to market for data-driven initiatives, and contribute more effectively to organizational goals, thereby enhancing their overall productivity and innovation capacity.

Interviewees provided the following evidence.

- An energy organization improved the productivity of its data engineers and scientists by 20% to 30%. The senior manager of data platforms estimated: "The FTE productivity went up to about 20% to 30% especially in the data engineer and data science base. … There's only one platform and one set of skills they need in order to administer and build on the platform. The pipeline architecture is simplified. Snowflake supports technologies that integrate easier with the platform. Our need to build a lot of code and onboard data is vastly minimized."
- A financial services organization realized a $650,000 improvement in analytics efficiency benefits.
- A food services organization saved 10 full-time equivalents (FTEs) in analyst roles and expected further savings in the future.
- A mining organization saved the labor of one FTE by reducing the cognitive and skill demand of using multiple legacy solutions. The director of global data and analytics said: "If I remove one of those [legacy] environments, I've reduced the [data teams'] cognitive load, I've reduced the number of skill sets they need, I've reduced the inefficiency that comes along with moving between environments and understanding how to use them. When you think about all those minutes, seconds, hours that you lose there over the course of a year, over the course of a workforce of our size, you get the one FTE."

Modeling and assumptions. Based on the interviews, Forrester assumes the following about the composite organization:

- The composite organization saves 25% to 35% of data engineers' time over three years. The average fully burdened annual salary for a data engineer is $162,000.

- The composite organization saves 10% to 20% of data scientists' time over three years. The average fully burdened annual salary for a data scientist is $155,250.
- Data engineers and scientists recapture 75% of time savings for other productive tasks.
- The composite organization saves 15% to 20% of data analysts' time over three years. The average fully burdened annual salary for a data analyst is $125,550.
- Data analysts recapture 50% of time savings for other productive tasks.

Risks. Forrester recognizes that these results may not be representative of all experiences. The impact of this benefit will vary depending on:

- The scope and scale of the Snowflake AI Data Cloud implementation.
- The organization's data management maturity and expertise.
- The organization's technical maturity and expertise.
- The number and quality of addressable use cases for data innovation.
- Economic pressures, competition, customer demand, and industry-specific risks.

Results. To account for these risks, Forrester adjusted this benefit downward by 10%, yielding a three-year, risk-adjusted total PV (discounted at 10%) of $7.7 million.

> "The build and maintenance effort been significantly lowered because the simplification of the architecture and the data being in one single source of the truth means one single source of engineering. That's the main benefit for us."
>
> SENIOR MANAGER OF DATA PLATFORMS, ENERGY

35%

Data engineer time savings with the Snowflake AI Data Cloud

Simplified Operations And Time-To-Value Savings					
Ref.	**Metric**	**Source**	**Year 1**	**Year 2**	**Year 3**
C1	Number of data engineers	Composite	15	15	15
C2	Data engineer time savings with the Snowflake AI Data Cloud	Interviews	25%	35%	35%
C3	Fully burdened annual salary for a data engineer	Composite	$162,000	$162,000	$162,000
C4	Data engineer and data scientist productivity recapture rate	TEI Standard	75%	75%	75%
C5	Subtotal: Data engineer time savings with the Snowflake AI Data Cloud	C1*C2*C3*C4	$455,625	$637,875	$637,875
C6	Number of data scientists	Composite	30	30	30
C7	Data scientist time savings with the Snowflake AI Data Cloud	Interviews	10%	20%	20%
C8	Fully burdened annual salary for a data scientist	Composite	$155,250	$155,250	$155,250
C9	Subtotal: Data scientist productivity lift with the Snowflake AI Data Cloud	C6*C7*C8*C4	$349,313	$698,625	$698,625
C10	Number of data analysts	Composite	200	200	200
C11	Data analyst time savings with the Snowflake AI Data Cloud	Interviews	15%	20%	20%
C12	Fully burdened annual salary for a data analyst	Composite	$125,550	$125,550	$125,550
C13	Data analyst productivity recapture rate	TEI Standard	50%	50%	50%
C14	Subtotal: Data analyst productivity lift with the Snowflake AI Data Cloud	C10*C11*C12*C13	$1,883,250	$2,511,000	$2,511,000
Ct	Simplified operations and time-to-value savings	C5+C9+C14	$2,688,188	$3,847,500	$3,847,500
	Risk adjustment	↓10%			
Ctr	Simplified data operations and time-to-value savings (risk-adjusted)		$2,419,369	$3,462,750	$3,462,750
	Three-year total: $9,344,869			**Three-year present value: $7,662,819**	

INFRASTRUCTURE AND DATABASE MANAGEMENT SAVINGS

Evidence and data. The Snowflake AI Data Cloud fully managed, cloud-native architecture simplified data operations by eliminating the need for legacy licensing costs, hardware management and refreshes, extensive configuration, planned downtime for upgrades, and other routine maintenance. Interviewees said their organizations retired costly and complex legacy data systems, which previously required extensive resources for maintenance and upgrades. As a result, their organizations reassigned IT and database administrators to other strategic tasks. Interviewees provided the following evidence.

- A financial services organization reallocated five to seven FTEs who were supporting its legacy environment and avoided a $10 million hardware refresh investment by moving to Snowflake. The senior director of data engineering and analytics said: “I had one full-time resource who was just managing all the database administration work for [one of our legacy solutions], but for [the other legacy solution], we had at least five to seven people who had to be reallocated to other tasks.” The senior director later stated, “We were very close to having to refresh the whole platform hardware, which would have been a $10 million investment for us … if we didn’t move to Snowflake.”
- The senior director of data engineering and analytics at the financial services organization also spoke to the extensibility and ease of integrating newly acquired companies: “When we acquire companies, we are very easily able to bring them onto a single platform, which reduces my overall resource costs in the sense that [the] same resources … you are managing can manage the existing [ones] without any further training. All my analytical tools can connect to our data warehouse in one single way. We didn’t have to find new connections. Ninety percent of our analytical work runs on Snowflake data cloud so that we don’t need to always find how to connect to new sources.”
- An energy organization replaced its legacy homegrown open-source, on-premises, and cloud-native solutions, saving $750,000 to $1 million annually.
- A mining organization replaced two legacy on-premises and cloud solutions, saving a total of $1 million over three years and one FTE of support labor by moving to Snowflake.

Modeling and assumptions. Based on the interviews, Forrester assumes the following about the composite organization:

- The composite organization spends $2,100,000 annually on software and infrastructure costs for legacy solutions before Snowflake.
- The composite organization decommissions 75% of its legacy environment in Year 1 and fully decommissions its legacy environment in Years 2 and 3.
- The composite organization reallocates six database administrator FTEs who previously managed the on-premises infrastructure and technology.

Risks. Forrester recognizes that these results may not be representative of all experiences. The impact of this benefit will vary depending on:

- The scope and scale of the Snowflake implementation.
- The organization's data management maturity and expertise.
- The organization's technical maturity and expertise.
- The legacy solutions used and their costs.

Results. To account for these risks, Forrester adjusted this benefit downward by 10%, yielding a three-year, risk-adjusted total PV (discounted at 10%) of $5.6 million.

6 IT and database administrator FTEs

Saved from legacy infrastructure management

> “We saved a lot of time, effort, and money on making sure that we don’t spend anything on maintenance. There’s no operational cost for us. The upgrades are taken care [of] by Snowflake, and our risks are lower because we feel that Snowflake has fully tested new releases. But the biggest … benefit which you get is scalability and concurrency.”
>
> SENIOR DIRECTOR OF DATA ENGINEERING AND ANALYTICS, FINANCIAL SERVICES

> “[Snowflake is] wholly hosted and managed by the vendor, and we just consume the services. They solve the repetitive problems and manage that environment. We want to take the cognitive load off our workforce and focus on strategic value to the company and to help solve problems. When you get a vendor like Snowflake that comes in and manages that service for you and evolves it, that allows us to just spend the majority of our cognitive load solving business problems.”
>
> DIRECTOR OF GLOBAL DATA AND ANALYTICS, MINING

Infrastructure And Database Management Savings					
Ref.	**Metric**	**Source**	**Year 1**	**Year 2**	**Year 3**
D1	Legacy infrastructure and software costs	Interviews	$2,100,000	$2,100,000	$2,100,000
D2	Percentage of legacy infrastructure and software decommissioned due to the Snowflake AI Data Cloud	Composite	75%	100%	100%
D3	Subtotal: Avoided infrastructure and software costs	D1*D2	$1,575,000	$2,100,000	$2,100,000
D4	Reallocated IT and database administrator FTEs required to support legacy systems	Interviews	6	6	6
D5	Fully burdened annual salary for an IT and database administrator FTE	Composite	$110,700	$110,700	$110,700
D6	Subtotal: Avoided administration, maintenance, and support costs	D4*D5*D2	$498,150	$664,200	$664,200
Dt	Infrastructure and database management savings	D3+D6	$2,073,150	$2,764,200	$2,764,200
	Risk adjustment	↓10%			
Dtr	Infrastructure and database management savings (risk-adjusted)		$1,865,835	$2,487,780	$2,487,780
	Three-year total: $6,841,395		**Three-year present value: $5,621,336**		

UNQUANTIFIED BENEFITS

Interviewees mentioned the following additional benefits that their organizations experienced but were not able to quantify:

- **Improved business continuity and uptime.** The risk of unplanned downtime in a data platform solution can lead to significant disruptions to business operations, data accessibility issues, and potential loss of revenue, highlighting the importance of reliable and resilient systems. With Snowflake, interviewees avoided more unplanned outages than in their legacy environments; they noted the platform's robust architecture, which includes features like automatic failover, continuous data replication, and high availability across multiple cloud regions. Snowflake's real-time monitoring helped detect and address potential issues before they escalated, ensuring consistent uptime. Snowflake's proactive customer support and regular updates also helped maintain system stability, reducing the risk of unexpected disruptions. The senior manager of data platforms at an energy organization said: "Snowflake gives you options when it comes to maintaining high availability, such as cross-region failover and

database replication. When it comes to recovering from disaster, we can take advantage of features such as zero copy cloning."

A financial services organization avoided 8 to 16 outage hours annually with Snowflake. Each legacy outage would impact and decrease the productivity of 50 direct users who needed to generate reports and 100 users of integrated business intelligence tools in their workflows. Remediating legacy outages also consumed 100% of the time for six to eight technical resources. A mining company avoided 8 hours of annual unplanned outages, which caused a $200,000 revenue loss annually and a 10% productivity loss for 500 users during those 8 hours.

- **Automatic performance improvements.** Interviewees automatically benefited from the regular performance improvements to query processing and storage management that Snowflake rolled out across all workloads. The senior director of data engineering and analytics at a financial services organization said: "Since we went live, Snowflake has reduced the cost of our compute. They have reduced the cost of storage. The overall benefit that we are getting [from] Snowflake has actually gone up. In addition, our efficiency ratio is around 87% to 96% of our utilization of our warehouse, which is basically the compute. We have made a lot of effort to run it more efficiently."
- **Proactive cost optimization.** Snowflake allowed interviewees to rightsize their compute resources, deprecate unused storage, and recommend serverless capabilities to optimize compute and storage. Combined with a pricing model that lowers costs as usage scales, these efforts helped interviewees more effectively manage spend and reduce waste.

> "We get more value with the same credit with discounts and optimization efforts. We were able to reduce [Snowflake] costs by optimizing [our] code base and workflows. It is easily a 20% reduction in cost year over year, driven by storage cost discount as well as internal optimization. Snowflake has improved their performance on their own from 2% to 5% every software release, but it was mostly constantly optimizing our internal efforts."
>
> SENIOR DIRECTOR OF DATA ENGINEERING AND ANALYTICS, FINANCIAL SERVICES

- **Out-of-the-box governance and security.** Snowflake's built-in governance and security with a unified set of capabilities made it easy for interviewees' organizations to protect and take immediate action on data and apps across clouds, teams, partners, and customers — both inside and outside their organizations. Snowflake helped secure their environments with capabilities like encryption by default, Tri-Secret Secure rotating keys, multifactor authentication, and a built-in Trust Center for security posture management. The director of global data and analytics at a mining organization said: "From a security perspective, Snowflake integrates into our Azure environment very seamlessly. We recently went through a large security incident, and Snowflake was one of the systems that was not touched at all during that incident. There were no unauthorized breaches. From a data governance perspective, we utilize a lot of Snowflake's features around tagging, commenting, etc., within that environment."

  The senior manager of data platforms at an energy organization said: "Snowflake has given us the ability to operate security at multiple layers, whether that is database schema, [applying] it to tags, and [integrating] with our AWS authentication and security mechanisms that we have in place. Also, Snowflake

comes in with predefined classification mechanisms, so it helps us with things like data governance and clearly identifying what is personal identifiable information [PII]. It also gives us the ability with out-of-the-box capabilities to scramble, obfuscate, mask PII and sensitive data. … It helps us, first of all, stop a breach from happening. Then in a disaster situation if a potential breach has happened, it gives us the ability to analyze it with a fine-toothed comb and understand exactly what's happened."

- **Data employee uplift and retention.** Interviewees said that using Snowflake can enhance employee experience, retention, and hiring by providing an efficient platform that reduces the time and effort required to manage and leverage data. Snowflake allows data engineers, scientists, and analysts to focus more on innovation and less on technical hurdles, leading to higher job satisfaction and greater ease in recruiting new talent. A food services organization improved data persona recruitment and retention by 5%. The director of data intelligence at the firm said: "One of the reasons I think we had high turnover in analyst roles before Snowflake was because people hated watching [the] spinning circle of death on their computer, waiting for things to run. We couldn't [have hired] the talent we've hired over the years if it wasn't for Snowflake."
- **Strong customer support.** Interviewees praised Snowflake's high level of support across professional services and ongoing collaboration that helped with implementation, resolving issues, minimizing downtime, and providing expert guidance to optimize platform usage. The senior manager of data platforms at an energy organization said: "When we work with Snowflake, they're very clear on what's coming down the roadmap and opportunities where they think they can help our business strategy. … Their professional services setup is great. They even offer RSAs like you'd expect with most large-scale vendors that can come in and help you with your Snowflake implementation."

FLEXIBILITY

The value of flexibility is unique to each customer. There are multiple scenarios in which a customer might implement the Snowflake AI Data Cloud and later realize additional uses and business opportunities, including:

- **Generative AI (genAI) features.** Interviewees expressed enthusiasm for building genAI applications using Snowflake. Snowflake's efficient integration and management of both structured and unstructured data and real-time access and advanced analytics capabilities makes it attractive to build genAI capabilities. The senior director of data engineering and analytics at a financial services said: "We started using [Snowflake] for some genAI applications, especially for search in our documents. Some of the compliance and regulatory documents are big and long. We give them functionality where they can ask questions and get answers in a manner which [a] human can understand because sometimes they are written by legal people."
- **Seamless upgrades with innovative features.** Snowflake's cloud-first delivery ensures customers get access to the latest innovative features with few to no upgrade costs. The director of global data and analytics at a mining organization said: "Because [Snowflake] is a SaaS solution, you're getting the latest and greatest thinking benefiting from the broader market as another customer finds needs and communicates those to Snowflake, and Snowflake implements new features. Those immediately become available to us with really no cost or effort from us. That's really the beauty of the model and one of the things that attracts us."

> "From a technical aspect, Snowflake is a mature technical product, it meets all our requirements, and it is scalable. On the business side of things, we've got a backlog of use cases on how we can use AI and data science to improve our customer experience, customer lifetime value, and financial vulnerability."
>
> SENIOR MANAGER OF DATA PLATFORMS, ENERGY

Flexibility would also be quantified when evaluated as part of a specific project (described in more detail in Appendix A).

Analysis Of Costs

Quantified cost data as applied to the composite

Total Costs							
Ref.	**Cost**	**Initial**	**Year 1**	**Year 2**	**Year 3**	**Total**	**Present Value**
Etr	Cost of the Snowflake AI Data Cloud	$0	$1,260,000	$1,680,000	$1,680,000	$4,620,000	$3,796,093
Ftr	Implementation, training, and ongoing costs	$1,152,396	$217,941	$217,941	$217,941	$1,806,219	$1,694,383
	Total costs (risk-adjusted)	$1,152,396	$1,477,941	$1,897,941	$1,897,941	$6,426,219	$5,490,476

COST OF THE SNOWFLAKE AI DATA CLOUD

Evidence and data. The cost of using the Snowflake AI Data Cloud is based on a consumption-based pricing model, where organizations pay for the storage and compute resources they use. Storage costs are charged per terabyte per month, while compute costs are typically measured in credits. Interviewees found Snowflake's pricing to be cost-effective for scalable, on-demand usage. Interviewees dedicated ongoing effort and resources to optimizing costs; these are captured in the next section. With optimization to Snowflake's cost models and internal optimization efforts, several interviewees experienced decreasing costs year over year for the same amount of credits.

Modeling and assumptions. Based on the interviews, Forrester assumes the following about the composite organization:

- The composite organization pays a total of $1,200,000 for the Snowflake AI Data Cloud licensing costs in Year 1. Costs scale to $1,600,000 in relation to expanded use and consumption. However, costs stay equivalent in Year 3 as consumption grows, due to increased cost optimization.
- Pricing may vary. Contact Snowflake for additional details.

Risks. Forrester recognizes that these results may not be representative of all experiences. The impact of this benefit will vary depending on:

- The scope and scale of the Snowflake AI Data Cloud implementation.
- The organization's data management maturity and expertise.
- The organization's pricing and discount agreements.
- The organization's cost-optimization efforts.

Results. To account for these risks, Forrester adjusted this cost upward by 5%, yielding a three-year, risk-adjusted total PV (discounted at 10%) of $3.8 million.

Cost Of The Snowflake AI Data Cloud						
Ref.	**Metric**	**Source**	**Initial**	**Year 1**	**Year 2**	**Year 3**
E1	The Snowflake AI Data Cloud licensing cost	Composite		$1,200,000	$1,600,000	$1,600,000
Et	Cost of the Snowflake AI Data Cloud	E1		$1,200,000	$1,600,000	$1,600,000
	Risk adjustment	↑5%				
Etr	Cost of the Snowflake AI Data Cloud (risk-adjusted)		$0	$1,260,000	$1,680,000	$1,680,000
	Three-year total: $4,620,000		**Three-year present value: $3,796,093**			

IMPLEMENTATION, TRAINING, AND ONGOING COSTS

Evidence and data. Interviewees noted that the implementation costs encompassed several key areas. Initially, interviewees incurred internal labor costs associated with the migration and implementation efforts needed to move existing data, set up data pipelines, and configure the platform to meet organizational needs. Additionally, data engineers, data scientists, and business analysts needed training in order to effectively use the Snowflake AI Data Cloud's features and optimize their workflows. The ongoing management of the platform also required dedicated resources to monitor performance, manage data storage and compute resources, and ensure security and compliance. Furthermore, interviewees dedicated continuous cost-optimization efforts to managing costs and operations effectively.

Modeling and assumptions. Based on the interviews, Forrester assumes the following about the composite organization:

- The migration and implementation of the Snowflake AI Data Cloud takes the composite organization nine months, with a total of 10 supporting FTEs across IT, security, and data teams.
- Data engineers require a total of 16 hours of training to become fully proficient with the Snowflake AI Data Cloud, while data scientists and data analysts require 8 hours of training.
- There are 1.5 FTEs across IT, security, and data teams dedicated to cost management, performance management, data management, and security and compliance.

Risks. Forrester recognizes that these results may not be representative of all experiences. The impact of this benefit will vary depending on:

- The scope and scale of the Snowflake AI Data Cloud implementation.
- The organization’s data management maturity and expertise.

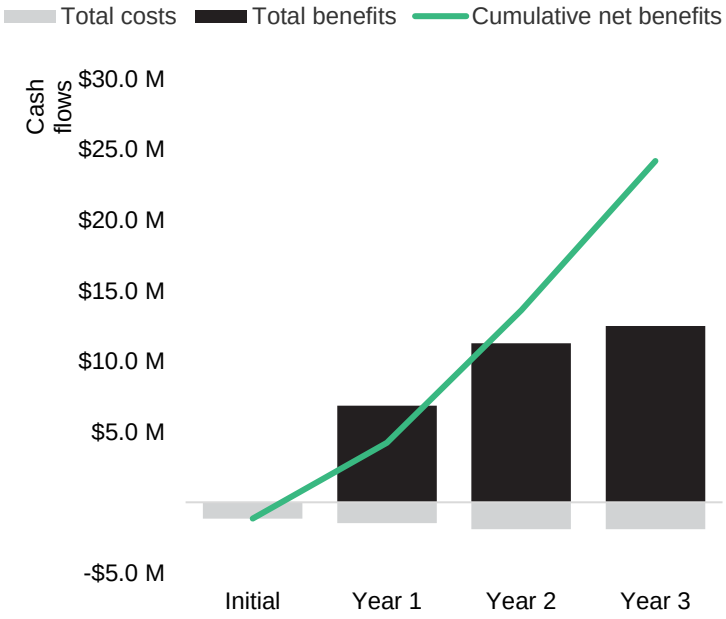
Results. To account for these risks, Forrester adjusted this cost upward by 5%, yielding a three-year, risk-adjusted total PV (discounted at 10%) of $1.7 million.

Implementation, Training, And Ongoing Costs						
Ref.	**Metric**	**Source**	**Initial**	**Year 1**	**Year 2**	**Year 3**
F1	Total FTEs supporting migration and implementation	Composite	10			
F2	Total hours spent on change management and migration training per FTE	9 months*160 hours	1,440			
F3	Fully burdened hourly rate for migration personnel FTEs	Composite	$67			
F4	Subtotal: Internal migration costs	F1*F2*F3	$964,800			
F5	Training hours for data engineers	16 hours*15 FTEs*fully burdened hourly rate of $78	$18,720			
F6	Training hours for data scientists	8 hours*30 FTEs *fully burdened hourly rate of $75	$18,000			
F7	Training hours for business analysts	8 hours*200 FTEs*fully burdened hourly rate of $60	$96,000			
F8	Subtotal: Training costs	F5+F6+F7	$132,720			
F9	Ongoing support FTEs	Interviews		1.5	1.5	1.5
F10	Fully burdened hourly rate for a support FTE	Composite		$138,375	$138,375	$138,375
F11	Subtotal: Ongoing support costs	F9*F10		$207,563	$207,563	$207,563
Ft	Implementation, training, and ongoing costs	F4+F8+F11	$1,097,520	$207,563	$207,563	$207,563
	Risk adjustment	↑5%				
Ftr	Implementation, training, and ongoing costs (risk-adjusted)		$1,152,396	$217,941	$217,941	$217,941
	Three-year total: $1,806,219			**Three-year present value: $1,694,383**		

Financial Summary

Consolidated Three-Year Risk-Adjusted Metrics

Cash Flow Chart (Risk-Adjusted)



The financial results calculated in the Benefits and Costs sections can be used to determine the ROI, NPV, and payback period for the composite organization's investment. Forrester assumes a yearly discount rate of 10% for this analysis.

These risk-adjusted ROI, NPV, and payback period values are determined by applying risk-adjustment factors to the unadjusted results in each Benefit and Cost section.

Cash Flow Analysis (Risk-Adjusted Estimates)

	Initial	Year 1	Year 2	Year 3	Total	Present Value
Total costs	($1,152,396)	($1,477,941)	($1,897,941)	($1,897,941)	($6,426,219)	($5,490,476)
Total benefits	$0	$6,850,204	$11,284,380	$12,492,981	$30,627,565	$24,939,554
Net benefits	($1,152,396)	$5,372,263	$9,386,439	$10,595,040	$24,201,346	$19,449,078
ROI						354%
Payback						<6 months

APPENDIX A: TOTAL ECONOMIC IMPACT

Total Economic Impact is a methodology developed by Forrester Research that enhances a company's technology decision-making processes and assists vendors in communicating the value proposition of their products and services to clients. The TEI methodology helps companies demonstrate, justify, and realize the tangible value of IT initiatives to both senior management and other key business stakeholders.

Total Economic Impact Approach

Benefits represent the value delivered to the business by the product. The TEI methodology places equal weight on the measure of benefits and the measure of costs, allowing for a full examination of the effect of the technology on the entire organization.

Costs consider all expenses necessary to deliver the proposed value, or benefits, of the product. The cost category within TEI captures incremental costs over the existing environment for ongoing costs associated with the solution.

Flexibility represents the strategic value that can be obtained for some future additional investment building on top of the initial investment already made. Having the ability to capture that benefit has a PV that can be estimated.

Risks measure the uncertainty of benefit and cost estimates given: 1) the likelihood that estimates will meet original projections and 2) the likelihood that estimates will be tracked over time. TEI risk factors are based on "triangular distribution."

PRESENT VALUE (PV)

The present or current value of (discounted) cost and benefit estimates given at an interest rate (the discount rate). The PV of costs and benefits feed into the total NPV of cash flows.

NET PRESENT VALUE (NPV)

The present or current value of (discounted) future net cash flows given an interest rate (the discount rate). A positive project NPV normally indicates that the investment should be made unless other projects have higher NPVs.

RETURN ON INVESTMENT (ROI)

A project's expected return in percentage terms. ROI is calculated by dividing net benefits (benefits less costs) by costs.

DISCOUNT RATE

The interest rate used in cash flow analysis to take into account the time value of money. Organizations typically use discount rates between 8% and 16%.

PAYBACK PERIOD

The breakeven point for an investment. This is the point in time at which net benefits (benefits minus costs) equal initial investment or cost.

The initial investment column contains costs incurred at “time 0” or at the beginning of Year 1 that are not discounted. All other cash flows are discounted using the discount rate at the end of the year. PV calculations are calculated for each total cost and benefit estimate. NPV calculations in the summary tables are the sum of the initial investment and the discounted cash flows in each year. Sums and present value calculations of the Total Benefits, Total Costs, and Cash Flow tables may not exactly add up, as some rounding may occur.

APPENDIX B: ENDNOTES

[1] Source: The Rise Of The AI Cloud, Forrester Research, Inc., March 7, 2024.

[2] Total Economic Impact is a methodology developed by Forrester Research that enhances a company's technology decision-making processes and assists vendors in communicating the value proposition of their products and services to clients. The TEI methodology helps companies demonstrate, justify, and realize the tangible value of IT initiatives to both senior management and other key business stakeholders.

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