

CLOUDBERA | Qlik

EBOOK

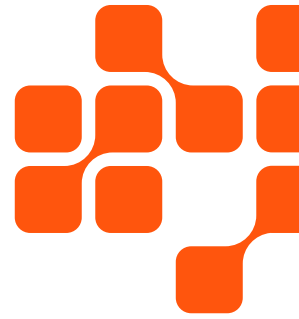
10 Ways to Transform Big Data Analytics into Big Value



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Big Data Can Produce a Lot of Value, But Only if You Know How to Claim It



Big data is a big deal. More than half of enterprises globally view big data as an opportunity, and plan to increase their investments in big data in the next few years.¹

But big data's value doesn't come from the collection of information; that's just the starting point. The real value of big data comes from your ability to combine and analyze it – no matter how much you have, in any number of sources – to uncover new insights that drive business value.

Today's big data analytic solutions are making that possible in two ways: first, by offering out-of-the-box, end-to-end solutions for managing your data across a wide spectrum of use cases; and second, by lowering the barrier to entry with user-friendly solutions.

That's exactly what Qlik® and Cloudera provide for your business. With this powerful partnership, you'll have the technology you need to transform your data into big insights – and accelerate ROI.

¹https://www.dnvgl.com/Images/ViewPointReport_BigData2016_lowresRetEx-R_tcm8-61203.pdf

How Does Making Big Data Analytics Accessible to Your Team Drive Value?

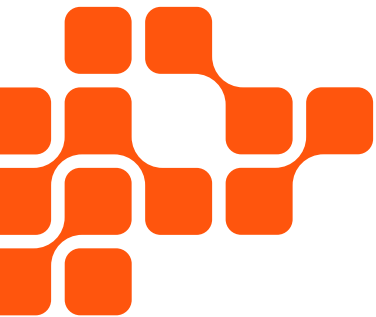
- It provides your company with more detailed insights into key aspects of your business to drive better, more confident, data-driven decisions.
- It fosters a culture of curiosity, where people are encouraged to experiment with ideas and validate them through data analysis.

When you make big data analytics available to everyone, you create the conditions for faster, smarter innovation. The next big idea that transforms your business can now come from anyone in any line of business – not just your data scientists.

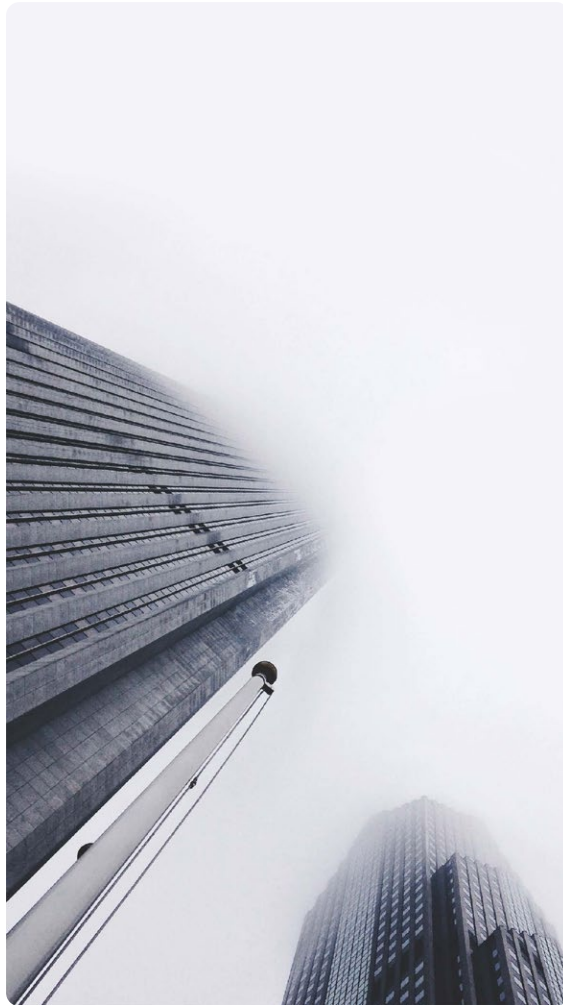
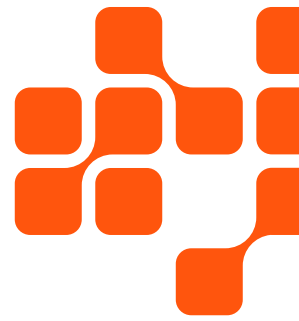


What does big data mean to you?

Big data may mean different things to different businesses – whether it's dealing with new types of data, streaming, or consolidating existing data that's too large to fit on traditional systems. But no matter how you define big data, the challenge and the goal are the same for every business: getting the most value out of it.



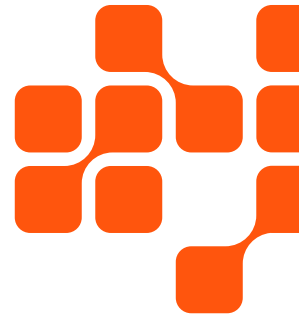
Want to Get More Value From Your Big Data Analytics Investment?



Here are 10 Ways You Can Make a Change:

- 01** Choose the right environment for big data analytics.
- 02** Make sure you can relate the data – not just collect it.
- 03** Give your entire organization access to big data – while keeping it governed.
- 04** Make it easy for users to find the data they need.
- 05** Drive collaboration to drive innovation.
- 06** Use an agile analytics environment that can meet the needs of every user.
- 07** Provide access to analytics from anywhere – no matter where the data lives.
- 08** Implement scalable solutions that grow with your organization's changing needs.
- 09** Ensure that your big data analytics platform can easily adapt to future technologies.
- 10** Choose a data analytics solution with an extensive partner ecosystem.

1. Choose the Right Environment for Big Data Analytics



When it comes to how you access and analyze all of your data, there's no one-size-fits-all approach. Different companies have different needs, different use cases, and different infrastructure environments.

The environment and methods you choose will depend upon the specific user requirements you need to meet, weighed against the various tradeoffs you're willing to accept.

Questions to Consider:

- Do you have a single source of truth for this data?
- How many rows of data will you need to support? Millions? Billions?
- Will your data need to be accessible to non-technical users – or only IT and data specialists?
- Will your data be managed on premises, in the cloud, or both?
- Will most of your users want the ability to select which segments of data they want to analyze and explore?
- What's the right balance between a highly interactive experience for end users and governance for IT?

2. Make Sure You Can Relate the Data – Not Just Collect It

Before, your biggest challenge may have been identifying and collecting the data you needed from a wide range of sources. With today's flexible platforms, that part is easier (and more affordable) than ever. Now there's a new challenge: Because the structure of data storage has changed to include on premises, private cloud, public cloud, and hybrid cloud options, what really matters is whether you can gather and integrate all of this data together – no matter where it comes from or how it's formatted – to discover all the possible relationships across it.

To make those critical connections, you need to have the right infrastructure landscape working together with the right data analytics platform. In other words, you need an end-to-end solution that enables you to not only gather and integrate data but to flexibly analyze all of the relationships within it.

That means that your data analytics solution should use an associative model, which doesn't force you down predetermined lines of questioning but keeps all data in play while you query. That way, your users always have access to a complete view of your business, so they can make better, more informed decisions.

Experience the Associative Difference™ with Qlik.

Unlike traditional data models – which limit what data you can see, how that data should be connected, and what queries you can perform – Qlik's Associative Difference™ identifies every relationship across all of your data. This allows every user – not just the data scientists – to quickly and easily explore data as they see fit, using interactive selections and keyword searches to uncover unexpected connections and insights. And integrated with Cloudera's modern analytic database, you get the same fast and flexible query performance across all your data – in the cloud, on-premises, or in a hybrid model.



3. Give Your Entire Organization Access to Big Data – While Keeping it Governed

When the idea of big data first emerged, its massive potential could be realized only by a select few – mostly data scientists and expert analysts. Non-specialists simply didn't have the knowledge, tools, or experience required to explore and use data in a meaningful way.

That's no longer the case. Now it's imperative that you put big data in the hands of your business users – those people who are closest to your business, who know what questions to ask, and who inherently understand which data-driven insights will have the greatest impact.

With self-service data analytics, business users can use interactive visual applications to freely explore their data and find answers to questions without relying on IT, improving business processes and encouraging innovation throughout your organization.

But there's a challenge. Many organizations have multiple applications, business units, and employees operating on the same underlying data. And that makes it hard to keep data and data context – table definitions, access permissions, metadata classifications, etc. – consistent. So the right approach to big data analytics must keep data governance at the core, with usage-driven automations that balance stewardship requirements, while giving users the trust and access they need to get the insights that count. It's also important to ensure that your solution allows users to freely explore data while supporting regular reporting and SLAs.

Cloudera Shared Data Experience is a powerful software framework that makes enabling multi-function analytics easier, less expensive, and more efficient to manage and secure. Now all users, running any type of application, can share the same data catalog and structures, leading to much greater agility. At the same time, Cloudera Shared Data Experience ensures consistent and enterprise-grade security policies, governance, and management across any deployment type.

The logo for Cloudera Shared Data Experience (SDX). The word "CLOUDERA" is written in a bold, orange, sans-serif font. Below it, the letters "SDX" are written in a much larger, bold, dark blue, sans-serif font.

What's Driving the Shift Toward Self-Service Analytics?

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In a recent report,² Forbes Insights surveyed 449 senior IT and business professionals to find out why they decided to move to a self-service model:

62%

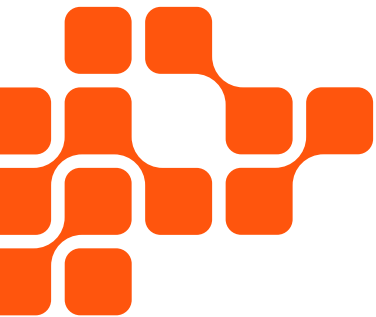
wanted more open access to data.

71%

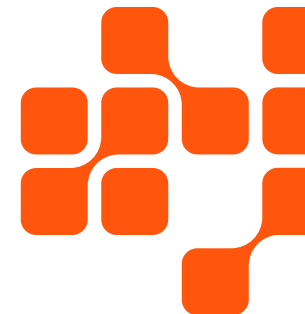
wanted better quality data and analysis.

76%

wanted more timely analysis.



²Analytical Enablement: How Leaders Harness Distributed Business Intelligence to Drive Breakthrough Results. Forbes Insights, 2016.



4. Make it Easy for Users to Find The Data They Need

Business managers are increasingly expected to support their decision-making process with hard evidence. Unfortunately, it can be difficult to find answers within a massive, ever-growing data repository.

To help business users find these answers – and get more ROI from big data – you need to make it easy for them to explore and discover relevant data sets.

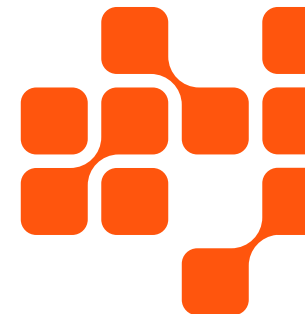
You can do this by providing solutions that:

- Have shared metadata (including schemas and structures) across multiple types of workloads and deployments
- Enable end users to quickly find trusted and curated data sets and easily query them as needed, without having to go through a long request cycle
- Recommend commonly used tables and columns to help accelerate analysis

- Allow users to intuitively dive into data as they see fit, without needing to rely on IT to run queries and generate reports
- Offer natural language search capabilities that make it easy to locate information
- Uncover connections and relationships across disparate sources of data – or even the unexpected ways data isn't related
- Visualize findings with clear and concise data visualizations

What is Natural Language Search, and How Can it Help?

With natural language search, users can perform queries using regular spoken language. This is extremely helpful for users who lack data expertise and may not know the technical terms needed to locate precise information within the database. Data analytic solutions that include this feature can empower more users to gain insights from their data.



5. Drive Collaboration to Drive Innovation

Great discoveries are almost inevitably a team effort. Bringing together a range of people with a spectrum of perspectives, skill sets, and areas of expertise to collaborate around your data greatly increases your chances of uncovering something new and profound. And that's not all.

When you take steps to enable collaboration, you set the stage for faster innovation and greater ROI. For example, with a modern analytics database like Cloudera's platform, you can enable collaboration across the entire analytics workflow, from extracting, transforming, and loading (ETL) to Data and SQL analytics to operationalizing results. The faster you get the data into analysis, the faster you arrive at insights; the faster you arrive at insights, the faster you can get to market.

An enterprise-ready data analytics solution like Qlik running on Cloudera delivers both the freedom of self-service analytics, which allows every user to explore and share data, and the controlled access of comprehensive governance capabilities, so everyone is working from a single source of truth.

Tip: Make Sure Your Data Analytics Solution is Properly Governed.

Data governance ensures that access to analytics features and data are properly controlled and managed across your organization. Without the appropriate level of governance, errors, variations, and redundancies can occur, causing delays and disruptions as users struggle to verify the truth in the data.

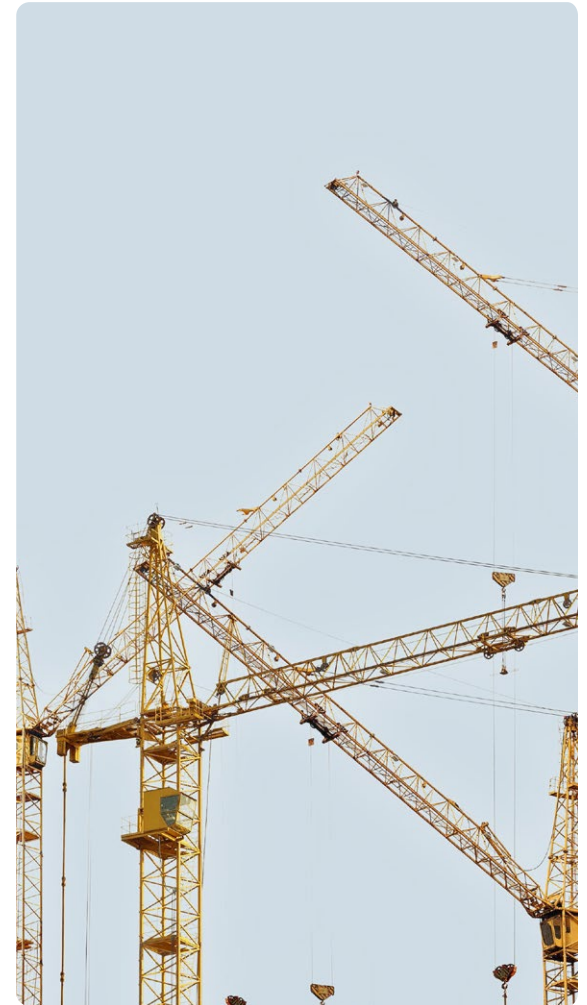
Proper governance helps you avoid these inconsistencies and ensures that everyone is getting their insights from the same trusted data.

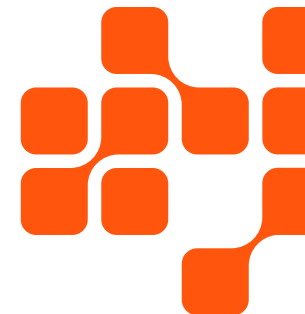
6. Use an Agile Analytics Environment that Can Meet the Needs of Every User

Keeping pace with the deluge of new information that big data provides is no small challenge. This onslaught of data can make it difficult for business users to really dig in, explore, and get the answers they need in a timely manner. To keep up, you need to foster an agile analytics environment, where your IT team can quickly and incrementally build upon your data analytics solution to respond to the changing needs of business users.

You may want to begin by selecting a flexible big data foundation. A solution like Cloudera adapts to the infrastructure landscape as it changes, so you don't get left behind. And Cloudera builds on the latest open-source technologies to deliver the architecture that enables you to handle more data, more models, and a larger variety of use cases out-of-the-box – including descriptive, predictive, and prescriptive. It also empowers you to adapt to changes in users, data, servers, and analytics apps.

On the data analytics side, Qlik offers the entire spectrum of analytics use cases for your users, no matter where they are on the spectrum of expertise. So, for example, as users become more comfortable with data, you can advance them from guided analytics to self-service analytics. This enables them to explore more of the data on their own and drill down into the details faster. With an agile framework, it's easy for you to enable such users, with no significant cost or development time.





7. Provide Access to Analytics from Anywhere – No Matter Where the Data Lives

As the computing power of mobile phones, tablets, and laptops continues to increase, people are increasingly conducting business outside the office. Whether on a train, at the airport, or in a client meeting, today's teams expect to access their work no matter where business takes them. To meet these expectations, you need the ability to deliver analytics solutions to your clients and users in a variety of formats – anywhere and everywhere, and with all the features they expect.

But that's not all. Because your data is likely to be stored in a number of different environments – from on premises, to private cloud, public cloud, and hybrid clouds – you should also make sure that users have access to analytics no matter where your data lives.

In addition to providing direct access to your analytics solution through a cloud-based or online portal, another way to ensure anywhere access is to embed analytics within company applications using open APIs. By delivering powerful analytics within the context of your users' everyday workflow, you can ensure that everyone will always have access to the information they need, right when they need it.

Embedding Analytics to Provide a Seamless User Experience.

Self-service analytics has brought the power of analytics to the masses, but for some users, gaining access to additional applications can be a real challenge. That's why some products and organizations embed analytics directly into the familiar environments or applications that users work with daily.

8. Implement Scalable Solutions that Grow with Your Organization's Changing Needs

As a rule, big data keeps getting only bigger. But no matter how much your data repository expands, your users expect a smooth experience without long wait times or interruptions. That means you need to find a way to provide predictable, high-performance analytics to a large number of users. And as your data set grows, your solutions shouldn't struggle to keep up.

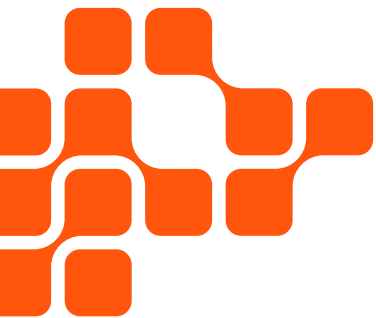
To ensure that users can keep exploring data the way they want, adopt a big data analytics platform that scales with your needs, delivering superior performance even as data volumes grow and apps become more complex. This platform should use multiple

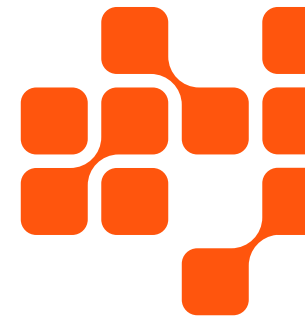
tools and methodologies so that you can maintain an interactive, dynamic experience for end users, no matter how much data you accrue.

Also, look for a data analytics solution that performs calculations on the fly using in-memory processing. These solutions can process and respond to questions “at the speed of thought,” allowing users to keep digging and exploring, without having to wait for the platform to catch up. This in turn can help foster a more prominent culture of curiosity and exploration within your organization at large.

What is In-Memory Processing, and How Can It Help?

In-memory is a data processing technique that temporarily stores and calculates information in random access memory (RAM) rather than extracting data from disk storage every time the user makes a new selection or calculation. Data can be read and analyzed much faster in RAM, resulting in faster reporting (and decision-making) than with a more traditional approach.





9. Ensure that Your Big Data Analytics Platform can Easily Adapt to Future Technologies

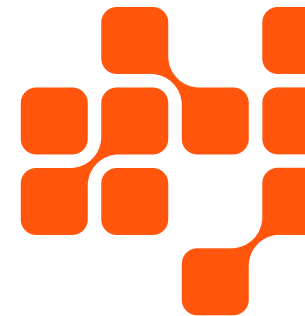
The technology to manage and explore big data is rapidly changing, providing better and faster solutions to gain insights from your data. But integrating the latest technologies into existing analytics platforms can be challenging – and sometimes impossible.

You should ensure that your analytics solution can quickly and easily integrate with new technologies. A big data foundation that uses open-source technology can go a long way toward making that happen. Cloudera, for example, is built on open architecture with shared, open storage; open formats; and SDX – the Shared Data Experience – complete with open APIs. As a result, your data and data context are free from lock-in, even as you extend to new deployment environments and third-party applications. And as a modular platform, Cloudera is designed to continuously adapt to new technology needs, so you're always prepared for what's next.

In your data analytics solution, open APIs can make introducing new capabilities to your existing solution as simple as adding a few lines of code. Having an online community that's focused on custom development is also important. There, developers can help you stay current and relevant, by easily collaborating with others to ensure that your product or solution keeps pace with the latest advances in technology.

What are Open APIs?

An open API is a publicly available interface that developers can use to integrate third-party solutions into their own solution. Essentially, open APIs govern how two different applications can easily communicate and interact with each other. Analytics solutions that offer open APIs allow businesses to easily plug into multiple solutions to perform specific functions that no stand-alone solution could do by itself.



10. Choose a Data Analytics Solution with an Extensive Partner Ecosystem

When it comes to big data, sometimes you need a little extra help. When choosing a data analytics solution, look for vendors that maintain a large and diverse range of technology partnerships. This will help streamline data interaction, ensuring that all of your data analytics solutions work together efficiently and effectively. Plus, with enough partners at your disposal, you'll always have the right solution for your business needs – now and in the future.

What Types of Technology Partners Could You Use?

- **Data Storage and Management Solution Providers** Store and query your data, as well as provide the infrastructure needed to run your analytics solutions
- **Data Wrangling Solution Providers** Refine and reshape raw data into usable data sets.
- **Machine Learning Solution Providers** Automate analytical model-building by using algorithms that iteratively learn from data.



Why Cloudera + Qlik?

Big data analytics has the potential to transform your business, but to unlock its true power, you need to know how to fully use it. Together, Qlik and Cloudera provide an end-to-end approach to data storage, management, access, and analysis that accelerates your time to value:



Enabling you to easily connect, combine, and collaborate with a wide range of big data and traditional data sources



Driving big data analytics innovation and maturity across your organization by supporting agile development



Providing a complete view of your business and the external forces that impact it



Future-proofing your investments in big data analytics by scaling as your business grows



Letting more users access and explore data, from anywhere at any time



Facilitating better, data-driven decisions in every area of your business



Fostering a culture of collaboration, inquiry, and innovation across your entire organization

Your First Big Step Toward Big Data Analytics Mastery

Cloudera

Cloudera empowers people to transform complex data into clear and actionable insights, delivering the modern platform for machine learning and analytics optimized for the cloud. The world's largest enterprises trust Cloudera to help solve their most challenging business problems.

[Learn more about big data solutions with Cloudera.](#)

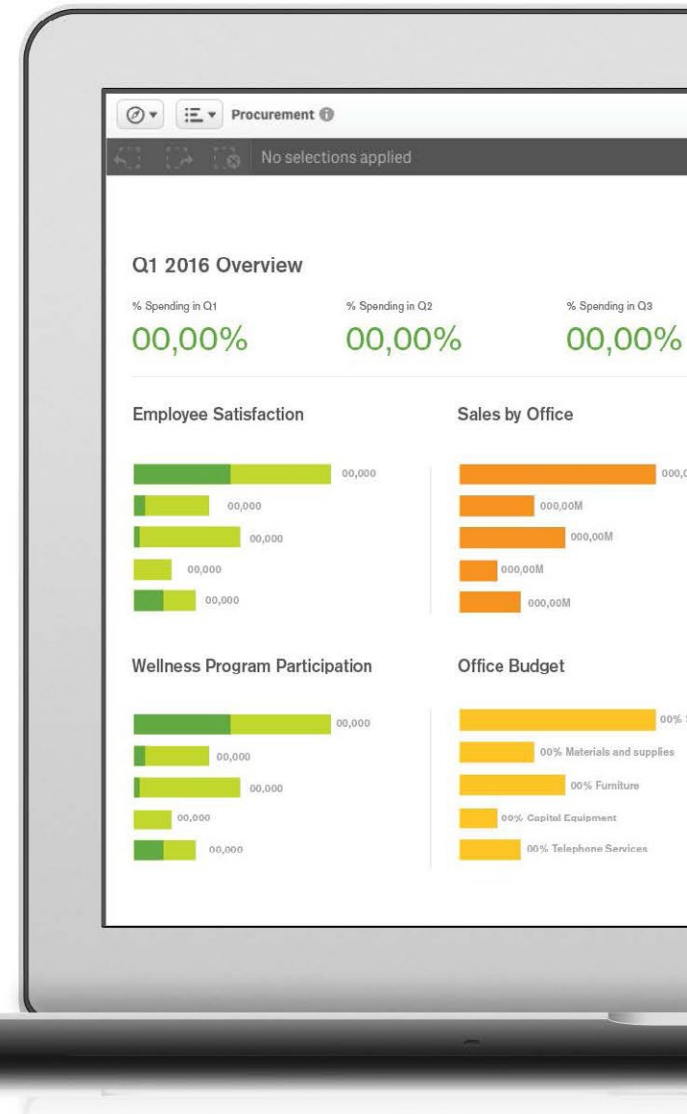
Qlik

Named a BI and analytics Leader in Gartner's Magic Quadrant for seven years running, Qlik offers a complete portfolio of visual analytics solutions that help businesses get the most out of their big data investment. Qlik's enterprise-ready platform is backed

by the power of its unique Associative Difference,™ which allows teams to freely explore every connection, across all of their data, at the speed of thought. Users of all kinds can quickly and easily delve into massive amounts of data, from multiple sources, as they follow their own path to insight.

Ready to find answers to your company's most important questions?

[Try Qlik for free today.](#)



About Cloudera

Cloudera is the only true hybrid platform for data, analytics, and AI. With 100x more data under management than other cloud-only vendors, Cloudera empowers global enterprises to transform data of all types, on any public or private cloud, into valuable, trusted insights. Our open data lakehouse delivers scalable and secure data management with portable cloud-native analytics, enabling customers to bring GenAI models to their data while maintaining privacy and ensuring responsible, reliable AI deployments. The world's largest brands in financial services, insurance, media, manufacturing, and government rely on Cloudera to be able to use their data to solve the impossible—today and in the future.

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