
# Unlock Unlimited Answers by Integrating Your Data

Despite the general consensus that being data-driven is critical to gaining a competitive edge, leading analysts report that most data in the enterprise goes unused. A key barrier is uncovering actionable insights from data that are relevant to the business. In other words, it's challenging to know what to do with the massive volumes of data collected in the enterprise every day.

This lack of understanding is keeping many enterprises from achieving long sought-after goals of becoming data-centric. In NewVantage Partners' 2019 Big Data and AI Executive Survey,[1] 72 percent of the C-level technology and business executives polled said that they have yet to forge a data culture at their organizations.



teradata.

## Table of Contents



The solution to such cases of analytics paralysis isn't to buy more tools—analytics are worth nothing without integrating data, and vice versa. For companies wishing to become truly data-centric and compete on their ability to generate predictive insights, the first critical leap is to design for reuse in mind. This "store once, use often" strategy minimizes the costs and time associated with data acquisition, cleansing and transformation, data movement, and query processing.

Integrating data and analytics creates a strategic advantage by enabling the enterprise to ask more questions, get more answers, and drive deeper insights. This empowers teams to conquer complexity, enhance visibility, and ignite ingenuity across the enterprise. These capabilities in turn organize operations, enhance customer experience, and improve revenue and market growth.

## Empowering Insightful Decision-Making

Every day, every person at every level of an organization makes countless decisions that impact the business. Organizations go to great lengths to provide the right information at the right time to their employees so they can consistently make smarter, faster decisions that yield the right business outcomes. The organization's ability to effectively manage the collection and analysis of data from different areas of the business—including inventory, sales, marketing, and finance—in a timely and meaningful manner makes all the difference in helping people make these strategically impactful decisions.


Companies that integrate data successfully enable differentiated decisions solidly based on all available facts, which gives them a competitive advantage.

1 Bean, Randy and Davenport, Thomas H. "Companies Are Failing in Their Efforts to Become Data-Driven." Harvard Business Review. February 5, 2019. Accessed July 17, 2020. https://hbr.org/2019/02/companies-are-failing-in-their-efforts-to-become-data-driven.

Otherwise, when data is not integrated, a user has to make a decision based on information from a subset of total data available—e.g., the user has limited information with limited scope. This in turn reduces the breadth and sophistication of the questions that the user can ask.

Most organizations have data spread out across business units in data silos, which can be cloud instances, data marts, or files systems. One large health care customer of ours once told us that they had 5,000 data silos across their organization.

(And those were only the silos they knew about). So often, this data is not integrated, and as a result, only basic questions can be asked, such as:

- What products do we have in stock? (**Inventory**)
- What was sold? (**Sales**)
- Which business units generate the most revenue? (**Revenue**)

While these are important questions, they are likely not any different than the questions that competitors are probably asking and answering.

The more successful the data integration, the more empowered users are to generate sophisticated questions. Employees who have access to all relevant information within an organization can ask cross-functional questions whose answers provide a complete picture of business conditions. These are questions like:

- What are the trade-offs between holding inventory **(Inventory)**, changing order **(Order)** frequency **(Demand)** and stock-out costs **(Finance)**?
- What is the profitability **(Finance)** of a customer **(Customer)** with at least one claim **(Claims)** over five years, by agency **(Channel)** and household policy ownership?
- What is the impact **(Revenue)** of pulling an asset **(Equipment)** out of use **(Schedule)** to affect a repair **(Parts, Technician)**?
- Which person **(Patient)** should I prioritize **(Risk)** for an appointment **(Schedule)** for an MRI **(Equipment, Location)**?

Such questions carry broader potential for business impact and cannot be answered by one subject area alone. These new cross-functional questions are much more relevant to the business and provide forward-looking insight that enables employees to make fully informed decisions, every time they need to.

In addition to up-leveling the kinds of questions that employees can ask, data integration significantly increases the number of questions they can ask as well. Figure 1 illustrates a scenario where the number of questions asked and answered grows rapidly with cross-functional data integration. A certain number of questions is possible within each subject area: product sales data can enable 26 questions, online shopping cart data 32 questions, inventory and vendors data 45 questions, forecast data 23 questions, and customer data 38 questions. Added together, the total number of subject-specific questions enabled is 164 (26+32+45+23+38). However, when the subject areas are integrated and new cross-functional questions are now supported, an additional 158 questions can be answered, yielding a total of 322 questions (164+158).

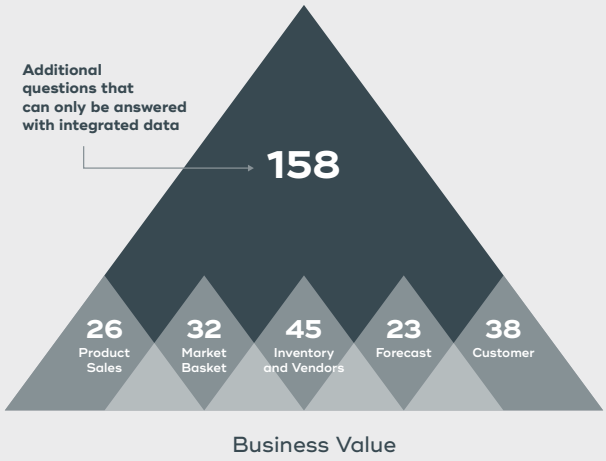



**Figure 1:** An integrated data environment enables differentiated cross-functional questions to be answered while continuing to address subject-specific questions.

By enabling exponential growth in the number of questions that can be answered, integrated data removes any limits on the answers that the enterprise can unlock through data and analytics.



teradata.

## Integrated Data in Action

Consider a hypothetical, medium-sized U.S. health insurance provider that has been losing year-over-year revenue consistently for the past three years. Without data-driven solutions, the CFO is at a loss to explain the decrease beyond a decline in customers. Without understanding the root cause, how is the company to execute an effective turnaround plan? Should the focus be on retaining the most profitable customers or recruiting new ones? Or perhaps the problem resides in product pricing or utilization costs? While the company continues to maintain separate data silos for customers, operations and other reporting systems, it is impossible to answer the necessary questions to get to the root of the problem.

For this company, integrating data through a central access point is a critical first step. From there, several insights are procured from various domains through the process described in Figure 2. By gaining holistic visibility into all dimensions of their declining revenue problem, the firm's leaders discover the unexpected link between their method for assessing policyholders' risk levels and their recent revenue decline. The firm's leadership decides to calculate policyholders' risk with more accurate and personalized algorithms.

This change has a cascading effect: it allows the company to lower pricing to attract new customers and grow revenues while minimizing claim payouts to reduce expenses, improving patient health in the process.

## The Power of Integrating Data with Vantage

Now imagine that this hypothetical insurance provider has Teradata Vantage, which delivers fast results to complex business questions by integrating data and analytics in a unified environment.

Vantage provides a complete view of each policyholder for the firm. The platform leverages Vantage's machine learning and graph analytics functions for more accurate disease-specific risk scoring algorithms. The firm then uses Vantage's 4D Analytics capabilities to uncover behavior patterns and identify potentially highly profitable customers in communities where

**Figure 2:** In a hypothetical scenario involving an insurance provider detailed here, the firm was able to make more informed, effective decisions as they integrated data and incorporated more insights from across the organization.

### Customer Retention

**Revenue Decline:** Is the company losing customers?

With steady increases in premium pricing over the past three years, customer churn has increased as well as the number of customer complaints involving switching insurance due to high pricing.

**Decision**: Reduce premiums for policies with the lowest marginal cost.

### Growth Rates

**Revenue Decline:** Is the growth rate of new policy sales declining?

After also noticing a significant decrease in new customers year-over-year, the leadership team investigates further with the sales team. They discover that as premium pricing has increased, potential customers weren't even considering this company for health insurance. To remedy this, salespeople had to make local decisions to offer reduced costs to attract new customers.

**Decision:** Reduce premiums for policies with the lowest marginal cost.

### Claim Payouts and Fraud

**Increased Expenses:** Are claim payouts higher than usual? Is fraud a part of this problem?

The average payout for one of their health insurance claims has nearly doubled in three years. After reviewing their fraud detection methods, management concludes that fraud is not the primary reason for the higher payout costs.

**Decision:** Reduce premiums for policies with the lowest marginal cost and raise deductibles to offset increasing payouts.



teradata.

the company already has dedicated field reps. The new risk scoring algorithms are used alongside behavioral analytics to segment which of these customers would have the most potential profit. A new marketing campaign is launched to target this potential new business.

With a more personalized approach to risk management and attracting new business, retention and satisfaction among customers increases once pricing plans are restructured. Only by looking at cross-functional data in tandem is the insurer able to view the entirety of the problem and make strategically impactful decisions. And by using Vantage, the firm is able to unlock answers faster and by pulling on fewer resources.

## Supporting Dynamic Queries with Multidimensional Scalability

Data integration enables more—and better—questions to be answered with greater business impact. The more subject areas that are integrated from across the company and available when a question is asked, the more sophisticated, relevant, and broadly impactful each decision becomes.

But while integrating data and eliminating silos is a crucial first step towards agile innovation, it's not the last. To execute on integrated data, the enterprise needs data analytics technology that supports real-time, dynamic data exploration. One that does not limit the kinds of questions that can be asked nor the moments when such queries can be made. One that empowers users to ask any question, at any time.

Just as you can't predict all the questions that will need to be asked and the data that will be needed to find the answers, you cannot predict which data analytics dimensions you'll need to scale when. These eight core dimensions are Data Volume, Data Latency, Query Data Volume, Query Complexity, Query Concurrency, Query Response Time, Schema Sophistication, and Mixed Workloads. Focusing on a limited number of these dimensions at a time could diminish the capability of any of the others. Or it could result in missed opportunities to leverage data and garner crucial insights.

### Risk Analysis

**Increased Expenses:** Why are claim payouts higher than expected?

The CFO questions their methods for calculating underlying risk and learns that their methods for segmenting customers into risk levels, which greatly affects both the premium and deductible pricing, haven't kept up with the competition who use advanced machine learning and graph analytics to micro-segment and personalize risk calculations. Potential customers receive overpriced quotes for new policies (deterring new business), while existing customers aren't paying enough to compensate for the increasing payouts.

**Decision:** Overhaul the risk management strategy with personalized, **disease-specific risk scoring algorithms**. Doing so helps reduce non-emergent ER use for specific cases while also improving treatment of chronic disease patients who are admitted to a hospital more than once. Most importantly, it helps the company determine appropriate premium and deductible pricing for each available policy

### New Business

**Grow The Business:** How can the slowdown be reversed? What can be done to better attract new customers?

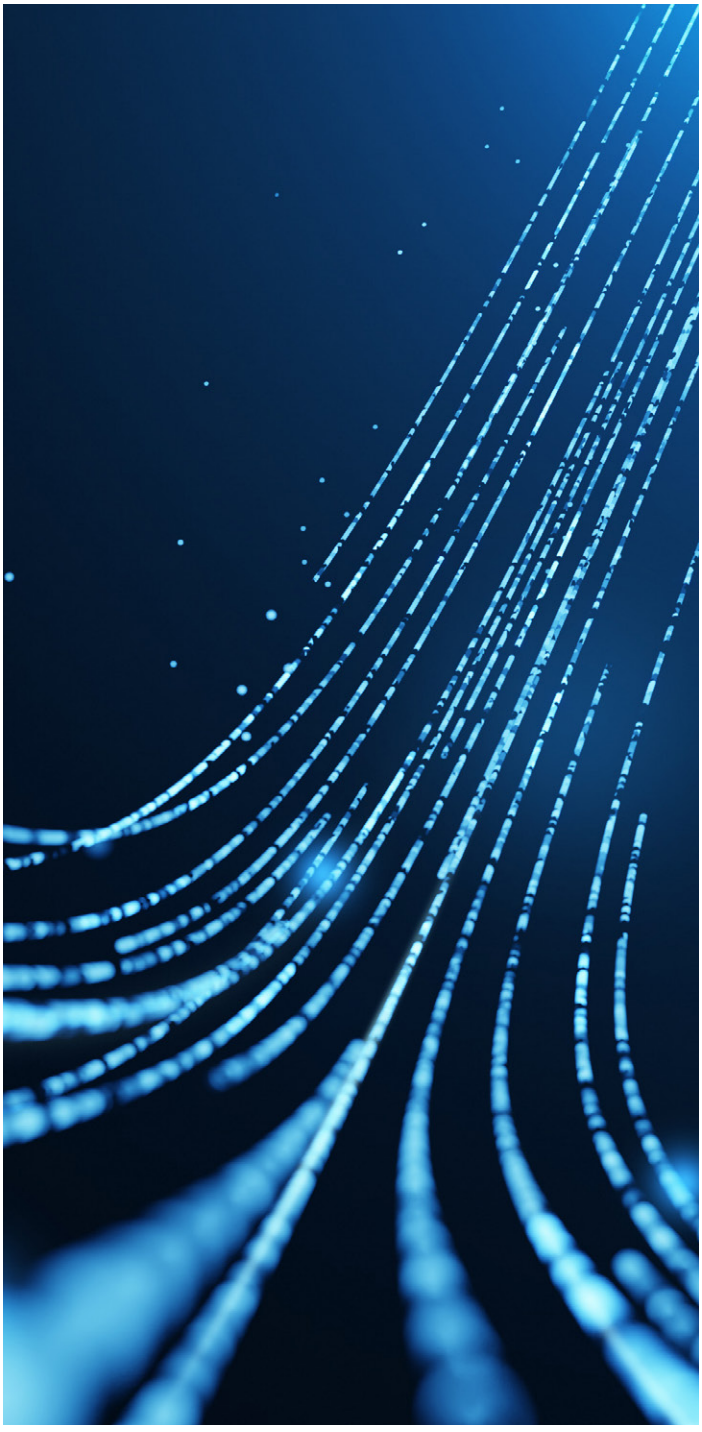
By calculating risk with more accurate and personalized algorithms, the company can lower pricing to attract new customers and grow revenues, while minimizing claim payouts to reduce expenses, and improve patient health in the process.

**Decision:** Employ Teradata Vantage to:

- Analyze integrated data for a complete view of the subscriber
- Employ machine learning and graph analytics for more accurate disease-specific risk scoring algorithms
- Use 4D Analytics to uncover behavior patterns and identify potentially highly profitable customers clustered in communities that the company is already established in. The new risk scoring algorithms are used alongside behavioral analytics to segment which of these customers would have the most potential profit. A new marketing campaign is launched to target this potential new business.



teradata.



Fortunately, the enterprise doesn't have to limit its scope of questions by technology choice. Teradata Vantage is the only enterprise-grade data analytics platform that lets you scale all dimensions simultaneously. Vantage enables the enterprise to handle the massive, complex data workloads of the future, today. From queries to users to volume, as demand against one vector increases, performance isn't lost in others. With Vantage, multidimensional scalability enables each dimension to scale independently, giving users the flexibility to ask any question, any time, unconstrained by technology.

## Fast-Tracking Innovation

Imagine making a business decision without knowing how it affects your customers, products, or your bottom line. Organizations that lack integrated data will be challenged to make decisions with only partial data or in a potentially untimely manner. But when more sophisticated questions can be asked at any time by anyone, an enterprise gets on the fast track to ingenious innovation that sets it apart. The business can make rapid, informed, and differentiated decisions and discover new avenues to innovation. As a result, they emerge as leaders in their markets.

## About Teradata

Teradata is the cloud data analytics platform company, built for a hybrid multi-cloud reality, solving the world's most complex data challenges at scale. We help businesses unlock value by turning data into their greatest asset. See how at **Teradata.com**.

17095 Via Del Campo, San Diego, CA 92127 Teradata.com

The Teradata logo is a trademark, and Teradata is a registered trademark of Teradata Corporation and/or its affiliates in the U.S. and worldwide. Teradata continually improves products as new technologies and components become available. Teradata, therefore, reserves the right to change specifications without prior notice. All features, functions and operations described herein may not be marketed in all parts of the world. Consult your Teradata representative or Teradata.com for more information.

© 2020 Teradata Corporation All Rights Reserved. Produced in U.S.A. 08.20

teradata.