



Case Study: Capital Markets

# Due Diligence Done Right with Cognitive Searches

By applying machine learning algorithms to its due diligence software, a global professional services firm can more quickly and accurately spot potentially non-compliant activities.

The human brain is naturally attuned to risk, and quickly discriminates between relevant and irrelevant material. But the zettabytes of information available in today's digital world make identifying risk far more difficult.

Cognizant is helping a leading global professional services firm improve the functionality of its risk management due diligence software, allowing the company and its clients to faster and more accurately research businesses for ties to potentially illegal behavior, including money laundering, insider dealing, corruption and terrorism.

## At a glance

We're helping a leading global professional services firm to conduct more focused on-line searches for information relevant to its global business relationships and those of its clients.

## Outcomes

We quickly developed a proof-of-concept for a machine learning platform based on IBM's Watson Explorer 11 and Watson Content Analytics, with an advanced API to support our client's existing, in-house due diligence software. Our solution:

- Sharply decreases researchers' time, with 14% of reports completed in one hour.
- Allows client to generate up to 30% more due diligence reports a year.
- Performs exhaustive research on over 40,000 global sources.
- Allows client to analyze compliance and financial risks in real time.

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## Exercising a duty of care

International due diligence involves exhaustive research. More than 40,000 global sources track not only media but also corporate records, financial transactions and legal cases. Results based on analysts' text strings must be painstakingly reviewed for each entity before a report can be finalized. The process is laborious; it can take weeks.

Our client has numerous partner, vendor and counterparty relationships worldwide. Relying on a third party research tool for due diligence, the firm sought to refine its software to identify compliance risk, analyze risks in real-time, reduce manual effort and lower costs. While a software update had accelerated compilation of results, conventional searches still were not smart, and researchers were expending vast amounts of time reviewing irrelevant results.

## Watson learns what's what

Our multidisciplinary project team included members of our Amazon Web Services (AWS), Business Process Management (BPM) and Artificial Intelligence practices. We developed an application programming interface to connect the client's software to a machine learning model using IBM's Watson Explorer 11 and Watson Content Analytics. In less than 5 weeks, we developed cognitive APIs powered by deep learning algorithms, governed by predefined rules using semantic language processing.

Conventional search technology relies on Boolean word strings and returns results ordered by the appearance of individual words that meet search criteria no matter their context. Searches on our newly developed platform narrow results by indexing them against discrete parameters, including a custom dictionary of keywords for specific industry sectors.

## Nearing human intelligence

Our contextual search model allows the client's third party application to detect and deliver improved reports on news relating to risk and fraud. Our machine learning model understands linguistic nuances, meaning, and relationships specific to an industry. Trained by automated search and scaling of documents, it extracts relevant information from enormous and diverse data sets for users, compiling research reports with contextually relevant results.

Our solution further automates the search process, integrates the research workflow, and cuts the time spent by analysts in manually reviewing irrelevant material by more than half. It indexes information sources to report legal and/or fraud risk associated with entities of interest, analyzes risk in real time and highlight compliance risks. Its more accurate content analytics provide deeper insights into entities researched.

## Lower risk, higher reward

In a global environment where risk and regulation are only increasing, having tools to screen partners, vendors, counterparties and acquisition targets for potentially criminal activity is vitally important. By teaching Watson Content Analytics to discriminate material based on context, its algorithms can rank results by the likelihood of risk based on context, without the user having to conduct multiple searches.

Our client's global IT leader now has the means to automate risk detection across the broad range of the firm's business relationships, improving its ability to comply with a complex array of international laws and compliance regimes.

For more information, visit [www.cognizant.com/ai](http://www.cognizant.com/ai).

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## About Cognizant Banking and Financial Services

Cognizant's Banking and Financial Services business unit which includes consumer lending, commercial finance, leasing insurance, cards, payments, banking, investment banking, wealth management and transaction processing, is the company's largest industry segment, serving leading financial institutions in North America, Europe, and Asia-Pacific. These include six out of the top 10 North American financial institutions and nine out of the top 10 European banks. The practice leverages its deep domain and consulting expertise to provide solutions across the entire financial services spectrum, and enables our clients to manage business transformation challenges, drive revenue and cost optimization, create new capabilities, mitigate risks, comply with regulations, capitalize on new business opportunities, and drive efficiency, effectiveness, innovation and virtualization. For more, please visit [www.cognizant.com/banking-technology-solutions](http://www.cognizant.com/banking-technology-solutions).

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## About Cognizant Artificial Intelligence Practice

As part of Cognizant Digital Business, Cognizant's Artificial Intelligence Practice provides advanced data collection and management expertise, as well as artificial intelligence and analytics capabilities that help clients create highly-personalized digital experiences, products and services at every touchpoint of the customer journey. Our AI solutions glean insights from data to inform decision-making, improve operations efficiencies and reduce costs. We apply Evolutionary AI, Conversational AI and decision support solutions built on machine learning, deep learning and advanced analytics techniques to help our clients optimize their business/IT strategy, identify new growth areas and outperform the competition. To learn more, visit us at [www.cognizant.com/ai](http://www.cognizant.com/ai).

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## About Cognizant

Cognizant (Nasdaq-100: CTSH) is one of the world's leading professional services companies, transforming clients' business, operating and technology models for the digital era. Our unique industry-based, consultative approach helps clients envision, build and run more innovative and efficient businesses. Headquartered in the U.S., Cognizant is ranked 195 on the Fortune 500 and is consistently listed among the most admired companies in the world. Learn how Cognizant helps clients lead with digital at [www.cognizant.com](http://www.cognizant.com) or follow us [@Cognizant](https://twitter.com/Cognizant).

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