



Demand Forecasting and Price Optimization for Retail

Cortana Intelligence Suite

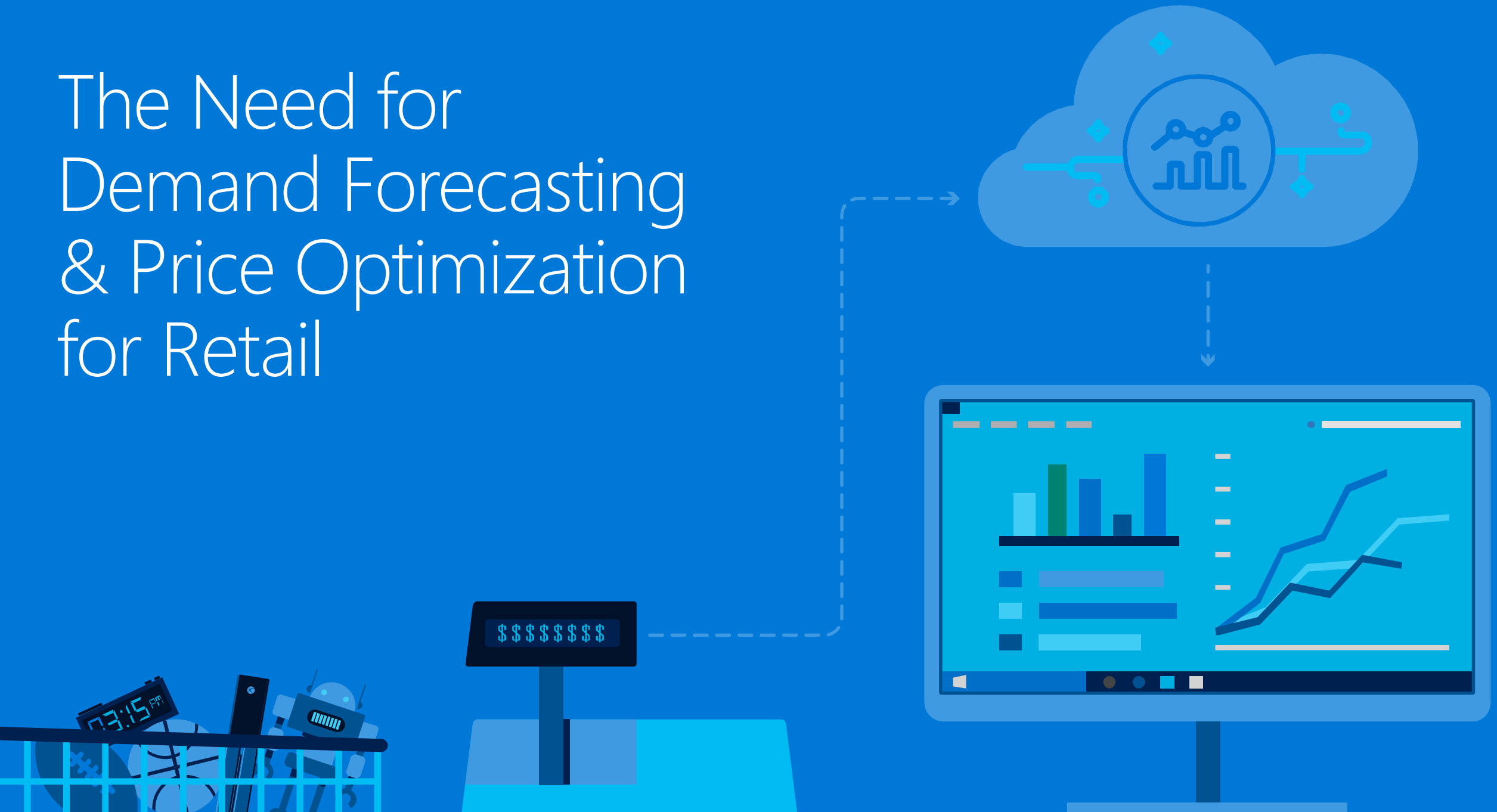


Pricing is key to success in retail. Knowing the demand for products helps to **set the right price** to move stock and **avoid missed sales opportunities** and maximize profit.

Demand Forecasting and Price Optimization for Retail **unlock the unrealized potential of existing historical transaction data** to empower retailers with actionable insight into their business. Equipped with predicted price elasticity, demand, price anchoring and optimal pricing, retailers can **improve profit margins** and reduce time and effort allocated to managing pricing.



The Need for Demand Forecasting & Price Optimization for Retail



20%

Increase in Profit

is typical during the first 2-3
years of Price Optimization
implementation





Out-of-stock and
Overstocks account for

\$1.1
TRILLION

in worldwide losses
each year.

Challenges Facing Manual Demand Forecasting & Pricing

Quantity of Products



The multitude of products has increased the workload associated with price decisions.

Product Configurations



Size options and bulk-packaging of the same product can either have a halo effect or cannibalize sales.

Strategy Consistency



Staying informed of product sales performance and its relationship to pricing is key to profit potential.

Profit Margins



Adjusting pricing at the right time and the right amount is essential to maximize profits.

Product Demand



Insight to a product's popularity is imperative to realizing optimal pricing.

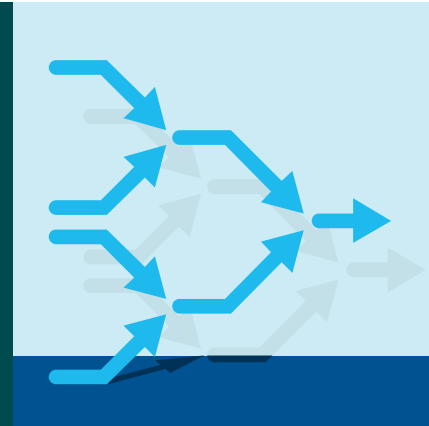
Benefits of Demand Forecasting & Price Optimization



MAXIMIZE
Profit Margins



CAPTURE
Price Elasticity



RECOGNIZE
Price Anchoring

IDENTIFY
Profit Potential



GAIN
Data Insight



SIMPLIFY
Pricing &
Inventory



Implementing Demand Forecasting & Price Optimization for Retail



Challenges for Predictions

How can the **insights** in this large volume of **data** be identified and leveraged?

How can transactional **sales data** be converted into **demand and pricing** knowledge?

Which analytical approach should be taken to **optimize the price**?

How can **demand forecasts** and **pricing** be **operationalized** for scheduled performance?

How can the **solution** be **validated** properly?



Solution Approach



Forecast Product Demand

Minimize inventory investment and increase revenue opportunities. Reduce inventory errors and stock-outs

Make Calculated Price Changes

Intelligent price recommendations are made using price elasticity and product demand forecasts

Strategize by Category

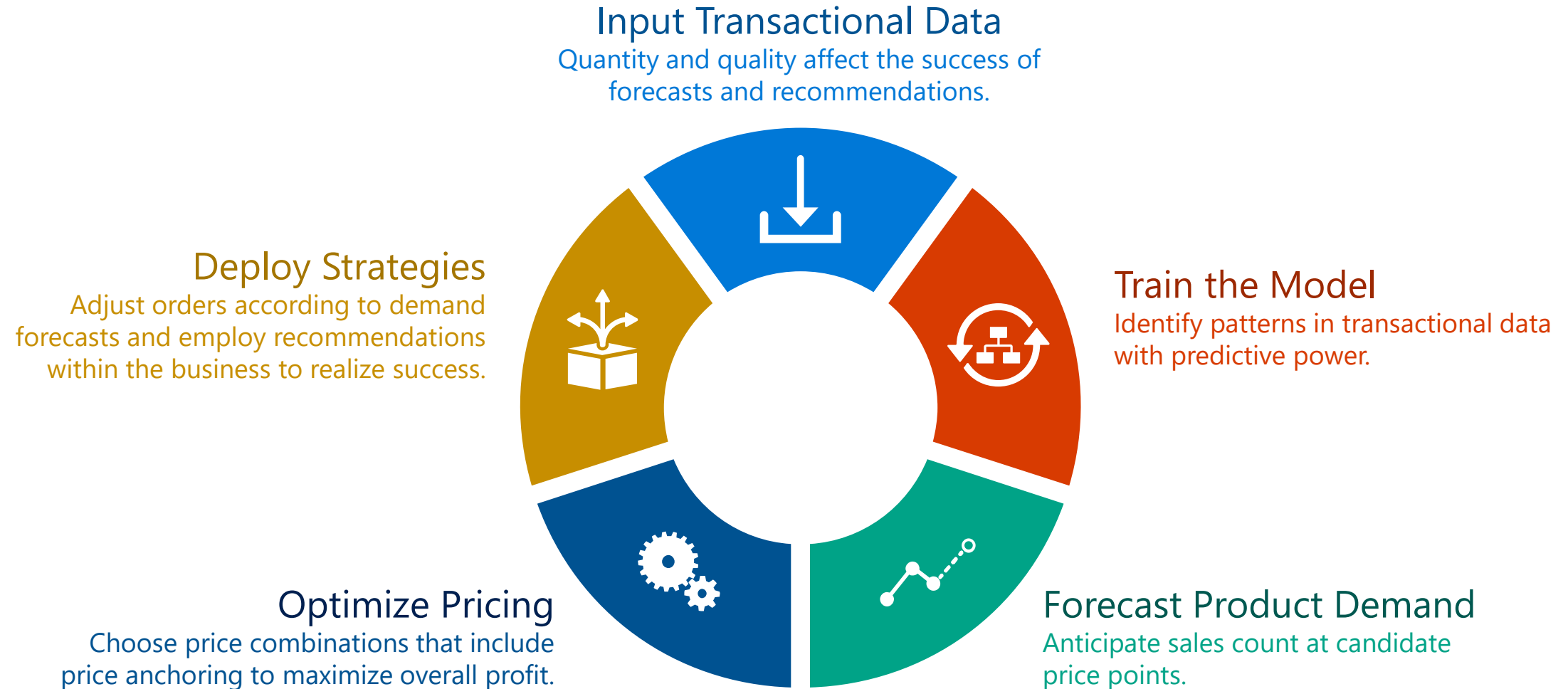
Try different strategies based on product category/type to optimize revenue or profit

Continuous Testing

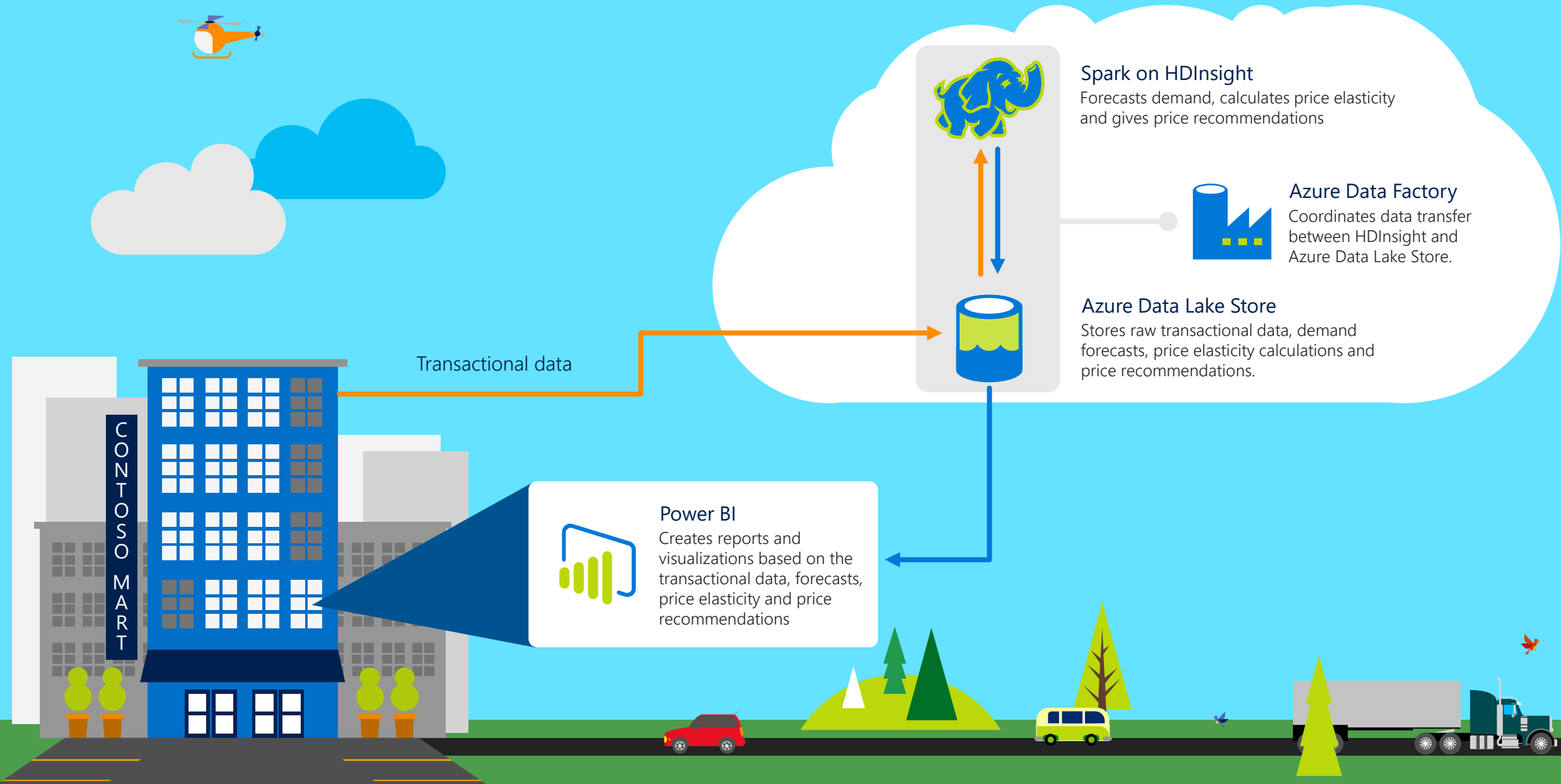
Stay current with market changes, but test prices and act on results to create a winning strategy

Solution Path

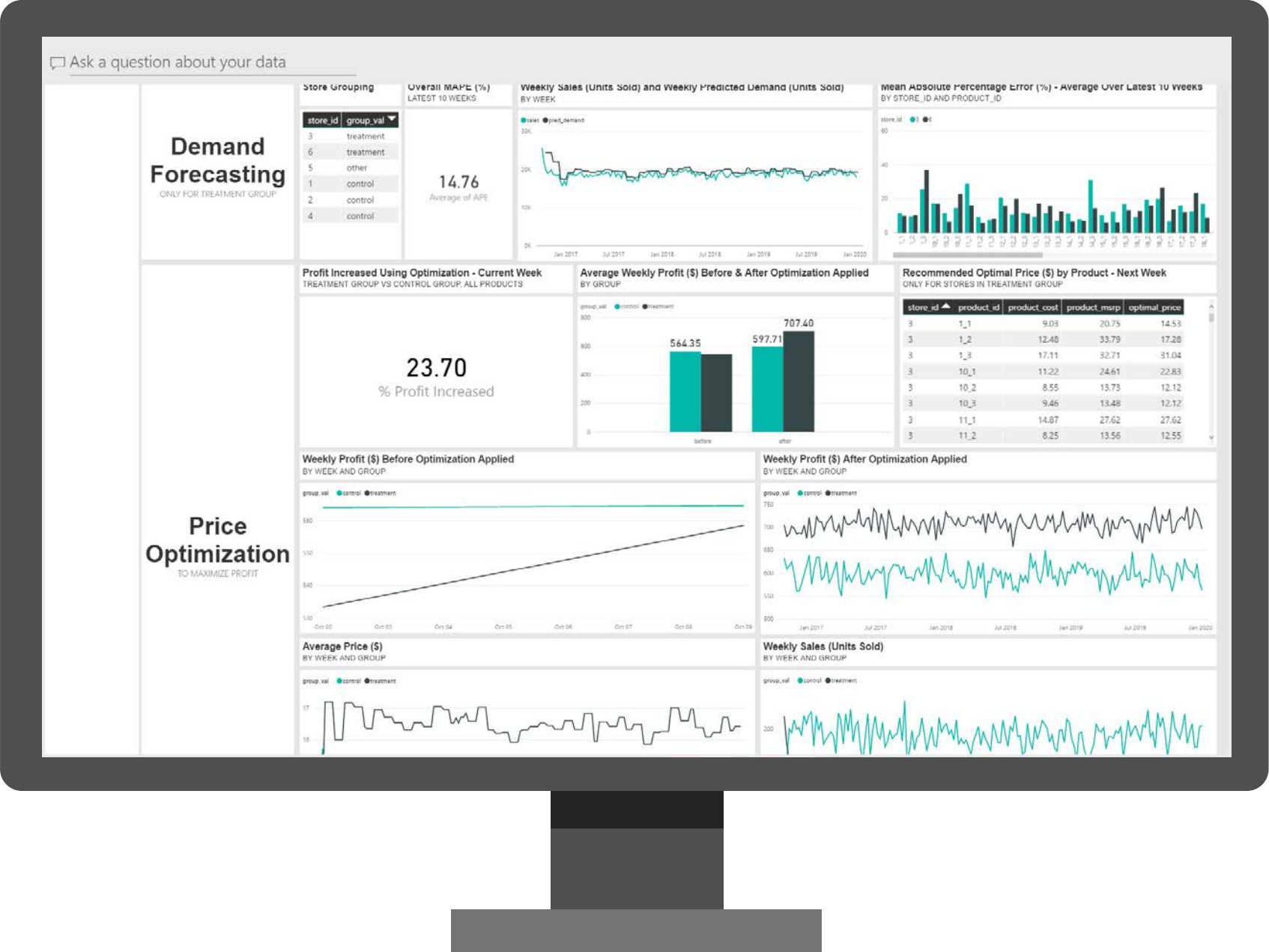
Demand Forecasting and Price Optimization are ongoing processes. Predictions are improved and more accurate over time as more data are added to the model.



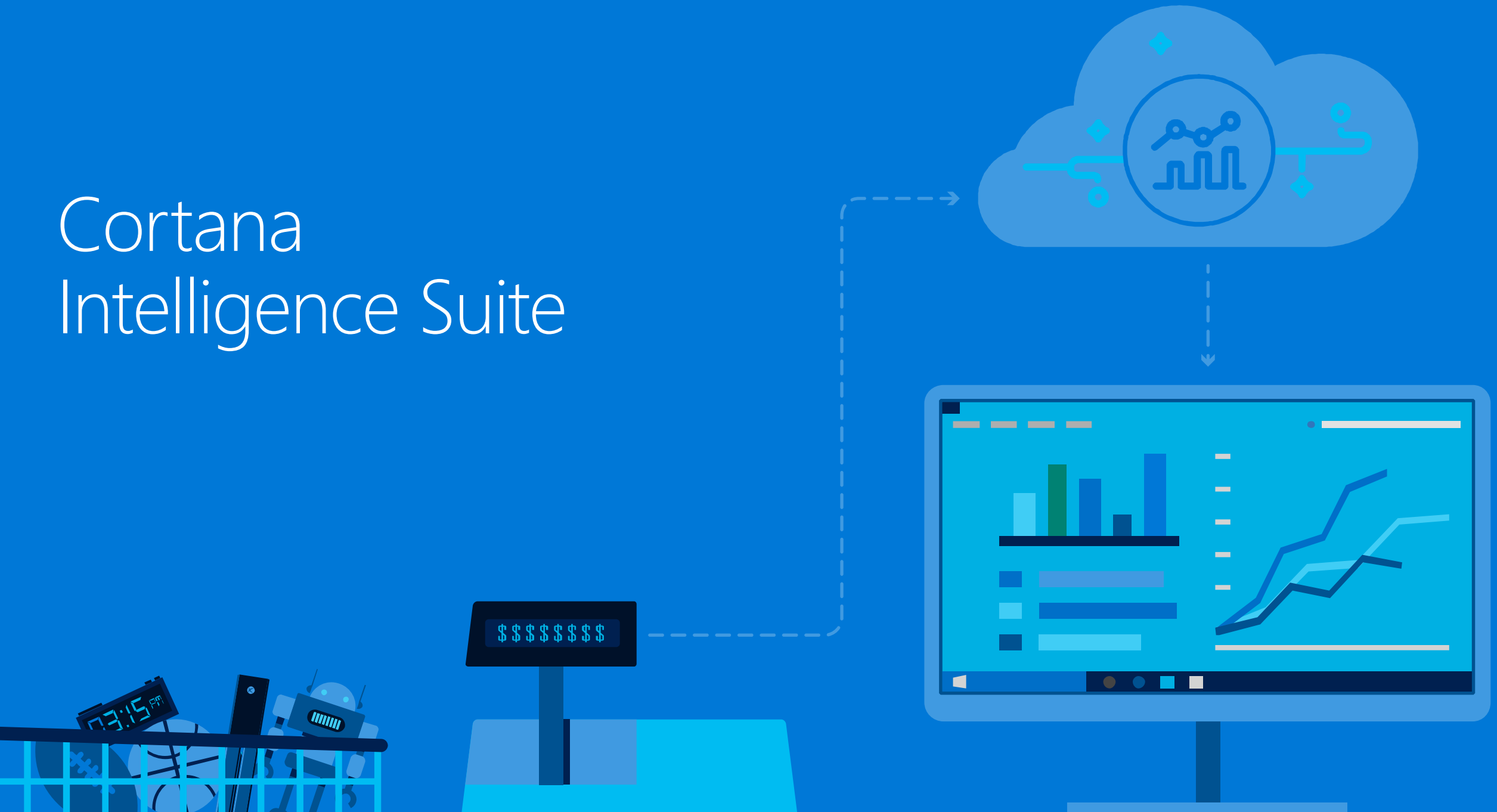
End-to-end Data Flow



Sample Dashboard



Cortana Intelligence Suite



Cortana Intelligence Suite | Overview

Cortana Intelligence is a fully managed **big data and advanced analytics suite** in the cloud that **transforms data into intelligent action**.

Cortana Intelligence...

- Allows you to collect, manage, process and store all your data that can seamlessly and cost effectively grow over time in a **scalable** and **secure** way.
- Provides **easy** and **actionable** analytics powered by the cloud that allow you to predict, prescribe and automate decision making for the most demanding problems.
- Enables **intelligent** solutions through cognitive services and agents that allow you to see, hear, interpret and understand the world around you in more contextual and natural ways.

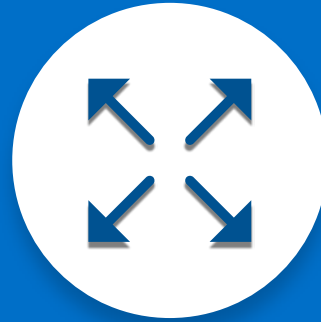


Cortana Intelligence Suite | Advantages



COST

There are no upfront costs or COGS (Cost of Goods Sold) component costs associated. Meaning there is no need to invest in hardware, software, and/or IT maintenance. This translates into a substantial reduction in business risk.



SCALABILITY

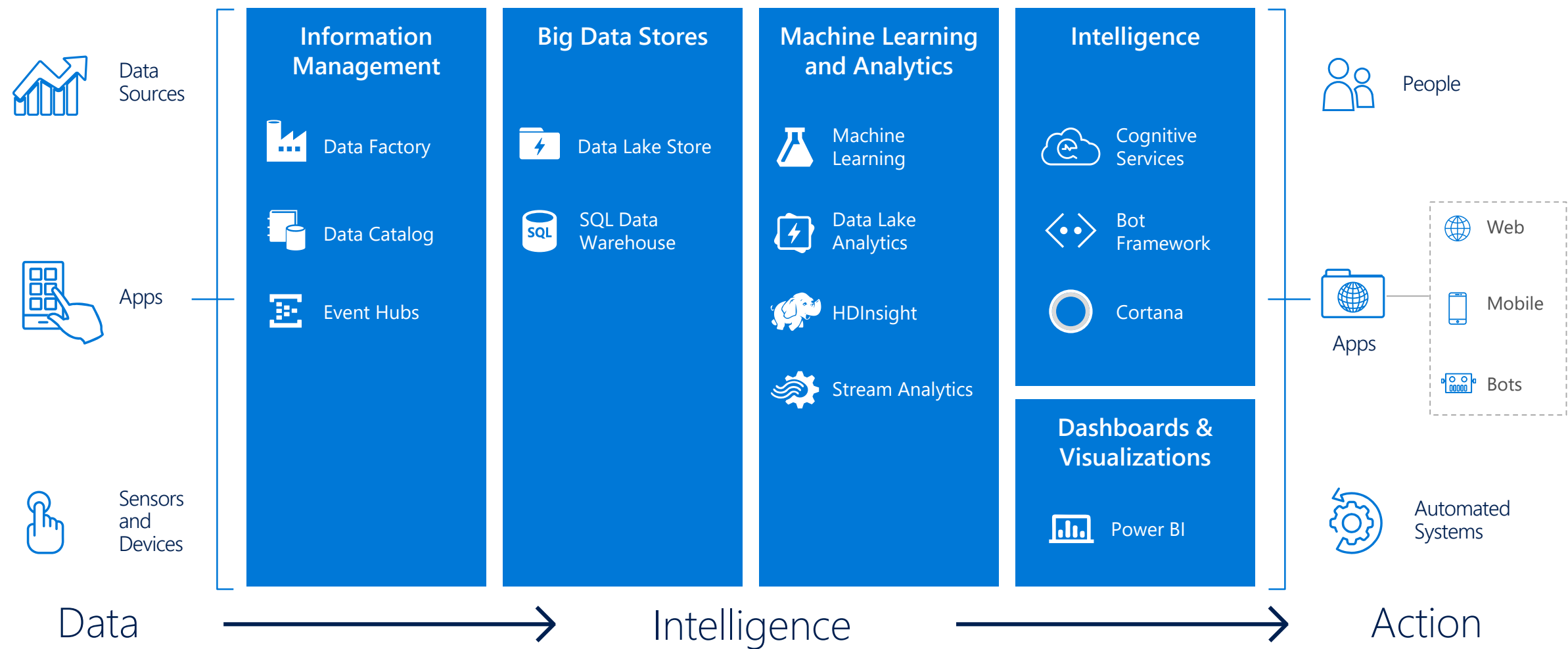
Servers for computing and/or storage can be deployed and scaled on an as-needed basis and can be done quickly and easily. This effects the cost efficiency advantage of a cloud-based solution with a pay-for-what-is-used policy.



GROWTH

Features, components, and capabilities are consistently being introduced and evolved in Cortana Intelligence Suite. As such, they can easily and quickly be implemented in a cloud-based solution.

Cortana Intelligence Suite | Overview



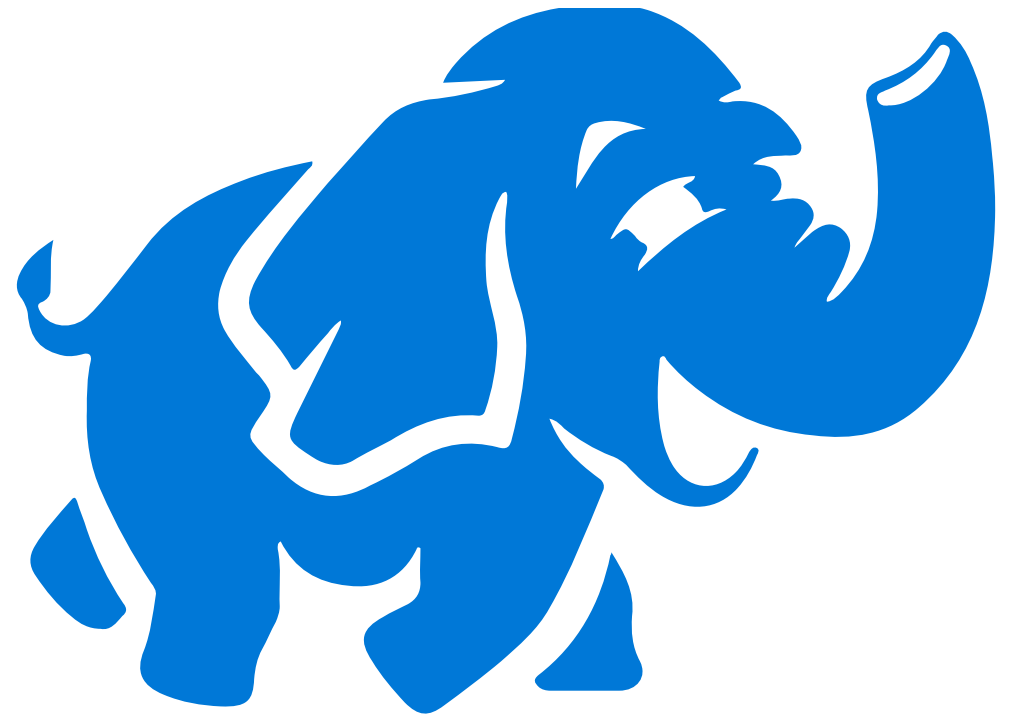
Appendix



Cortana Intelligence Suite | Used in this Solution

HDInsight

HDInsight allows you to easily spin up **enterprise-grade** open source cluster types guaranteed with the industry's best **99.9% SLA and 24/7 support**. We guarantee this SLA for the entire big data solution, not just the VM instances. HDInsight is architected for **full redundancy** and **high availability** including **head node replication, data geo-replication**, and **built-in standby NameNode** making HDInsight resilient to critical failures not addressed in standard Hadoop implementations. Azure also offers cluster monitoring and **24x7** enterprise support backed by Microsoft and Hortonworks with **37 combined committers** for Hadoop core, more than **all other managed cloud providers combined** to support your deployment and the ability to **fix** and **commit code** back to Hadoop.

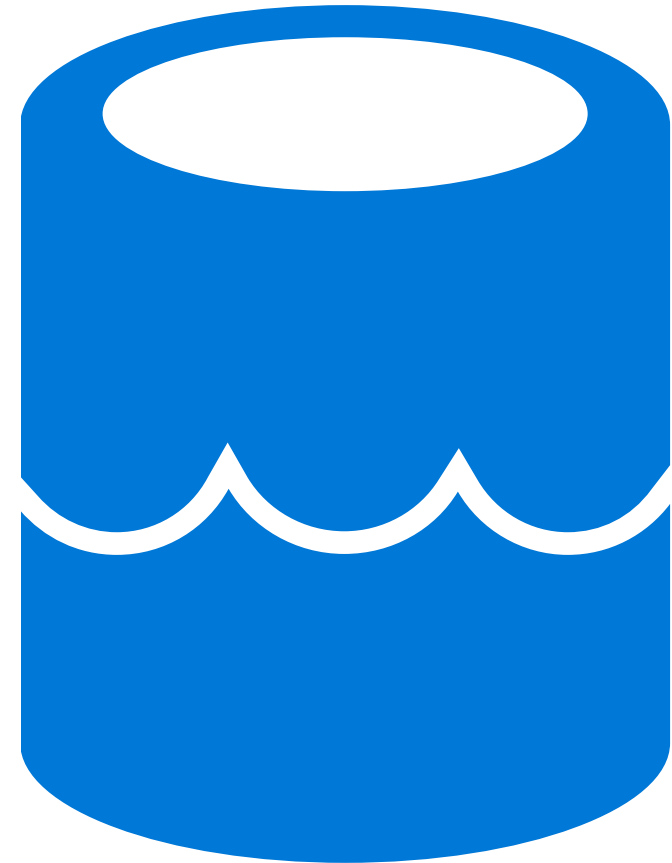


Cortana Intelligence Suite | Used in this Solution

Data Lake Store

With Azure Data Lake Store your organization can **analyze all of its data in a single place** with no artificial constraints. Your Data Lake Store can store **trillions of files** where a single file can be greater than a **petabyte in size** which is **200x larger** than other cloud stores. This makes Data Lake Store ideal for storing **any type of data** including massive datasets like high-resolution video, genomic and seismic datasets, medical data, and data from a wide variety of industries.

Without redesigning your application or repartitioning your data at higher scale, Data Lake Store scales throughput to support any size of analytic workload. It provides massive throughput to run analytic jobs with **1,000+ concurrent executors** that read and write **hundreds of terabytes** of data efficiently.



Cortana Intelligence Suite | Benefits

Cortana Intelligence Suite enables you to realize your business outcomes by providing tools to transform data into intelligent action. It transforms entire systems of production, management and governance by enabling you to reap business benefits such as:



Improve visibility
and prediction
accuracy



Get the right
products to the
right places
efficiently



Offer customers
exactly what they
want, when they
want it



Fix problems
proactively before
they start



Capture new
business
opportunities

Use Cortana Intelligence Suite to improve outcomes and solve challenges across all aspects of your business.

A 1% improvement
in price can increase
profit by 11%



"For all the moments that matter in business, there is only one point when money changes hands—the point of negotiation and purchase. That's when **the price you charge captures or fails to capture the profit you are in business to generate.**"

"The Problem with Pricing"
Deloitte

