

HAPPY MONEY TRANSFORMS CONSUMER LENDING WITH HUGE PERFORMANCE GAINS ON SNOWFLAKE'S DATA CLOUD

FINANCIAL SERVICES



COMPANY Happy Money
LOCATION Tustin, California

SNOWFLAKE WORKLOADS USED



Happy Money provides a connected ecosystem of consumer financial products to help borrowers become savers. It has helped over 110,000 members pay off over \$2 billion in credit card debt. Its mission is to create an alternative to conventional, FICO-based lenders. Happy Money is a strategic partner with many credit unions, because its lending model reaches members who are excluded from loans due to their low FICO score.

STORY HIGHLIGHTS:

Near-zero maintenance

With Snowflake, Happy Money, doesn't have to worry about infrastructure, maintenance, or capacity upgrades. Instead, the team can focus on providing business value.

Data Vault

Happy Money's unique and proprietary risk models underpin its mission. Snowflake and the Data Vault architecture enable the data science team to iteratively develop and optimize their machine learning models.

Near-instant elasticity

With Snowflake, Happy Money can enable any amount of computing power for any number of users.

“We get to think outside the box and evolve the way we think about modeling data. Data Vault on Snowflake provides an incredibly flexible and scalable architecture to make that concept actually realizable.”

—WILLIAM HOMAN-MUISE, Senior Director of Data Confidence, Happy Money

CHALLENGE:

A legacy, on-premises data platform that was never optimized

Happy Money relies on a data-driven, automated model for qualifying member loans. The company's legacy on-premises data platform reflected the company's early days of an evolving business plan and wasn't designed in a consistent manner. It had a narrow focus originally, but over time, new business units were added to the system in an ad hoc manner.

According to Happy Money's Senior Director of Data Confidence, William Homan-Muise, "It was a complicated infrastructure. Everything had been built quickly and never optimized. We had our data science, analytics, and BI groups using it and spending a large portion of their time doing data engineering to prepare the data for their use. I had to figure out how to rethink the architecture and take us into the future."

SOLUTION:

Managing semi-structured data in Snowflake

Happy Money receives a lot of semi-structured data in XML and JSON formats, and the data schema structures can change without notice. According to Homan-Muise, "If you can't handle semi-structured data in flight, it's very problematic. You spend an enormous amount of time maintaining your database schemas when things change." The company decided Snowflake on AWS was the solution it needed. The company now processes 50 million rows of data containing 1,500 attributes in 3 minutes rather than 45 minutes, a 93% reduction.

Adapting to industry changes with Snowflake and Data Vault

Happy Money operates in a dynamic industry, and it's essential that its machine learning models used for credit risk assessment can adapt. Homan-Muise identified two key benefits of using the

93%

Reduction in the time it takes to query 50 million rows of XML data

90%

Reduction in time it now takes to do data security compliance reporting

75%

Reduction in the time it takes to develop business reports

Data Vault methodology with Snowflake. The first was the ability to run point-in-time reporting on any of its data sources, which was a frequent request from business users that the company's old platform couldn't support.

The second benefit is the ability to adapt data models. According to Homan-Muise, "Thinking about how we evolve our machine learning model development and our analytic reporting heavily influences how we leverage Snowflake. Because we use the Data Vault architecture on Snowflake, we can adapt our data models iteratively and rapidly to support the required features for our stakeholders."

Building data vaults for model development and reporting

Happy Money is building out two specialized data vaults: a business vault and a model vault. The business vault, a common concept in the Data Vault architecture, supports financial reporting to Happy Money's internal business stakeholders and external partners. The objects built in the business vault reflect the way partners and stakeholders consume the data. The model vault supports the company's data science machine learning model development in a similar manner. A raw data vault provides the base models for data, which is fed into the model vault for data science and the development of the machine learning model features.

Querying raw data in a data lake provided by Snowflake

To complement the data vaults, Happy Money has a raw data store that's provided by a data lake in Snowflake. According to Homan-Muise, "In our data lake, we keep data in a native load format. It's proved to be really useful, especially for people who don't understand the Data Vault architecture but do understand the source systems. They can access the raw data and do forensics."

The data lake is also useful for teams who don't yet know how to model their data. They can wander through raw data and identify what's useful. From there, Homan-Muise's team can build a data vault and populate it. "The data lake has been a hidden gem. The cost is manageable and I don't have to worry about optimizing it," Homan-Muise said.

“With our prior data platform, we spent 70–80% of our time maintaining it and keeping the lights on. With Snowflake Data Cloud, we’re far more agile and efficient. My team can focus on creating business value, rather than focusing on plumbing.”

—WILLIAM HOMAN-MUISE, Senior Director of Data Confidence, Happy Money

RESULTS:

Automated compliance reporting process

In the past, Happy Money's compliance reporting was unwieldy. Data was scattered across servers and schemas, requiring analysts to hop around to different systems and aggregate data. SOX audits and federal compliance reports took much time to complete. With Snowflake, all the data is in a single location. A dashboard now assembles all the required compliance data and is dynamically updated.

“With Snowflake, our analysts now spend one-tenth of the time doing compliance reporting compared to before. Not having to worry about compliance while furthering our mission to help our patrons achieve financial freedom is incredibly rewarding.”

—WILLIAM HOMAN-MUISE, Senior Director of Data Confidence, Happy Money

High quality business reports with Snowflake

Happy Money's new reporting system uses Tableau dashboards built on top of Snowflake. Instead of porting hundreds of reports from the prior system, the team re-thought reporting. With Snowflake, the time spent developing a report has been dramatically reduced. The team spends 75–80% less time engineering data. According to Homan-Muise, "Faster time to market with reporting is one benefit. Another is higher quality reports. When business users submit requests, we're now knocking out reports on a daily basis. Snowflake helps make this possible."

FUTURE:

Securely sharing data with partners

Going forward, Happy Money plans to leverage Snowflake Secure Data Sharing to exchange data with its financial partners. Due to portfolio growth with some partners, it will be necessary to review data on a daily, rather than monthly, basis. Instead of uploading a file via FTP and ingesting it once per month, partners will have access to data in real time.

ABOUT SNOWFLAKE

Snowflake delivers the Data Cloud—a global network where thousands of organizations mobilize data with near-unlimited scale, concurrency, and performance. Inside the Data Cloud, organizations unite their siloed data, easily discover and securely share governed data, and execute diverse analytic workloads. Wherever data or users live, Snowflake delivers a single and seamless experience across multiple public clouds. Join Snowflake customers, partners, and data providers already taking their businesses to new frontiers in the Data Cloud. snowflake.com