



Eliminating Fraud with Natural Language Processing

Corruption and fraud are of special concern to companies, including oil and gas—which often have dispersed operations in high-risk regions and significant engagement with third parties. Deloitte's client, a global oil and gas company with a sophisticated enterprise resource planning (ERP) system and fraud prevention controls, remained challenged by fraud incidents. In response, the Deloitte client team implemented a proof-of-concept exercise for one of the company's Southeast Asian operations focusing on several million dollars of direct spend—a tricky area to identify fraud because many transactions are off-catalog.

Using an advanced natural language processing tool to score the relevancy of a purchased item to the category under which it was purchased, we quickly identified \$700,000 in anomalous cigarette purchases annually. Note that client executives approved \$10,000 in cigarette purchases annually to help security guards remain alert on a job site; however the actual amount purchased far exceeded the approved amount. These factors shifted the issue from inappropriate purchasing for an excessive amount to a regulatory and compliance issue and potential Foreign Corrupt Practices Act (FCPA)[¹] violation—with the potential of up to \$2 million in fines per violation.

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[¹] <https://www.sec.gov/spotlight/fcpa/fcpa-resource-guide.pdf>