Tapping into new data sources
for enhanced insurance offerings

Discovery Limited, a global financial services organization, was looking for better ways to address their evolving data needs. As a fiercely data-driven organization, they had the team and the tools to turn traditional data inside out, but more complex data types were creating challenges.

PROJECT

PHEMI delivers a big data warehouse solution with built-in security, governance, and enterprise-grade management that enables Discovery to not only unlock more value from unstructured big data, but to also glean insights from complex data sources.

GOALS

- Improve the customer self-service support experience

- Reduce incoming call center volumes and costs

- Discover insights from new complex data sources

- Expand data science and machine learning capabilities

- Ensure seamless integration between PHEMI Central and existing EDW infrastructure

- Protect client privacy and comply with corporate and regional privacy regulations

Founded and headquartered in South Africa, Discovery operates in the healthcare, life and short-term insurance, savings and investment products, and wellness markets. Discovery employs more than 12,000 people worldwide and covers 6.9 million lives, more than half of which are members of Discovery Health, the company's healthcare insurance arm. As the largest healthcare insurance provider in the country, Discovery's clients are large-, medium-, and small-sized employers, as well as individual clients.

"What makes us unique in the industry is our 'shared value' insurance model," says Emile Stipp, Chief Health Actuary at Discovery. "We believe that in order to improve the lives of our clients, we need to focus on an approach that incents and rewards positive behavior change and delivers mutually rewarding results. Our aim is to make people healthier, which is good for policyholders and good for us, and we share the value created in this way with them." The shared value model is not limited to health insurance, and is used across all business lines.

Incenting clients through meaningful reward programs, for example, depends on understanding the customer's behavior and knowing his preferences. So over the years, Discovery has pursued this approach resulting in a mixed stock of customer data, including not only traditional data, but also newer unstructured data that does not lend itself to easy translation.

"We needed a partner to help us find a better way to manage, correlate, and interpret all our data, including that generated by newer, more complex sources. PHEMI's proven experience with clinical data, most of which is highly private, time-sensitive, unstructured, and comprised of huge datasets, was a key factor in our decision."

— Emile Stipp, Chief Health Actuary, Discovery

Why PHEMI

Discovery was looking for better ways to address their evolving data needs. As a fiercely data-driven organization, they had the team and the tools to really understand their existing data, but some complex data types were creating challenges. While Discovery used many different production

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systems, unlocking non-relational data from wearables and text documents, for example, was basically impossible. Yet knowing that some of this data undoubtedly contained information key to improving operations and customer satisfaction, Discovery needed a way to unlock it.

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Even in those cases where data was structured and easy to translate, the actual time to insights remained compromised. Discovery wanted to deliver near real-time information to knowledge workers, but in some cases even the relational content would take at least overnight to update to the EDW. Last, but not least, the amount of data stored was pushing the limits of their existing systems, and extra hardware would not address more complex data requirements. "We needed a partner to help us find a better way to manage, correlate, and interpret all our data, including that generated by newer, more complex sources," said Emile Stipp. "PHEMI's proven experience with clinical data, most of which is highly private, time-sensitive, unstructured, and comprised of huge datasets, was a key factor in our decision."

Also, like all South African companies, Discovery had to comply with PoPI, the Protection of Personal Information

Act, which regulates how anyone who processes any kind of personal information must handle, keep, and secure that information.

"Protecting our customers' privacy is non-negotiable and a huge responsibility," continues Stipp. "We were confident that PHEMI's built-in privacy management capabilities would go above and beyond PoPI requirements."

PHEMI Central Big Data Warehouse

PHEMI Central is a big data warehouse with data sharing, data governance, and built-in privacy. It is designed to ingest and tag with metadata all types and any size of data. After tagging the raw data with metadata on ingest, PHEMI Central indexes, catalogs, links, and enriches data to get it analytics-ready. And when it's time for end users to access the data, PHEMI Central can generate datasets on demand that can be analyzed by any third-party application. While PHEMI Central is based on Hadoop and other open-source big data technologies, it is fully integrated, and enterprise-ready, taking away the complexity of getting a big data system up and running. It economically scales to petabytes.

The PHEMI Central Big Data Warehouse solution allows Discovery to leverage data from new sources, including semi-structured and multi-structured data such as website logs and emails, to gain a deeper understanding of client behavior. Plus, the built-in Data Processing Functions—programs written in common programming languages that operate right in the datastore—transform tagged raw data into analytics-ready digital assets.

Discovery put PHEMI Central to work ingesting millions of customer, email, and call center records, and cleansing that data to extract the most relevant information. PHEMI Central also extracted valuable information from unstructured data that was buried in source systems. And all that data was cataloged so it was easy to find and query.

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>
> — Roy Wilds, Chief Data Scientist, PHEMI Systems

Optimizing the customer experience

The joint Discovery/PHEMI team developed machine-learning applications designed to glean insights by analyzing call agent remarks. One application focused on defining customer sentiment. By extracting key words from call remarks and running them through a predictive algorithm, the team was able to categorize callers' level of satisfaction with the Discovery call center experience.

A similar machine-learning model was created to sift through customer communications, such as emails, and isolate key words and expressions to sort the contents into meaningful categories, such as billing questions, policy update information, and benefits inquiries.

Yet another application was used to identify emails generated while perusing

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PHEMI Central for Discovery

ADVANTAGES

- Economically grows as new complex data sources are incorporated

- Offers enterprise-grade reliability and availability with cluster economics

- Enables comprehensive analysis of all data—structured, semi-structured, and multi-structured

- Provides powerful machine learning capabilities to drive new insights

- Meets the strict privacy and security requirements for personal data

- Works seamlessly with existing production systems

TECHNOLOGY

- Fully integrated and enterprise-ready Hadoop software

- Supports third-party applications using PHEMI APIs

- Economically scales to petabytes

- Available as an on-premise or cloud solution, self-managed or fully managed

the company's website. That is, while presumably searching for answers or information, a member stops at some specific point and emails support. The location and timing of this event identifies where the online content needs improvement. Combining machine learning with clickstream data information can quickly lead to a better self-service experience. And a better web experience translates into fewer phone calls, lower lapse rates, and lower costs.

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Privacy management

PoPI compliance was a product prerequisite. PHEMI's privacy management strategy embeds end-to-end security in the design itself, ensuring that privacy becomes the default setting for each and every piece of data, raw and derived. This design commitment was informed by Privacy By Design, an approach to privacy management that specifies that privacy must be a core feature designed right into the product from the very beginning. PHEMI's privacy management strategy ensures that only the right data is provided to the right user at the right time.

PHEMI Central meets the challenge

The PHEMI Central Big Data Warehouse solution helps Discovery explore all of their data, and easily introduce new use cases, new data types, and new users.

And advanced analytics capabilities reach a new level paving the way to better understand the customer experience and leverage that information for customer service, marketing, and operations.

"The powerful combination of new technology and new analysis has already enabled us to ask more questions about—and get more answers from—our data," states Stipp in conclusion. "And we are just getting started."

Contact us at info@phemi.com for a demo or to discuss our solutions.

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