Microsoft

Innovation Through Analytics

Industry-leading use cases for integrated analytics technology

Contents

Introduction

The demand for data-driven business insights is growing—and fast.

The demand for data-driven business insights is growing—and fast. However, as companies collect more data from different sources in diverse formats, many find that their current analytics tools can't deliver accurate insights quickly enough to have game-changing business impacts.

With its capacity to analyze vast datasets, automate repetitive tasks, and generate valuable insights, AI transforms how companies operate and make strategic decisions. From healthcare to finance, manufacturing to marketing, AI drives innovation by enabling predictive analytics, personalized customer experiences, and efficient supply chain management.

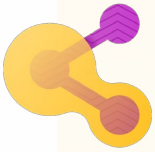
As AI advances, the potential for groundbreaking innovations across diverse sectors seems limitless, making it a driving force in the modern business landscape.

However, challenges like siloed data, redundant technology, and complex governance regulations get in the way of using AI and machine learning models to extract fast, actionable insights. Stitching together different analytics solutions on the cloud, on-premises, and from third-party vendors slows down time to insights, complicates workflows, and potentially exposes data to security risks.

Barriers to extracting valuable insights from data:

Siloed data

Data is often stored in separate places, leaving you without a single source of truth for your analytics processes.



Governance

Following governance requirements across environments can be complex, making accessing and sharing data quickly difficult.

Security

Maintaining security across a patchwork of different solutions takes time, cost, and effort.

As the demand for fast insights grows, so does the need for a unified data analytics platform. By centralizing your data analytics and reporting tools on a single governed platform, you can give your data professionals and data citizens alike the flexibility to extract and share near real-time insights.

Lake-centric data management: What's possible?

Centralizing your analytics tools on a secure, lake-centric platform like Microsoft Fabric is the first step to uncovering deeper insights in the era of AI. Fabric weaves together the most powerful analytics capabilities and solutions so organizations can access value-adding insights and drive productivity using emerging AI and machine learning technologies.

In the Total Economic Impact™ of Microsoft Fabric study, the composite organization based on data from four companies using Fabric showed an increase in data engineer and data scientist productivity of up to 50%, plus a 15% increase in business analyst productivity[1].

[1]New Technology: The Projected Total Economic Impact™ Of Microsoft Fabric, a commissioned study conducted by Forrester Consulting, 2023

Roles-specific data capabilities

- Data integration
- Data engineering
- Data warehousing
- Data science
- Real-time analytics
- Applied observability
- Business intelligence

Integrated solutions

Power BI | Data Factory | Synapse | Data Activator | OneLake

Fabric includes OneLake, an open data lake that is the central repository for all your analytics data. With OneLake, multiple analytic engines can use a single data copy, making it easier for different teams to access and analyze structured and unstructured data.

This e-book will describe scenarios for using analytics tools on a unified data platform to meet high-priority analytics goals:

- Develop smarter big-picture strategies with intelligent reporting.
- Easily share real-time reporting with stakeholders in a range of accessible formats.
- Track organization trends, goals, and KPIs, highlighting where and how to optimize processes.
- Secure and govern your data effectively at every stage of its lifecycle.
- Give more people the tools and skills to use data to uncover valuable insights.

Analytics use cases by line of business

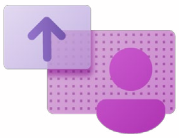
Marketing

Optimize marketing campaigns

- Bring together campaign data from different sources to track performance.
- Develop models that identify areas to target for future campaigns.
- Receive real-time alerts when metrics change.

Maximize paid media budgets

- Combine impressions and sales data to measure where and how your media spending translates into sales.
- Develop models that help allocate those dollars to the right channels.



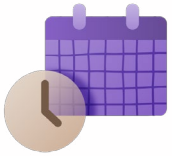
Create in-depth customer personas

- Gather customer data, including purchasing history, social activity, location, and demographics.
- Build target personas for specific products and services.

Sales

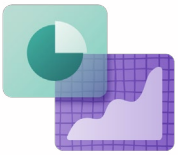
Identify upsell and cross-selling opportunities

- Combine data from various sales points to paint a fuller picture of your customers' needs.
- Offer recommendations of products or services based on their preferences and interactions.



Improve sales forecasting

- Predict future sales performance using historical and current data.
- Create visual dashboards and use predictive analytics to enable better decision-making.



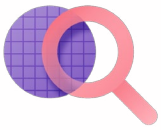
Enhance sales productivity

- Measure and track key sales metrics, including win rates, number of wins, margin, discounts, and more.
- Develop an easy-to-read dashboard that helps sales reps and leaders improve performance.

Finance

Visualize financial reporting and analysis

- Create and share data-intensive financial reports, including income statements, balance sheets, and cash flow statements.
- Visualize financial data in interactive dashboards that integrate data from various sources and run.



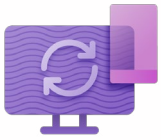
Uncover strategies for revenue growth

- Combine data from sales, inventory, pipeline, and cost data.
- Identify patterns in data and build dashboards that reveal potentially profitable trends.

Financial risk management

- Develop predictive risk models using historical and current financial data.
- Monitor key risk indicators and use anomaly detection, pattern recognition, and network analysis to identify issues and ensure regulatory compliance.

HR



Improve employee retention

- Use unified and predictive data analytics to spot patterns in employee satisfaction.
- Get alerts when key metrics like retention rates fall below a certain threshold to reduce employee turnover.

Improve demand planning

- Consolidate workforce data onto a single dashboard to reveal where potential talent gaps exist.
- Discover patterns that reveal how to distribute workloads more effectively.

Track benefits usage

- Bring HR data together from cloud and on-premises sources to create visualizations and dashboards.
- Reveal patterns in how employees are using their benefits to help predict and prepare for future usage.

Analytics technology use cases by industry

Opportunities to accelerate the value of your data with Fabric

1. Healthcare

To improve patient outcomes with better insights, the healthcare industry handles vast amounts of data generated from different sources, including EHR records, medical imaging, lab tests, and wearable devices. Data is often siloed, fragmented, and inconsistent, which makes it difficult to get a holistic view of patient health, quality of care, and operational efficiency.

Additionally, the industry must comply with strict regulations and standards surrounding data privacy, security, and governance, further adding to data complexity and costs.

Analytics use cases for improving patient outcomes

Create a robust research data repository

- Use a central repository like OneLake to aggregate medical data from various sources.
- Enable fast, in-depth data analysis while conducting research.
- Use built-in security and governance to help ensure sensitive data is protected.

Facilitate secure data sharing between providers

- Allow analysts and care providers to collaborate on data analysis.
- Securely share findings with external partners and peer organizations.

Create holistic patient profiles

- Merge siloed structured and unstructured medical data produced by patients to enable simpler access, analysis, and visualization.
- Give providers a 360-degree view of their patient's health journey.

2. Financial services

Financial services companies need their customers to trust their ability to handle financial data and make smart decisions. Firms must integrate and analyze diverse data sources, including transaction records, market data, customer interactions, and regulatory reports to gain a more comprehensive view of threats and opportunities.

This data is often scattered across different systems and formats, causing inefficiencies that delay action. Financial institutions also face the pressure of risk management, fraud detection, and regulatory compliance.

Analytics use cases for improving financial services

Enhance risk detection and loss prevention

- Drive modeling, insights, and regulatory reporting with scalable computing and analytics
- Identify evolving risks and quickly develop swift responses to fraudulent activities.
- Assess climate risks in capital markets and unify non-traditional and traditional climate risk factors.

Improve customer experiences

- Give customers a more complete view of their financial status using data from multiple sources, including behavioral and demographic data.
- Spot opportunities to engage with them and offer upsell or cross-sell options related to their needs.
- Create insurance models that help predict customer needs and provide custom insurance solutions.

Enhance security and governance

- Gain access to portfolio, reference, market, and risk data using open and governed access controls in highly regulated environments.
- Help FSI organizations break down data and technology silos.

3. Government

Data holds enormous potential for enhancing public service and improving policies for the benefit of all. However, government agencies must deal with various data sources, like census data, public records, surveys, and sensors.

This data is often large, complex, and heterogeneous—posing significant challenges for data integration, analysis, and visualization. Those agencies must also ensure data quality, security, and compliance with legal and ethical standards to maintain public trust and accountability.

Analytics use cases for improving public services

Enable predictive maintenance for transportation and public utilities

- Streamline the intake of real-time data from IoT sensors on public utilities and transportation infrastructure.
- Develop dashboards to promptly detect and notify maintenance personnel of potential machinery and infrastructure issues, enabling proactive repairs before any breakdowns occur.

Anticipate public utilities demand

- Gather real-time usage data from IoT sensors and various utility hubs.
- Employ real-time analytics to predict demand patterns.
- Proactively prepare for usage surges while also driving sustainability measures.

Provide secure and remote government access to data

- Centralize data from military bases and public safety agencies in an open, governed data lake.
- Allow trusted personnel to access data remotely from any location worldwide.
- Use built-in security and compliance capabilities to increase the protection of critical data.

4. Education

Helping students succeed requires seeing where the gaps are and providing the tools to fill in the missing pieces. The gaps can be difficult to find, especially with data from quantitative sources (such as test scores and attendance) and qualitative sources (such as behavioral observations and surveys).

The scattered nature of this information makes it hard to fully understand the educational process and its impact on student engagement and performance. Educational institutions must also do their utmost to ensure data privacy, security, and compliance with ethical and legal standards.

Analytics use cases for driving academic success

Build a 360-degree view of student progress

- Aggregate student data like grades, test score history, and demographics.
- Use AI and machine learning models to forecast outcomes and pinpoint areas for improvement or intervention.

Offer personalized learning guidance

- Aggregate student and institutional data in a centralized repository.
- Develop recommendation engines to help students select the appropriate combination of courses and identify available classes based on their campus location.

Modernize institutional data management

- Consolidate historical data currently kept in siloed systems.
- Develop novel analytics models that were previously impossible using isolated recording-keeping systems.

5. Energy

Keeping the world powered with reliable energy requires adapting and reacting quickly. With data flowing from meters, sensors, forecasts, and global markets, energy companies must handle huge amounts of complex data while ensuring data quality, security, and compliance with environmental and regulatory standards.

Analytics tools help organizations in the energy sector broaden their visibility and insights to optimize energy production, reduce costs and emissions, and innovate more sustainable ways to power people and industries.

Analytics use cases for improving energy use and consumption

Anticipate energy demand

- Unify real-time data from various sources, such as wind turbines, solar panels, and customer data.
- Use AI and machine learning to forecast future power demand.

Enhance in-home heating efficiency

- Gather usage and temperature data from numerous in-home heating systems.
- Detect anomalies or heating usage patterns to help reduce costs and CO2 emissions.

Shift towards sustainability

- Consolidate and democratize real-time data to pinpoint how clean energy is used and develop strategies for lowering carbon emissions.
- Drive analytics and actionable insights for sustainable decision-making.

6. Retail

For retailers, data is key to building strong customer relationships and driving business continuity. By unifying and analyzing data from across the retail ecosystem—including sales performance, purchasing history, in-store customer behavior, inventory management, and market trends—retailers can build personalized experiences that grow loyalty and boost profits.

Analytics use cases for improving retail experiences

Create tailored customer experiences

- Use customer data to understand what buyers value most in their digital and in-store purchasing experiences.
- Build a 360-degree view to create highly relevant experiences that inspire loyalty.

Forecast business and retail trends

- Analyze customer behavior and social media patterns and use predictive analytics to see what customers might want in the future.
- Use site-behavior data to remarket to consumers with relevant products.

Build agile supply chains

- Use real-time insights to respond quickly to shifting customer demands, drive logistics transparency, and optimize inventory distribution.
- Combine data from multiple sources like purchase orders, inventory, and manufacturing for greater supply chain visibility.

7. Manufacturing

Legacy systems can't always handle complex, real-time data from diverse sources like production processes, equipment sensors, and supply chains. Manufacturers find it difficult to deliver consistently competitive products without deeper insights into how production lines are running—or how products perform once they're on the market.

Advanced analytics has launched a wave of change across factory floors, enabling these companies to get a granular view of operations and catch opportunities to optimize production efficiencies.

Analytics use cases for driving manufacturing efficiencies

Minimize production delays

- Use a central repository for analyzing cost, capacity, and output to help you avoid production delays.
- Build visualizations of data taken from sensors and use AI to forecast equipment issues to avoid potential downtime.

Enable predictive maintenance

- Streamline data from various manufacturing machines, tools, devices, and operational sources.
- Predict where maintenance is needed to keep equipment in top shape to meet demand.

Optimize pricing strategies

- Integrate analytics tools to provide insights into the actual cost of a product, considering materials, operations, machinery, and tools used.
- Set more strategic prices with real-time analytics of competitors, market dynamics, consumer actions, and purchasing history.

8. Software development

As software development organizations continue expanding the boundaries of what digital services and products can provide, safeguarding data privacy and security is paramount. Compliance with regulations like the General Data Protection Regulation (GDPR) and the California Consumer Privacy Act (CCPA) is essential to ensure data confidentiality, integrity, and availability.

Additionally, as data grows in volume, variety, and velocity, software development companies must adopt advanced technologies like cloud computing, big data analytics, AI, and machine learning to analyze large, complex datasets efficiently. These tools will help them gain a deeper understanding of what their data is trying to tell them, allowing them to develop more awe-inspiring digital products and services.

Analytics use cases for elevating digital experiences

Expand threat intelligence

- Consolidate vast volumes of real-time threat and security data from diverse systems.
- Use AI and machine learning analyses to detect threat patterns and potential security breaches.

Improve recommendation engines

- Develop a 360-degree view of customers and use advanced analytics to identify customer usage patterns.
- Analyze data gathered from interactions with your websites and digital services to offer personalized recommendations.

Develop solutions with integrated analytics capabilities

- Infuse your digital solutions with advanced analytics models and visualizations to help democratize access to analytics within internal teams.
- Increase the value proposition of the products and services you're selling.

Microsoft Fabric: Unified data analytics for the era of AI

Fabric offers a streamlined, governed analytics experience on a simplified data foundation. By integrating Power BI, Synapse, and other data analytics solutions, Fabric provides a user-friendly and AI-ready solution that lets organizations bypass traditional barriers to insights and make faster, data-based decisions.

Data isn't just information—it's a competitive advantage

Fast, accurate business insights require the right mix of analytics tools and a consolidated data estate. The key ingredients for using data as a competitive advantage include:

A single stack platform

Companies want to simplify data management, not complicate it. Reducing tech debt and consolidating analytics tools by developing a single-stack platform makes it easier for people across your organization to integrate analytics and reporting into their everyday processes.

Data democratization

Reduce the time and effort it takes data professionals and citizens to access the information they need when needed. Provide self-service and low-code BI capabilities to empower employees further to make better decisions and optimize processes.

Built-in security and governance

Protect data throughout its entire lifecycle, whether at rest or in transit. Using Fabric allows you to treat data with the highest security and governance standards at every level to maintain trust with customers, employees, and stakeholders.

Fabric is built on AI

Azure OpenAI

Fabric is infused with Azure OpenAI Service so users can easily use generative AI to uncover their data insights.
Explore Azure OpenAI Service ›

Copilot

Use conversational language to build dataflows, data pipelines, machine learning models, and generate code.
Learn more about using Copilot for reporting in Fabric ›

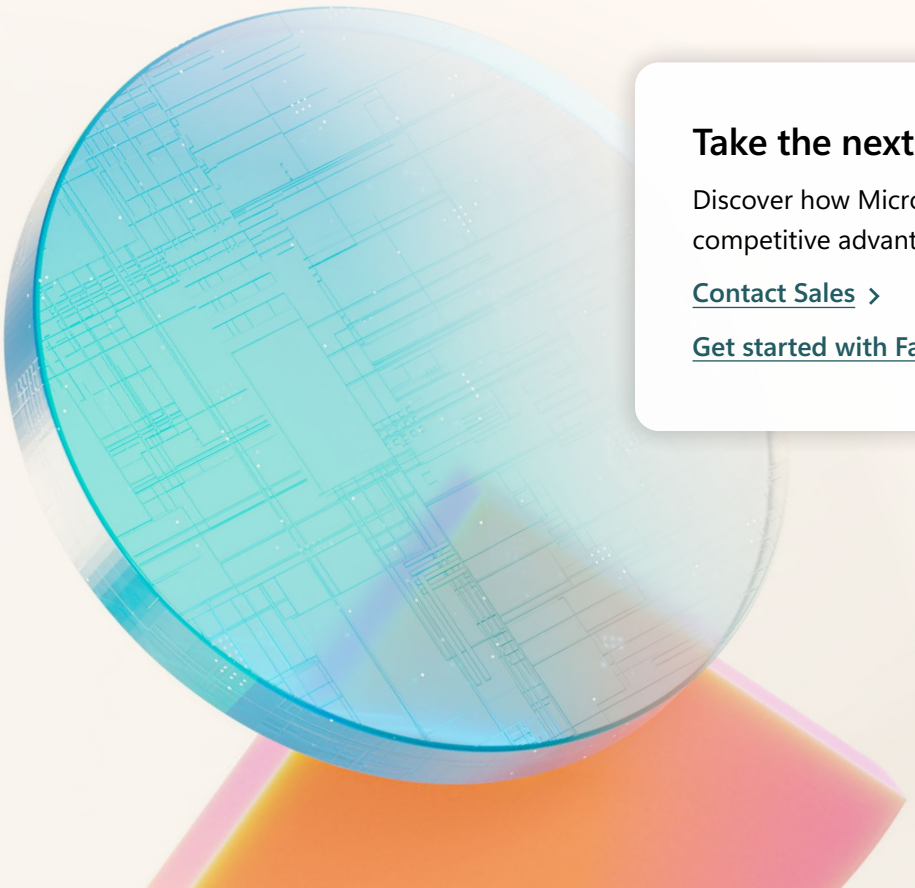
Conclusion: Discover what your data is trying to tell you

No matter the industry, innovation is the key to staying competitive. Advanced analytics and AI support human innovation by offering a closer and more accurate view of your business and the global market. Microsoft Fabric empowers marketing, sales, finance, and HR teams to see a clear link between their strategies, actions, and outcomes. With improved knowledge of how their strategies translate into results, they'll be more empowered to imagine new possibilities and bring them to life through innovation.

Fabric benefits:

Companies want to simplify data management, not complicate it. Reducing tech debt and consolidating analytics tools by developing a single-stack platform makes it easier for people across your organization to integrate analytics and reporting into their everyday processes.

- Consolidate previously siloed data on OneLake for simpler access and analyses.
- Easily create Power BI reports and share them by embedding reports directly into PowerPoint, SharePoint, Outlook, and Teams.
- Maintain the highest security and governance standards with Microsoft Purview.
- Take advantage of emerging AI and machine learning models for faster, more relevant insights.
- Query data in the language of your choice and access limitless analytics scalability with Synapse.



Take the next step

Discover how Microsoft Fabric helps turn your data into a competitive advantage and lay the foundation for the era of AI.

Contact Sales ›

Get started with Fabric ›