

Applying Machine Learning to analyze unstructured data in emails, instant messaging and voice transcripts.

Business Problem

The client wanted to extend its market surveillance beyond transaction data alone and include machine learning analysis over eComms channels. They required the ability to freely define lexicons driving Natural Language Processing to search for, extract, and lemmatize specified data and raise alerts based on configurable rule sets



Kx Solution

Combining the Kx for Surveillance platform for alert detection and management with machine learning functionality and Natural Language Processing the team developed functionality for:

1. Extracting, loading and vectorizing unstructured data from multiple sources
2. Storing data (images, voice..) in their original formats with navigator screens for search and retrieval capabilities
3. Updating lexicons defining data to search for and rules to apply
4. Dashboards views with filters on rule violations, senders, receivers
5. Alert Management workflow for tracking and closing-out investigations
6. Applying sentiment analysis on the relevant eComms around the time of suspicious trading activity, providing improved insight for investigations

Results



Flexible Lexicon and NLP rule capabilities



Unified alerts across Transaction and eComms data



Dashboard views for alert investigation



Multi-Language rule sets