



Transform your business through machine learning with Amazon Redshift

Analytics for better business outcomes

With data being the new organizing principle—and the beating heart of successful organizations—your organization wants to leverage it to get business insights leading to better customer experiences and even new business models. Terabytes and even petabytes of data are collectively accumulating across different areas of the enterprise. Imagine the possibilities if you could really put this data to work for your business

Machine learning (ML) opportunities and challenges

Data is transforming virtually every aspect of how we understand and shape our world. As enterprises ingest vast volumes of data to integrate and analyze for insights, leading companies are gaining competitive advantage, delivering better customer experiences, increasing revenue, and reacting more swiftly to market shifts by applying ML to their data.

As a leader you must infuse analytics into critical business processes so everyone in the organization, at all levels, has access to it to inform their actions. Accessing real-time data is necessary but not sufficient. Organizations need to deliver contextual insights to the right person, at the right time, and in the right place.

ML is a subset of artificial intelligence (AI) that uses algorithms to identify patterns within data, which are then used to create a data model to make predictions. ML and business intelligence can provide better customer experiences at a scale that was not possible before, but a skills gap is a key challenge leaders face. ML models must be created, trained, and maintained using a large portion of your data which is challenging. As big data continues to grow, managing models slows to a crawl and you require data scientists to identify the data needed to answer the most pressing business questions.

Business transformation with Amazon Redshift ML

Amazon Redshift is a leading component of many organizations' data management strategies. Amazon Redshift is foundational to ML because it offers streaming data for immediate insights, making it easy to extract value from all of your organization's data, no matter the scale. To easily prepare data for ML, Amazon Redshift integrates with Amazon SageMaker Data Wrangler. With SageMaker Data Wrangler's data selection tool, you can quickly select data from Amazon Redshift to prepare data for ML in minutes. In addition, [Amazon SageMaker](#) is the most comprehensive ML service that helps to prepare, build, train, and deploy high-quality ML models quickly by bringing together a broad set of capabilities purpose-built for ML. Amazon Redshift ML automatically discovers and tunes the best ML model based on your training data using [Amazon SageMaker Autopilot](#), and because of cloud economics, your cost efficiencies grow with the scale of your data. Amazon Redshift is the leader in price performance (up to 3x better than other cloud data warehouses) and delivers consistent performance as your data scales. Amazon Redshift ML makes machine learning easy for the entire organization with our simplified model flow, and you don't have to be a data scientist to use it.

High-performing organizations are

3x more likely to say their data and analytics initiatives have contributed at least **20 percent** to EBIT

[McKinsey: How six companies are using technology and data to transform themselves]

Amazon Redshift customer cited benefits:

Team productivity gains:

Business intelligence: + 33%

Business analysts: +34%

Analytics engineers: +29%

KPIs:

47% lower cost of data management platform

62% higher query volume

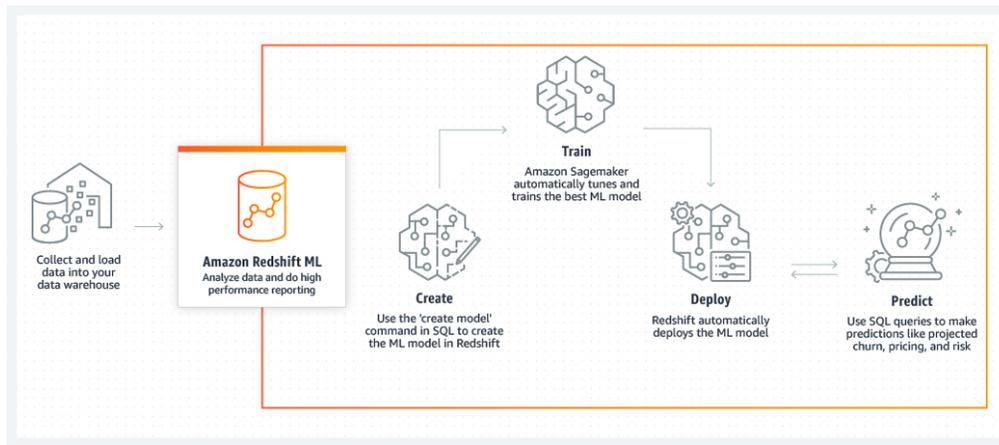
27% faster to deliver reports to line of business

71% more features added annually

[Source: IDC Business Value of Amazon Redshift Cloud Data Warehouse October 2021]

What is a cloud data warehouse?

Cloud data warehouses offer the unique benefit of allowing businesses to analyze large pools of variant data and extract value from it while keeping a historical record. You're able to perform data analytics with cloud benefits like scale, elasticity, time to value, cost efficiency and readily available applications.



Amazon Redshift ML handles all the interactions between Amazon Redshift and SageMaker, abstracting the steps involved in training and compilation. After the model is trained, Amazon Redshift ML makes it available in Amazon Redshift.

Amazon Redshift ML delivers powerful transformational benefits for the entire organization, including:



Reduce operations cost



Reduce customer churn



Faster decision making



Product/service innovation

Incorporating Redshift ML can revolutionize your business by enabling a dramatically improved customer experience. Depending on your industry there are many use cases including reduced customer churn, predictive maintenance, personalized recommendations, contact center modernization, improved safety and security and increased customer engagement. Other examples include intelligent product recommendations, revenue/price predictions, and personalized web experiences. You can improve demand forecasting and streamline supply-demand decisions to combine historical time series data with additional variables like product features, pricing and holidays. Amazon Redshift ML and Amazon SageMaker empower the entire organization to use ML.



Magellan Rx Management uses Amazon Redshift ML to predict drug therapeutic conditions

Challenge: Magellan Rx Management relies on predictive analytics to forecast future drugs costs, identify drugs that will drive future trends, and proactively identify patient risks. Data analysts and clinicians perform many operations manually. Their goal was to improve operational efficiency while maintaining a high level of clinical accuracy.

Solution: With Redshift ML, Magellan Rx Management doesn't have to perform any of the heavy lifting required for integrating with an external ML service. Redshift ML saves time needed to format and move data, manage permission controls, or build custom integrations, workflows, and scripts.

Results: Redshift ML enabled Magellan Rx Management to realize greater efficiency and an enhanced ability to generate MRx therapeutic conditions when new drugs come to market, while maintaining clinical accuracy.



On Amazon Redshift, we reduced our operational costs by 20%. That is a significant win from our previous stack

Vinesh Kolpe – Vice President of Information Technology, Magellan Rx Management



Resources to support you on your journey

Learn more about Amazon Redshift ML: [Amazon Redshift | Redshift ML - Amazon Web Services](#)

And Amazon SageMaker: [Amazon SageMaker – Machine Learning – Amazon Web Services](#)