

# DATA DILEMMAS:

Solving Financial Services Challenges

A SCALABLE WHITEPAPER

CATEGORY : DATA



**SCALABLE**  
AI

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# INTRODUCTION

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The financial services industry is being overwhelmed by data. Recent regulations have complicated financial reporting rules, while anti-money laundering, anti-fraud, and Know Your Customers initiatives present greater challenges in the globally connected social media world. These and many customer-facing activities require FSIs to embrace Big Data solutions to archive, aggregate, manage and effectively deliver valuable insights from ever-growing volumes of historical and real-time data spread across multiple dissimilar structured and unstructured data sources.

Facing stiff competition, established players are looking for innovative ways of attracting new clients and proactively retaining customers by tapping data to understand better and serve them.

Customer acquisition and retention have become more challenging with the emergence of vast quantities of social media and its influences on market sentiment. As people increasingly broadcast their opinions, concerns, and criticisms of industry firms, such content exerts ever-more-powerful effects on important public perceptions.

Likewise, the popularity of tablets and smartphones, combined with customers' growing appetite for access to timely market research, provides both challenges and opportunities. Tech-savvy clients are putting a premium on improved access to online services and information, but it must be delivered everywhere, 24/7, and in real-time.

Superior service has become as important as performance results as many clients increasingly value having collaborative relationships, and providing such service can now be a key differentiator for an FSI.

Meanwhile, integrating streaming market data with historical data and direct real-time data feeds from Reuters, Bloomberg, and others requires resolving latency issues. Robust reference data management and compliance with all applicable regulatory requirements are also needed, as is the ability to cost-effectively retain and access historical data archived across multiple legacy and other sources. Personal and market information is increasingly massive and highly sensitive and must be protected from human error and malicious hacking.

Gleaning value from the wide variety of structured and unstructured historical and real-time data cannot be achieved with traditional Business Intelligence systems and tools. Social, mobile, and cloud technologies can provide firms and advisors with highly targeted marketing ideas. However, this requires intelligent use of Big Data and powerful analytics to identify the products and services that specific clients will most greatly value. A unified data platform can also reveal trends and anomalies, enabling better financial reporting and regulatory compliance and spotting potential money laundering and fraudulent activities.

## TOP TEN FINANCIAL SERVICES BIG DATA NEEDS



The global big data market has been experiencing significant growth over the years. In 2020, the market was valued at around \$138.9 billion USD. It is projected to reach a value of \$229.4 billion USD by 2025, with a compound annual growth rate (CAGR) of 10.6% from 2020 to 2025.

# THE MECHANICS OF BIG DATA ANALYTICS

Although Big Data is complex and seemingly unwieldy, it can be effectively processed by combining secure, low-cost cloud solutions with the existing IT architecture that most firms already have. This functionality can be implemented by assessing current capabilities, identifying specific issues to be resolved, and defining performance parameters. This approach enables an efficient and affordable solution that delivers superior performance, ease of management, and scalability. Such a universal approach to integrating and understanding inputs from various data types represents the new data paradigm.

In addition to the staggering volume and variety intrinsic to Big Data, there is an inherent need to ensure the validity of the data. Successfully tapping today's massive resources, and profiting from the dynamics of a hyper-connected world, requires leading-edge expertise. Managing the potentially damaging tsunami of daily social media data across internet sites and mobile devices likewise demands vigilance and new business tools.

This requires the efficient extracting and cleansing of structured and unstructured data. Implementing sound data integrity, data masking, database development and modeling, and controller data management processes can empower an enterprise by taming highly diverse data sources in ways that transform and position FSIs for optimal performance and success.

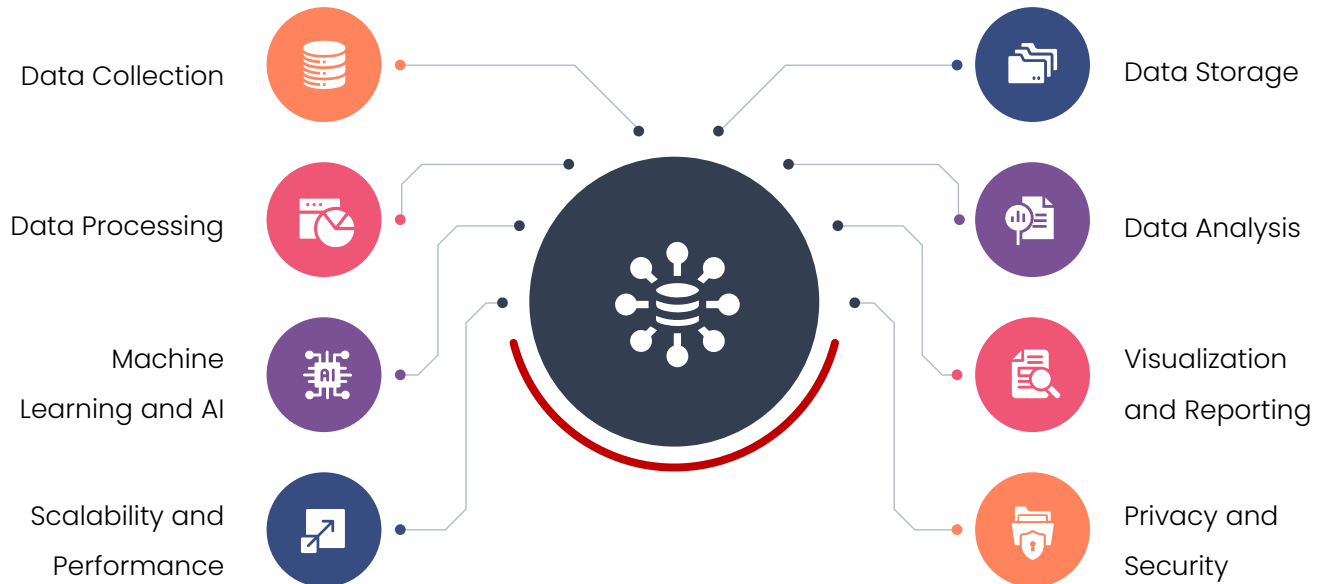
Big Data utilizes server clusters, processing engines like Hadoop, and complementary interactivity tools to store, mine, and analyze unlimited, highly complex statistical data. These complex data sets must be presented in effective real-time dashboard visualizations to maximize the information's value. This requires the creative insights of a data scientist, who must possess math and programming skills and scientific insights to evaluate huge numbers of factors, ask the right questions, and produce meaningful visualizations.



The potential benefits of leveraging Big Data are substantial in analyzing social media. Unlike traditional sources of costly consumer intelligence, such as surveys, focus groups, and corporate research, social data is instantly available. Voluntarily given by individuals, it can reveal real-time preferences, concerns, and sentiment trends that can be immediately aggregated and analyzed to deliver instantly actionable insights and sales.

Social business intelligence models can deliver key

real-time data that enables more advanced approaches to customer relationship management. Predefined industry-specific dashboards, powered by solution accelerators, data models, advanced reporting tools, and predictive analytics, can produce real-time measurements that can be inexpensively interfaced with a business's existing data, dashboards, metrics, KPIs, and applications. These technologies are available today to harness the increasing wealth of information and extract profitable insights.



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According to IBM, every day, we create 2.5 quintillions ( $2.5 \times 10^{18}$ ) bytes of data, so much that 90% of the data in the world today has been made in the last two years, 80% of which is unstructured.



## ACTIONABLE BIG DATA INSIGHTS

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Big Data Analytics and cloud computing allow the seamless integration of transactional and unstructured information to deliver contextual insights. New social business intelligence tools and a unified platform can also substantially reduce some existing application costs. FSIs can profitably interface traditional data with digitized audio and video files, call logs, social media, and other online content. Likewise, Customer service logs, sales pipeline files, and operational incident records can be aggregated and mined to generate in-depth customer views.

Where this had previously often been a manual process, Big Data's ability to analyze unstructured audio, video, and text simultaneously with other massive libraries of data is unprecedented. The ability to interrogate all data types is possible due to emerging search and indexing engines, natural language processing algorithms, distributed processing capabilities, and machine learning programs. These allow FSIs to identify and address the root cause of recurring issues, customer service problems and trends, and operational risk events while benefiting from dynamic sales pipeline insights.

Real-time customer interactions and predictive models can assign "propensity scores", increasing the effectiveness and rapid updating of marketing initiatives such as targeted online ads and encoded offers disseminated through social media and other real-time channels. Enterprises can now

utilize real-time transactional activities and geospatial data from both analytic and operational sources to enhance sell-throughs. Improved product targeting, relevant communications, and dynamic interactions increase customer satisfaction and loyalty.

Advisors and account managers equipped with mobile and social applications will possess access to information like never before, arming them with real-time data to deliver the superior service clients increasingly demand. Financial advisors and wealth management professionals can benefit greatly from social business intelligence that provides unprecedented insights into customers' concerns, wants, and needs. For example, insurers can use social media postings to notice when customers discuss purchasing a house or other new asset and respond by cross-selling or offering further bundled coverage.

Statistical models can combine such inputs with an ever-increasing wealth of historical data to predict customer behaviors more accurately and anticipate desired services. Concerning prospective customers, the rapid accumulation and analysis of various data feeds increase the number of opportunities for delivering actionable ideas to win new clients. Next-generation wealth management solutions help enterprises acquire new clients faster, better access and manage documentation, utilize social predictive analytics and increase productivity in other key ways.

**SUPPORTED BY POWERFUL DASHBOARDS AND SCORECARDS THAT ENABLE GREATER QUALITY CONTROL AND MANAGEMENT OVERSIGHT, BIG DATA DELIVERS:**



Financial institutions spend up to 40% of their time on data-related tasks, including data gathering, cleaning, and preparation, indicating the significant time and resource burden posed by data challenges. (Source: McKinsey & Company)



Banks can use Big Data capabilities for profiling and loan risk analytics programs. FSIs can utilize transaction and accounting records to run algorithms that detect rogue trading.

Big Data's cloud-enhanced functionality and universal customer views improve FSIs' ability to identify money laundering and fraud activities, avoid costly penalties and reduce negative publicity. Traditional methods for flagging potentially fraudulent or illegal transactions and trades become much more effective when data from tweets, news, geospatial information, and customer service requests can be added and correlated with information on customers' nationalities, family member names, travel activities, money transfer histories, and sanction lists.

Such dynamic fraud identification and prediction capabilities improve safeguards, reduce false positives, and enhance FSIs' regulatory compliance. India is just one of the countries that recently implemented a Big Data compliance analytics platform, using a data warehouse approach and multiple unstructured data sources to identify fraud better.

A unified analytical platform, supported by data models, cutting-edge technologies, and components, also increases usage flexibility. Data

can be selectively combined into dynamic silos to understand compliance, risk, finance, accounting, and functions. In other combinations, enhanced data architecture and unprecedented processing power can agglomerate and automate the reconciliation of daily account data, management reporting processes, and general ledger outputs.

Intra-day liquidity risks can finally be accurately monitored and managed. Insights into trading book exposures and enterprise liquidity status improve responsiveness and the ability to optimize fund allocations, manage contingency funding instruments, increase daily loan margins, and better address regulatory compliance. Working in-house capital markets trading activities can be substantially improved by automating trading desk surveillance of positions and risks and providing tighter controls to reduce risks and trading abuses.

Big Data tools make the entire data infrastructure simultaneously accessible across BI layers and applications while enhancing data availability, traceability, and consistency. A single unified system of records also positions an enterprise to gradually sunset several legacy systems and applications, allowing for significant cost savings.

## CONCLUSION

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Forward-looking industry participants are profiting from combining and leveraging Big Data functionality and insights from the historical, social, cloud, and mobile data to address today's profound operational, regulatory, compliance, and fraud prevention challenges. Advanced predictive analytics helps to develop superior customer segmentation insights, customer relationship strategies, and sales and service tactics.

Understanding customers' demographic and psychographic data enables cross-selling opportunities and engaging highly targeted product and service offerings. Predictive data mining provides valuable behavioral clues, such as when customers are about to switch firms or search for new services.

Scalable Systems' approach stems from a thorough understanding of the financial services industry. Our Fortuna solution is a highly effective accelerator and framework that is a perfect tool for financial professionals interested in gaining a competitive advantage. Fortuna leverages mobile, social, and cloud technologies to help FSIs retain and acquire clients through agile management, faster service responsiveness, enhanced customer-advisor interfacing, and the timely delivery of finely targeted messaging.

Fortuna provides access through iPad and Android devices, leverages leading technologies from such partners as Salesforce and Siebel, aggregates all of the top social media network feeds, is highly extensible, and enforces industry-standard security protocols. We have also developed SCARF, a

specialized Scalable Analytics, and Reporting in Finance platform. Its' Enterprise Data Management capabilities include a robust Governance, Risk, and Compliance Analytics platform. Its Financial Spreadsheet Modernization capabilities include consolidating and migrating Excel sheets to improve reporting standards, increase efficiencies and reduce operating costs.

Optimizing a client's enterprise is our main motivation at Scalable Systems. Our Fortuna and SCARF platforms are part of a broad suite of services easily customized to help leverage operations by implementing sound master data management, masking, database development, and modeling solutions. We focus on providing a holistic approach to overcoming the challenges of storing, cleaning, searching, and analyzing unstructured, structured, and raw data and presenting it in ways that provide valuable, cost-effective insights.

We view our dynamic approach to social data as an art form, embracing creative and constantly evolving processes. Our team of strategists can customize an organic solution to fit any financial company's specific needs. By utilizing the social, mobile, cloud, and Big Data analytics in combination with the valuable knowledge of industry leaders, we can empower any financial services firm to operate with greater efficiency, optimizing its performance and success. And by incorporating services from our India-based operations, we can provide a low-cost solution.

## About Scalable AI

We deliver actionable insights that organizations can use to identify opportunities, manage risks, achieve operational excellence, and to gain an innovative edge.

[www.scalableai.com](http://www.scalableai.com)

## About Scalable Systems

Scalable Systems is a Data, Analytics & AI Company focused on vertical-specific innovative solutions. By providing next-generation technology solutions and services, we help organizations to identify risks & opportunities, and achieve sales and operational excellence to gain an innovative edge.

[www.scalable-systems.com](http://www.scalable-systems.com)