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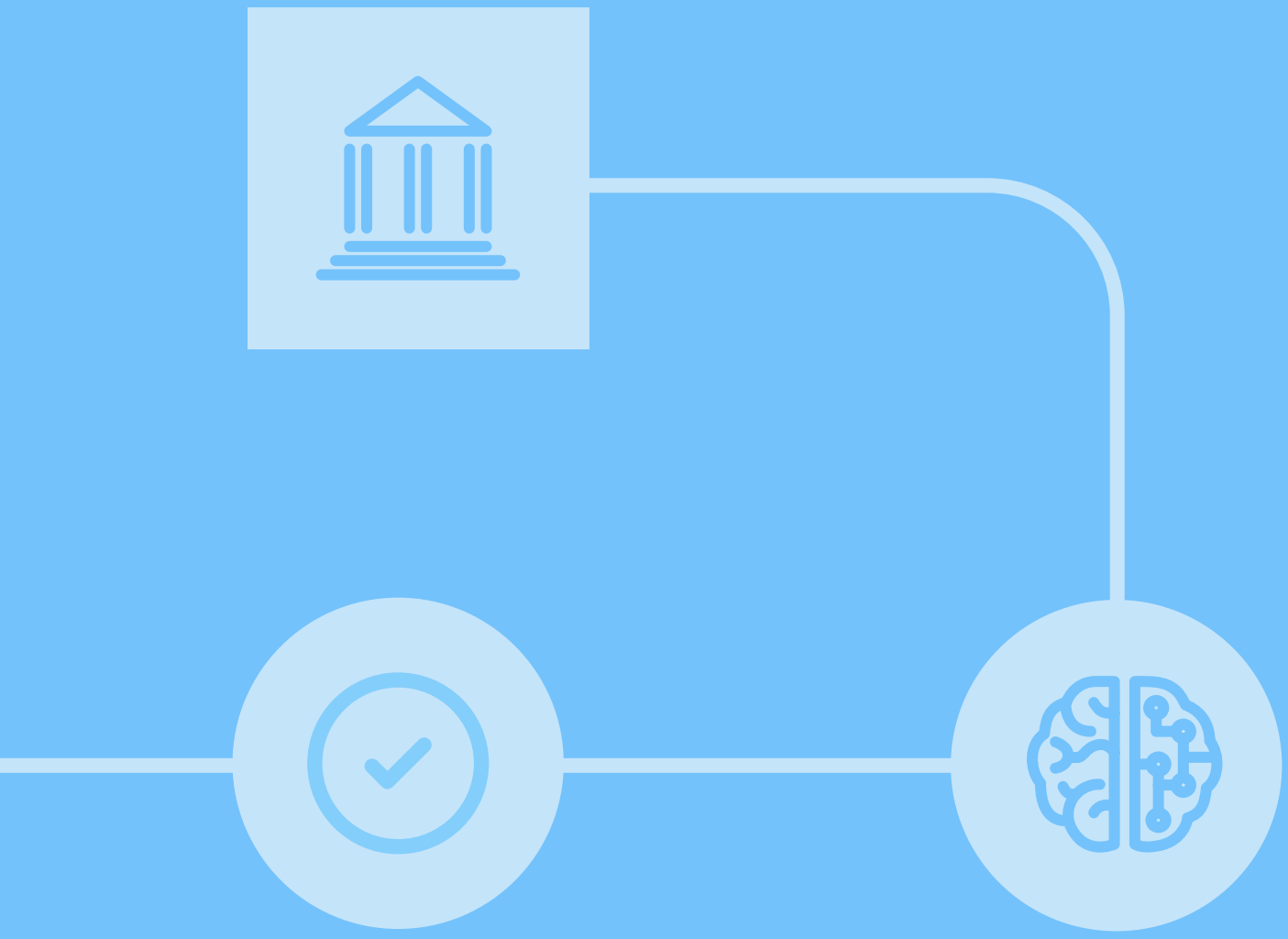
EBOOK

AI & Data Analytics in Financial Services

A Use Case Library



Accelerating the Transformation of Banking With Data

This library is not an exhaustive list of all the use cases for AI and advanced analytics in banking, but a representative one that is bound to expand and grow as novel solutions to common problems in the financial services space are found. From risk management and operational efficiency to ESG, there are dozens of ways banks can harness AI, data, and analytics to drive value at scale — all while minimizing costs and saving time. In the following pages, we'll run through many of the solutions and applications that have helped FSI firms get ahead on their data game.

While data is at the core of financial services, the data-driven augmentation and optimization of all banking and investment processes is far from being a market-wide reality. Trendsetters have been combining data empowerment programs for their business professionals with a transformation of core processes through advanced analytics to reap full benefits of the AI opportunity.

Thanks to comprehensive data strategies, financial services players can enhance their entire value chain and develop competitive differentiators across all critical dimensions:

- Nurturing and growing their customer base
- Enhancing risk Management and regulatory compliance practices
- Streamlining all operational processes for improved resilience and efficiency
- Accelerating ESG embedding across the banking value chain
- Empowering financial professionals with data-driven decision making accelerators & much more

Dataiku works across dozens of use cases in financial services, from highly specific tasks to general data process improvements. Many data teams, analysts, and modelers still build processes and models on cumbersome and overcomplicated spreadsheets. But in using spreadsheets and other legacy systems for business-critical analytics, teams stifle their growth and create compliance remediation debt that will eventually need to be paid.

By moving away from these, teams increase the quality and speed of outputs as well as the complexity of their data analyses. They can escape the risk of their spreadsheet freezing, crashing, or losing information when a dataset is too large, and move on to processing large amounts of data, incorporating unstructured data processing, working with predictive models, accelerating model risk reviews, and more, all within a well-governed and auditable environment.

Fully integrated and centralized data practices that support an upskilled and data-savvy workforce across all of an organization's departments are the future of data science for banks. And as large language models (LLMs) become more sophisticated and more deeply embedded in AI models and processes, this future will arrive at an increasingly accelerated pace.

Dataiku removes the risks associated with heavy use of spreadsheets and fragmented set-ups across myriad departments, providing instead a central, governed hub from which teams can work on and track project goals, inputs and outputs, and inner workings (like data sources), as well as track planned future project enhancements.

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Nurture & Grow Your Customer Base

AI-powered solutions for sales and marketing teams help both departments create efficient, data-supported systems that yield real results all the way through the customer journey. For example, AI action systems provide recommendations for sales teams that help them manage the sales process and ultimately make the most desirable offers for clients.

As marketing and sales are interrelated, marketing teams will similarly benefit from AI-based messaging recommendations. From marketing basket analysis to "also bought" recommendation engines, there is a lot of opportunity for banks to become more efficient and effective with data.

Dataiku works across customer-facing use cases to help banks and insurance providers place their good and services in front of the right customers at the right time. Here are some of the top, table-stakes use cases banks should be exploring today.

Customer Segmentation for Banking

Insightful customer segmentation is a cornerstone of effective business management, marketing, and product development within consumer banking. Many firms have developed deep business knowledge which is applied to their customer pools using business rules logic, slicing the overall customer base into subgroups based on actual or potential revenues, product mix, digital engagement, and much more.

These existing customer analytics provide powerful insight and are often driven by qualitative insights or historical practice. Yet 82% of bank executives say their teams have difficulties identifying relevant customer segments, which can drive up acquisition costs and reduce retention rates.

Leveraging a purely data-driven approach to segmentation introduces the possibility of new perspectives, complementing rather than replacing existing expertise. By creating a unified space where existing business knowledge and analytics (for example, on cross sell and tiering) are presented alongside new and easily generated machine learning (ML) segmentation, business teams can immediately benefit from the incremental value of an machine learning approach while preserving continuity with established methodologies and analytics.

Dataiku's customer segmentation **business solution** does exactly that. Here are some of the solution's key highlights:

- Enrich your customer segmentation approach by blending machine learning and existing techniques, deepening product expertise, and marketing effectiveness.
- Business-friendly explainable AI allows your team to quickly create and then immediately understand the results of machine learning-based segmentation, without complex development.
- Powerful visual analytics clearly reveals customer segmentation trends over time, ensuring your past, current, and potential future customer mix is effectively understood by all teams.
- Instantly actionable insights allow your marketing specialists to instantly understand revenue share, product mix, and much more, all through prebuilt cross-sell, tier, and segment analysis dashboards.

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Next Best Offer (NBO)

Being able to track any given customer's path and make recommendations as to where they should go or what they should do next is a considerable advantage to financial services firms with many different products and services to offer. Plus, "Next Best Offer" (NBO) systems are ripe for even more refinement with the introduction of Generative AI. The machine learning model provides product recommendations, and then a Generative AI system provides a personalized message ready to send to the client.

Dataiku empowers organizations to make the most of their customer data in precisely this way, allowing them to predict what customers and clients will want to see or do next by comparing unique journeys against historical customer data.

Morgan Stanley Wealth Management, for example, augments their financial advisors with an AI-based next best action system that gives them possible actions to consider recommending to their customers. Every day, the system looks at every single client in an advisor's book of business, evaluates over 1,000 investment ideas and events that might impact clients, and scores every possible combination against the propensity the client will experience or benefit from in regards to that event or idea, in order to offer exceptional service and value.

Morgan Stanley has been able to craft what Jeff McMillan, Chief Analytics & Data Officer at Morgan Stanley Wealth Management, refers to as an intelligent organization. An intelligent organization applies a formula for success that ultimately extracts the most value out of augmented decision making, relying on the combination of AI insights and human intuition.

Dataiku's platform supports this formula, and in marketing and sales specifically, allows companies to deliver the right message to a client through the appropriate channel at the right time.

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Customer Service

Customer service is one of the cornerstones of the FSI industry, from banks and investment management to insurance firms. A non-automated and unsystematized customer service operation can quickly leave client-facing departments struggling to stay on top of outstanding tickets and requests. With advanced analytics, there are dozens of ways to streamline these processes and develop reliable triage models to help ensure ongoing customer satisfaction.

Commonly, customer relations teams are flooded by several thousands of online claims and phone calls each day. Top banks worldwide use AI platforms like Dataiku for all kinds of customer relation use cases, from automated claims processing to categorizing and routing so teams always receive the most relevant and actionable claims." With text pre-processing tools and the use of natural language processing to detect themes and contexts within a given claim, automated models can accurately categorize claims according to sentiment, intent, and/or a number of other pre-specified variables.

Users have also taken advantage of Dataiku's ability to help customers better understand their own behavior and activity. Rabobank, for instance, worked with Dataiku to develop its RATE system, which determines the best label for a given type of transaction (clothing, groceries, energy bill, rent, etc.) to provide information and financial transparency to customers, who can immediately see breakdowns for how they're spending their money. While the system may sound simple, RATE is based on a machine learning model built using Dataiku that combines business logic with statistical models as well as neural networks, all published to an API so that transactions are labeled in the customer's app in near real time (typically in seconds).

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Enhancing Risk Management & Regulatory Compliance

As the everyday use of AI grows across many industries, organizations are experiencing a shift in the culture around data-driven decision making. However, the use of AI, like any other technology, comes with a certain amount of risk. Effectively implemented oversight, management, and clear, value-driven organizational priorities are therefore crucial for safe scaling.

The concept of model risk management and a culture of governance are well established in the financial services sector, where fraud, anti-money laundering, and cyber security teams (among others) are increasingly making intelligent use of advanced analytics to keep the ship of the enterprise afloat and headed in the right direction.

Stress Testing

Periodic and rigorous stress tests are something that banks cannot do without. Knowing how well capital assets would hold up under hypothetical conditions of economic recession is an essential piece of the risk management process, as well as of profit and loss (P&L) management. And yet stress tests can be extremely time-consuming and cumbersome, leading to high costs, inefficiencies, and a lack of reactivity to market movements, as well as to P&L sub-optimization due to ineffective ratio computation .

Banks that want to be quicker and more efficient in aggregating data sources into the right starting points to fuel their stress testing engines have used Dataiku to do precisely that. The platform's flexibility allows users to turn the burden of complex data stitching into industrializable data processes feeding regular stress tests, accelerating management of ad-hoc regulator requests, and creating strong starting points for many more risk checks.

Dataiku's business-owned environment enables greater agility with respect to evolving, particular requests from regulators, conforming to different testing requirements without reinventing the wheel. Such approaches can be replicated to other FSI activities, including on insurance to optimize Solvency II ratios and resulting capital management.

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Intraday Liquidity Forecasting

Larger banks covering retail, corporate, investment banking, asset management, and wealth management often want to predict the next day's cash buffer based on external market movement and internal trading data. Ideally, they can generate early signals that predict funding requirements, thereby reducing chances of overdraft and making extra cash available to repurpose for better investment returns.

Robust data pipelines and machine learning models allow data teams to simultaneously analyze external market data — like equity indices, foreign exchange (FX) rates, and yield curves — and internal residual balance and trade settlement data to forecast expected cash flows, set up an early warning system of cash surpluses and deficits, and continually improve forecasting precision.

Teams that have worked on such projects with Dataiku have benefited in a number of ways:

- Working on a centralized platform made access to multiple databases simple, and supported and enabled new project development.
- Stakeholders across the organization, sitting on teams with both code and low-code capabilities, were able to collaborate on the same projects and benefit mutually from its outputs.
- Core data teams saved up to half a day's worth of labor per week on model development and deployment.
- The ability to inspect data at each step makes proper governance easy, limiting the risk of errors and making processes more reliable.

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Credit Scoring

Credit decision making is the heart of banking DNA, and continuously evolves with customer behavior, macro-economic environment and data insights. The complexity and depth of analysis required to offer competitive pricing and accurate prediction of credit events is ever increasing. Higher performance models demonstrably increase revenue (5-15%), reduce credit loss (20-40%), and improve efficiency(20-40%).

Credit scorecards are a foundational part of a credit teams' workflow, and enhancing them with more powerful data sources and faster collaborative review is vital to retaining and expanding a customer base. Existing tools can be difficult to adapt to more sophisticated scorecard models, and future-focused approaches can often be disconnected from the current technology and needs of the team, siloing the potential benefits and preventing them from being effectively integrated into the working model that directly impacts customers.

Dataiku's credit scoring solution provides a unified space where existing business knowledge, machine-assisted analytics (for example, automatic search for a large number of features and feature iterations for credit signals), and real-time collaboration on credit scorecards are brought together. Credit teams can immediately benefit from the value of an machine learning-assisted approach, establishing a foundation on which to build dedicated AI credit scoring models, all while remaining connected to their current customer base and systems.

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Fraud Detection and Financial Crime Management

As technological advancements in FSI firms increase, so too are financial crimes and new methods of money laundering. And as regulatory policies grow more complex and far-reaching for the FSI industry, they are also targeting companies' ability to prevent and root out various forms of financial crime in a reliable manner.

AI solutions to detecting and rooting out financial crimes are growing and improving apace. Overburdened fraud and anti-money laundering teams can improve their efficiency and their results by integrating AI-driven tools and methods. These tools enable data teams to sift through massive quantities of data and sort the signals from the noise.

Whereas teams working on fraud detection at companies across the industry have already adopted AI-driven approaches to detect and thwart credit card and other forms of fraud, those working on anti-money laundering (AML) have, until now, been slower to integrate AI solutions into their work - notably as regulators push for constant balance between advanced technics leverage an full explainability. In both cases, the power of the technology on offer is increasing rapidly.

Dataiku provides actionable solutions, the eased capacity to blend and compare benefits of business rules and AI techniques —including graph analytics into reinforcement of these processes —all with the right explainability and governance.

Users can leverage Dataiku to develop machine learning-based fraud systems that allow for the use of wide and varied data sources, which is essential to finding needle-in-the-haystack anomalies, and can be used to supplement existing business rules or guide enhancement and adjustment. These same techniques can also be used to triage existing alerts by priority, ensuring the highest-risk alerts are addressed immediately.

BGL BNP Paribas, for example, chose Dataiku to enhance some of their key risk control processes through analytics. In just eight weeks, BGL BNP Paribas was able to use Dataiku to create a new fraud detection prototype. And thanks to Dataiku's advanced, enterprise-level security and monitoring features, they were able to do all of this without compromising data governance standards.

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Credit Card Fraud Detection

Fraud detection rules are complex and well established. However, they are often based on business rules only, either generating a high number of false alerts, or missing important fraud events and failing to adjust to evolving patterns. From the experience of one Dataiku customer, a retail bank that analyzes 20,000 to 40,000 transactions every day, enhancing setups with machine learning rules can lead to a 40% reduction of false negatives and improved new pattern detection.

Companies that work on the reduction of credit card fraud are usually open for improvements but are often worried that any change could induce a disruption in their system, with potential side effects on end consumers with payments blocked or wrongly authorized. One extra challenge is the possibility to be able to quickly validate the impact of changes on real-world data.

Our Dataiku solution provides a unified space for fraud-fighting teams to manage business rules alongside machine learning approaches. Thanks to a pre-packaged flow, with its easy-to-use sandbox experimentation, it ensures the gains from machine learning are realized, without losing established success through existing approaches

With this solution, heads of payments/credit cards, heads of risk or fraud, fraud analysts, or data scientists are able to:

- Use business and machine learning rules with a comprehensive fraud detection approach incorporating both in a unified scoring model.
- Explore data with rapid and thorough analytic insight, coupled with a powerful model insight application.
- Use real-time API integration and alert management – finalized models can easily be deployed via API and alerts analyzed via dashboards, integrate these in case management systems, and more.

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Anti-Money Laundering (AML) Alert Triage

Anti-money laundering (AML) is a complex issue that can take multiple forms and impact different critical processes within financial services firms. Financial crime mechanisms also tend to evolve extremely quickly, as offenders find new ways of developing money laundering techniques, tax evasion strategies, and more.

Leveraging data across diverse processes within and across financial institutions has, consequently, become a requirement in tackling this challenge. Several banks integrate machine learning-powered models in their AML set-ups, enabling them to reinforce their rules-based financial crime processes while preserving the best standards of explainability.

Improvements in AML processes must occur at many points in the data chain, and a modular solution that can be readily incorporated into existing flows to more efficiently process existing alerts is a means of improving detection rates and reducing alert fatigue.

Thanks to Dataiku's AML business solution, financial crime analysts can bolster their initial assessments through risk likelihood prioritization. Insights delivered by the solution can help AML teams assess the effectiveness of existing business rules, paving the road to further reinforcement of teams' AML systems.

The AML Alert Triage solution provides a reusable project to modernize the handling of AML alerts. With this solution, AML case managers, model reviewers, AML team leads, and AML data scientists will be able to:

- Prioritize investigations to tackle likely true positives first.
- Avoid any additional regulatory burden, as no alerts are discarded.
- Easily integrate this solution into their existing AML processes.
- Provide insights which can be used to review effectiveness of some business rules as a distinct project.

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Enhancing End-to-End AML and CTF Processes

To effectively address the challenges posed by financial crime, financial institutions are turning to advanced analytics and AI. These technologies offer a range of benefits, including enhancing the efficiency of current rules-based systems. By using alerts scoring, threshold management, and machine learning-based false-positive identification, institutions can improve the accuracy of their monitoring processes.

Analytics and AI also accelerate investigations by enabling the development of tailored analytics and graph approaches. These advanced techniques enable institutions to identify patterns and anomalies more effectively, thereby improving the efficiency of investigations. Moreover, there is a growing recognition that traditional rules-based systems are limited, and the future lies in the agile blending of rules-based and machine learning approaches.

To facilitate the journey towards analytics-enhanced financial crime management, Dataiku provides a platform approach that fosters collaboration between data scientists and compliance officers, as well as between different teams within the organization. This collaborative approach leverages expertise from all relevant areas to create effective solutions.

Dataiku's platform also ensures full governance, ownership, and explainability of alerts and models. This is crucial for meeting regulatory requirements and building trust in the decision-making processes. Additionally, the platform supports teams throughout the transition from traditional triggers to leveraging graph and advanced machine learning-powered alerts, allowing for a gradual adoption of new technologies.

Furthermore, Dataiku offers agility in prototyping and rapid deployment in operational environments. This flexibility allows institutions to test and iterate their solutions quickly, ensuring that they meet the specific needs of their organization. The platform also simplifies integration into existing information systems, from data access to the management of alerts in case managers, along with other key modules.

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Cyber Security

The paradox of financial services is that it is one of the industries with the tightest level of controls on its processes, but also one exposed to extreme pressure from cyber attackers. From analysis, at the most rudimentary level, to prevention at more advanced capacities, the ability to better identify signals from the network and to watch noise is a prime imperative for financial institutions.

Improvements to cyber security demand quick turn around time. But at the same time, reacting without having identified patterns is impossible. Analytics-enhanced cyber security setups can thus leverage a two-tiered approach:

- First, similar to AML, a rigorous analysis of signals to identify patterns and weak signals — platforms like Dataiku with elastic search capabilities are, for this kind of case, a plus.
- Second, moving from rules based to machine-learning-enhanced monitoring to target gradual reduction of time from intrusion to action.

Cyber security is a space where complex patterns need to be outlined. And in this domain, combining graph analytics approaches with other data science techniques can lead to significant breakthroughs when done in an environment allowing for continuous enhancement monitoring and parallel-run capabilities, and having advanced explainability.

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Overall Governance Efficiency

As technological advancements in FSI firms increase, so too are financial crimes and new methods of money laundering. And as regulatory policies grow more complex and far-reaching for the FSI industry, they are also targeting companies' ability to prevent and root out various forms of financial crime in a reliable manner.

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Improving Process Resiliency and Efficiency

Improving process efficiency seems like a no-brainer, right? To optimize a process, simply find the weak points in its flow and adjust any and all relevant steps of the process to reduce bottlenecks and the risk of disruptions. But simple as this sounds in theory, the complexity of today's processes makes this optimization a very challenging endeavor. Thankfully, digitalization immensely helps us make sense of the large number of processes in organizations and the many ways they could be more optimized.

Process Mining for Operational Resilience

Across financial services operations, process mining can be a powerful and efficient way to cut costs by rationalizing processes. This technique uses timestamps generated at various stages along a process flow and instantly creates a visual and statistical representation of the reality of any process, revealing inefficiencies and non conformance issues to be worked on.

Dataiku's process mining solution integrates process mining in your analytics practices. Thanks to a plug-and-play project, quickly deep dive into specific processes, analyze outliers, and apply powerful statistical techniques to enable remediation and optimization efforts. With this solution, roles focused on the optimization of processes, like COOs, operations leads, business analysts, and financial analysts are able to:

- Immediately gain insights into processes without specialized training, software, or investment.
- Allow subject matter experts, operators, and management to collaborate directly.
- Easily export and share aggregate and case-level results outside the platform.
- Quickly set up automated checks to evaluate if operational improvements are achieved or maintained.

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Automated Document Processing

Though we like to say that we live in a digital world, there are still many aspects of our lives, and many aspects of doing business, that are conducted the old fashioned way: with documents on paper. In particular, thousands of companies across a wide range of industries still produce and receive handwritten documents, including letters sent to customer service and other customer-facing departments, as well as handwritten checks.

The challenge for any bank and insurance company, of course, is to find a simple way to make these documents conform to their modern, mostly digitized data storage formats and platforms, and leverage included insights. Typically, companies will hire external service providers to classify these documents at a significant cost — a clear indication that an automated process would constitute a significant improvement.

With Dataiku, users can do exactly that. By making use of large language models (LLMs), computer vision and natural language processing, document processing models can accurately categorize documents according to a predefined set of criteria.

For example, with handwritten letters, computer vision, optical character recognition (OCR), and text classification algorithms can help identify the main themes of a given letter, match those themes against preset criteria, and sort the letters accurately (e.g., as either claims, requests, or questions). More importantly, they can combine these NLP practices with LLMs and other analytics techniques, allowing to fully enhance financial processes such as investment analysis and KYC.

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Enhanced Analytics Efficiency

FSI firms face a myriad of challenges when it comes to analytics efficiency, including — but not limited to — unlabeled data, poorly labeled data, inconsistent or disorganized data, an inundation of data sources, a lack of tools to properly address data quality concerns, and process bottlenecks.

This sentiment, exacerbated by the sheer volume of data generated and maintained by financial institutions, only becomes more problematic for organizations with multiple business units desiring to be more data driven — especially without a centralized repository for analytics efforts.

With the right tools, it's easy to automate processes for gathering and ingesting data, simplifying the end-to-end analytics process, and increasing the rate at which businesses can make data-driven decisions.

Bankers' Bank has done exactly that: their data team leverages Dataiku to increase efficiency and ensure data quality across an array of financial analytics, ultimately reducing the time to prepare analyses and deploy insights by 87%.

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Accelerate ESG Embedding Across Processes

The race to ESG continues to accelerate in the financial services space. All major players have now taken firm commitments to embed Environmental, Social, and Governance (ESG) criteria in all their critical processes, with a strong focus on global warming management. The creation of the Net-Zero Alliance by 43 major banks including Société Générale, Citi, and Morgan Stanley and main insurance players including Aviva and Zurich insurance is yet another sign that the financial industry is getting organized to play its role in taking up the climate change challenge. The impact financial players can have is also more and more visible, as shown by the recent shift in Exxon's positioning on climate change emissions in response to shareholder pressure

But commitments are no easy things to take. All financial organizations are well aware that words have an impact and that scrutiny on alignment between commitments and actions is a must-do. Now that decisions are taken, the next step requires the firm acceleration of business processes revisiting — where financial analysts play an essential role.

Interactive Document Intelligence for Environment, Social, and Governance (ESG)

Inflows in ESG products represent above $40 trillion in assets. The move to ESG is accelerated by the surge in regulation impacting all players across the value chain, combined with a growing number of large-scale industry initiatives such as the Net Zero Banking Alliance launched by the UN in 2021.

The data sources required to effectively embed ESG into financial processes, including know your customer (KYC), trade finance, credit scoring, and investments, are many and varied. The ability to leverage unstructured data through document intelligence is critical. Currently, organizations rely on individuals to read sections of these documents, or search for relevant materials without a systematic way of categorizing and understanding the data.

Dataiku's Interactive Document Intelligence solution for ESG automatically consolidates unstructured document data into a unified, searchable, and automatically categorized database, with insights accessible via a powerful and easy to use dashboard. Using a modular ESG keyword database (which can be enhanced or swapped out for other topics with ease) the solution can be used to tackle questions such as:

- What ESG topics are being addressed within a portfolio or document collection, and which are rarely tackled?
- What firms or offerings are facing challenges or successes associated with ESG topics of interest, e.g., relating to environmental impact?
- What documents or entities are ESG outliers according to my document collection, positive and negative?
- What ESG trends emerge over time around topics and firms associated with them?

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Accelerate Data-Driven Decision Making Processes

The key to making informed, data-driven decisions is a robust means of gathering, cleaning, triaging, and using the data one has access to. The challenge is increased when that data is pulled from sources external to the enterprise, such as news and other media, or image databases. In such cases, analysts are also rightly concerned about security and privacy: the data in question might well be sensitive, and so implementing a process that minimizes risk and maximizes security is a must. The right platforms and approaches will help data teams and analysts sift the signal from the noise in a responsible way.

Alternative Data Access

Alternative data is a term designating all the new types of data an analyst can use to make better-informed decisions and improve their understanding of the market. They can be huge datasets, and they are often unstructured (i.e., they contain things like text and image data), which make them very appealing to data scientists eager to reshape how asset managers define their investment strategies.

Risks and challenges are involved in effectively using such datasets. Alternative data sources can contain some sensitive information. Clear pipelines that integrate into existing data processes could be the answer to mitigating some of the risks involved in this nontraditional approach. These data sources can also be complex to integrate into existing processes, requiring specialized tools that address natural language processing or other advanced interpretability needs.

Ensure that the use of alternative datasets for investment decisions is theoretically and practically sound with Dataiku. Users can automate the entire machine learning pipeline via rapid iteration on machine learning exercises with Dataiku's visual AutoML functionality. All work and changes are persisted automatically and bundles can be used to stash away snapshots of the project together with the frozen data for future recomputation of the tasks. Dataiku has the ability to ingest large amounts of data from disparate sources which is particularly enticing for users with diverse datasets, alongside plugins and modules that make applying advanced interpretation functionality simple and up-to-date.

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News Sentiment Stock Alert System

Traders, equity analysts, and portfolio managers have to leverage an ever-growing stock of information to fuel their company analysis. Of vital interest is knowing what stocks are most likely to move based on current news and public sentiment, what are the underlying news events driving volatility for a specific ticker, and what historical insights can be gained through a systematic analysis of past news events.

Automatic anomaly detection, a key component of Dataiku's news sentiment stock alert system business solution, removes the need for costly and small-scale labeled datasets, avoids unfocused and often inefficient manual reviews, and works alongside purely automatic trading responses based on news sentiment.

An easy-to-use interface allows for immediate insights, rapid drill-down, and deeper analysis of trends, all with a few clicks. Flexible design allows for enhancement or customization to meet a team of firms specific needs. Here are some of the highlights:

- Ready-to-use volatility scores at ticker-level based on news sentiment analysis.
- Immediately actionable real-time insight into ticker-level market movements.
- Comprehensive and transparent historical analysis allowing creation of more informed responses to news events.
- Easily enhanced or enriched with business-specific data sources or focus.
- anomaly detection & stock price analytics including principal component analysis (PCA).

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Augment Business Function Processes

AI and advanced analytics hold immense potential for finance firms in augmenting their basic business functions. By leveraging these technologies, institutions can enhance deposit activity forecasting, optimize FX P&L modeling, improve IT efficiencies, and streamline human resources tasks — among many other use cases. The integration of AI across business functions not only boosts operational performance but also enables analysts to make data-driven decisions — and in many cases to benefit from self-service analytics — leading to increased competitiveness and long-term success in the dynamic financial landscape.

Deposit Activity Forecast

It is very common for finance teams at commercial banks to want to predict the deposit volumes collected from customers according to a given set of interest rates and market conditions. With rudimentary software and/or spreadsheet programs, this is a task that could take weeks to build and hours to run each time.

Dataiku has worked with banks to build deposit prediction models that are reliable and quick to run. Drawing on historical data of deposits previously collected by the bank, Dataiku's platform enables data teams to build machine learning forecast models, enabling stakeholders to get a predictive view of the future, either in quarterly or yearly terms. The platform's easy-to-use web application provides a visual interface for on-demand forecasts that take minutes, not hours, to run.

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FP&A

Banks are sitting on a gold mine of diverse data that is becoming bigger and bigger every day. Collecting it has never been easier — the challenge is using it efficiently and changing behaviors to get real business results. Financial planning and analytics teams (FP&A) at banks work on a jigsaw puzzle of major core financial statements and structure systems of the bank. They need to be able to look five years back and five years forward to identify abnormalities and trends, do balance sheet analytics, and conduct cost analysis to answer complex questions around how and where the bank is making profit, how the bank behaves, who should be hired and where they should be placed as related to cost profiles, etc.

Standard Chartered, a bank with precisely this challenge, worked with Dataiku on a solution. In the first nine months with Dataiku, the team churned out use cases from around FP&A. They had so much flexibility and freedom, however, that the next step was productionalizing their system and approach, including ensuring there was discipline with data pipelines, SLAs, and more stringent DataOps processes. According to Craig Turrell, Head of Plan to Perform (P2P) Data Strategy & Delivery at Standard Chartered Bank, that's the power of Dataiku and what makes it unique — it has that unbonded freedom, but it also has the features in place to facilitate structure and processes.

By 2021, one year into their Dataiku journey, Craig and team are using Dataiku to run three major systems at the bank and to refresh daily Tableau dashboards for all the bank's finances, a laborious task previously done in spreadsheets. They've developed a data marketplace that people across the organization can leverage for plugging in other pieces to get answers from data (for example, analysts trying to understand the cost of property can use the balance sheet from the data marketplace and plug in lease data).

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FX P&L Impact Modeling

Measuring exchange rate impact on revenues and expenses is critical within any multi-currency business. While the accounting impact of exchange rates is usually handled by formal rules, the internal business discussions around the impact of exchange rate fluctuations and their implications often remains complex.

More broadly, FX impact modeling is one of the first steps finance teams can take towards embracing the potential of agile analytics to enhance their business partnering positioning across all dimensions: from budget building and investment decision making to precise monitoring and forecasting, at any given granularity.

Financial services firms can use advanced analytics to pursue FX experimentation and impact modeling that is robust, scalable, governable, and has the capacity to handle large data sets and complex business logic.

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IT Efficiencies

Like many banks, the IT department at Rabobank has a service desk that receives thousands of calls or incident reports per day, and for each one, they must determine which group needs to handle the request (client-facing applications, internal process applications, etc.).

Obviously the goal is to assign tickets to the DevOps teams most likely to resolve them, but one of their big challenges was incidents assigned to the wrong group, which is inefficient both for the groups and for the people sending the tickets that take longer to be resolved.

They are currently working with Dataiku on building a machine learning-powered system to analyze these incidents and predict the best assignment automatically, which would result in big efficiencies and faster ticket resolution across the board.

Learn More

AI in Human Resources

Human resources presents a wide variety of artificial intelligence use cases. Some fall into the most traditional view of AI in which technology takes over functions traditionally reserved for people. In other cases, however, AI's role is not to replace humans, but to maximize their impact.

The use of AI in human resources is already widespread, and for good reason — hiring directly impacts business goals, and using AI to forward those goals is an obvious win. For example, organizations are leveraging intelligent analytics programs to more effectively recruit and retain high-quality employees. As AI applications become more sophisticated, their role in these processes will become even greater.

At its best, the impact of AI can help make HR more effective and fairer. It can make hiring and personnel policies more efficient by working at speeds unfathomable to a team of people, let alone an individual. It can work independent of the myriad human biases that infect personnel decisions.

AI can help human resources teams in a number ways:

- Greater recruitment precision
- Improved ability to attract high-quality applicants
- Dramatic bias reduction
- Automated recruiting
- Background verification
- Employee satisfaction surveying
- And more!

Learn More

Additional Use Cases By Financial Activity

AI for Commercial Banking

From deposit management and account services to loan application processing, commercial banks are at the forefront of the customer-facing side of financial services. Accordingly, they have large stores of customer-related data from which they could benefit, if they put the right processes in place and implemented the right data management platforms. AI-driven data operations can help commercial banks better understand their client's preferences, predict certain behaviors like churn, and forecast demand and deposit activity.

Learn More

AI for Investment Banking

No one can predict the market. But for all its volatility, of course, it leaves in its wake a wide trail of historical data that investment banks would do best to harness, analyze, and probe for insights. Whether banks want to be better prepared for potential trade failures, make optimal use of alternative data sets, predict the cash buffer for the next day of trading, or improve the quality of their alerts and checks, they will benefit from a powerful, flexible, and easy-to-use platform like Dataiku for their data projects.

Learn More

AI for Asset Management

The asset management industry as a whole lags behind most others in data, analytics, and digitization, even though investment data is a foundation of its business model and customer offerings. Asset management ranked 24th among 34 industries in digitization, after both other financial institutions (such as retail banks) as well as separate industries such as transportation, pharmaceuticals, telecom, and media, according to a report by BCG and Morgan Stanley.

Data science and machine learning platforms are about establishing efficiencies and time savings throughout various stages of the process, from aggregating data sources to building machine models to deployment. They also function to mitigate the pressure associated with getting started in AI and, resultantly, help asset managers to dive in and jumpstart their AI efforts now rather than waiting.

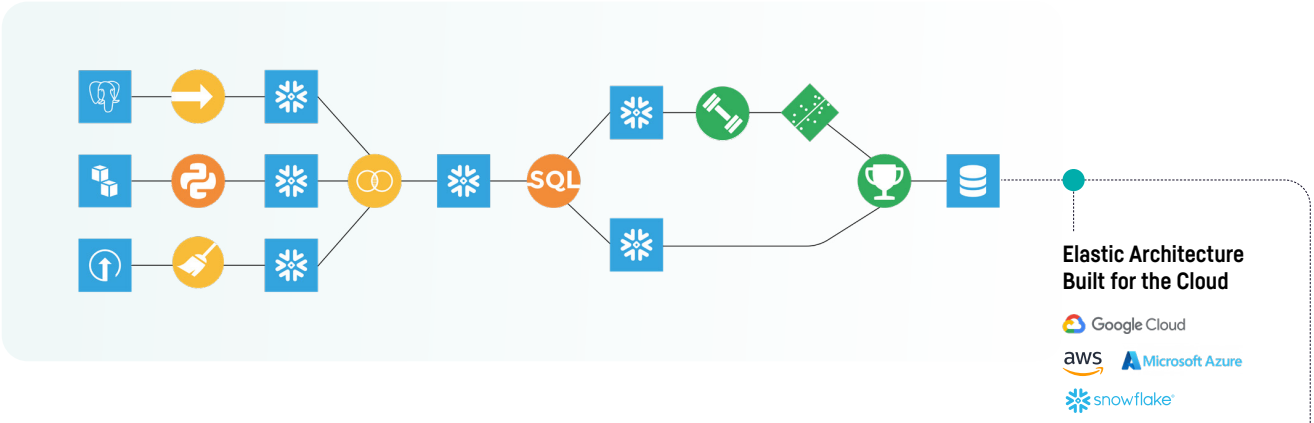
Irrespective of the extent to which end-to-end data science platforms are integrated into the workflow at buy-side organizations, data science teams have a unique role to play and portfolio managers will have to become more data science savvy in order to formulate high-quality questions for their data science teams. To that end, data science platforms will increasingly be more self-service, multi-persona oriented, communicative, and collaborative.

Learn More

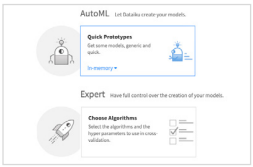
data iku

Everyday AI, Extraordinary People

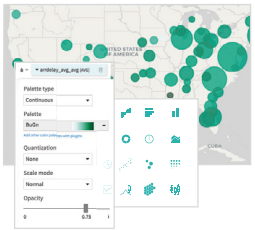
Dataiku is the platform for Everyday AI, enabling data experts and domain experts to work together to build data into their daily operations, from advanced analytics to Generative AI. Together, they design, develop and deploy new AI capabilities, at all scales and in all industries.



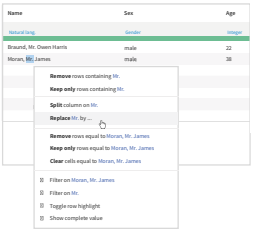
Machine Learning



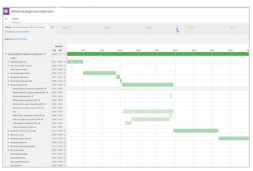
Visualization



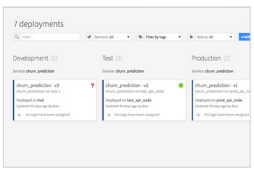
Data Preparation



DataOps



Governance & MLOps



Analytic Apps

Generative AI