



DISPUTES & INVESTIGATIONS

# ACHIEVING COST SAVINGS IN PROCUREMENT SPEND BY PREVENTING LEAKAGES THROUGH BIG DATA ANALYTICS

USE OF BIG DATA ANALYTICS IN PROCUREMENT CAN PROVIDE CRITICAL ACTIONABLE INSIGHT THAT CAN HELP DETECT, PREVENT AND PREDICT FRAUD. MANAGEMENT CAN USE THESE INSIGHTS TO IMPROVE BUSINESS PROCESS AND SAVE PRECIOUS WORKING CAPITAL.

# TACKLING PROCUREMENT FRAUD IS A STRATEGIC IMPERATIVE

PER AN MIT RESEARCH REPORT,  
BUSINESSES THAT EMBRACE DATA DRIVEN  
DECISION MAKING ARE LIKELY TO BE  
6% MORE PROFITABLE AND 5% MORE  
PRODUCTIVE

Tackling procurement fraud occupies center stage when it comes to senior management's list of priorities in the overall procurement transformation process, given the direct impact that it generates on corporate bottom-line. The reasons are not hard to justify. According to the 2014 ACFE Fraud Survey, companies globally incurred a staggering total loss of a \$3.7 trillion due to occupational fraud. Firms lost an average of about 5% of revenue due to fraud related activities, with the median loss per transaction hovering around \$145K and almost 22% of the cases involving fraud of over \$1 million.

At these levels of potential risks, senior executives have justifiably embarked on top-down transformation programs that leverage big data analytics capabilities to develop actionable intelligence about procurement fraud and eliminate, or mitigate the associated risks.

(2014 ACFE report)



\$ 3.7 trillion  
GLOBAL COST OF  
FRAUD



\$145 K  
MEDIAN LOSS PER FRAUD  
TRANSACTION



5% of annual revenue  
AVERAGE PER  
COMPANY LOSS



USA perspective  
\$42 BILLION LOST IN PROCUREMENT FRAUD ANNUALLY

(DOD, Inspector General)

## PROCUREMENT FUNCTIONS HAVE LONG BEEN STYMIED BY INEFFICIENCIES AND LOSSES DUE TO:

- Siloed information
- Lack of advanced data analytical tools
- Focus of company executives is to conduct business and deliver value to its customers not catch fraudsters



Fraud exists across all stages of the procurement function from requirements planning through payment settlements. While many of the fraud schemes are known and can be handled through appropriate detection and elimination approaches, there is a good number that are specific to a company's context, and these risks inevitably end up materializing in the absence of any advance detection and notification capabilities.

COMPANIES, ESPECIALLY LISTED COMPANIES, FACE SIGNIFICANT REGULATORY AND COMPETITIVE PRESSURES TO COMBAT RISKS OF PROCUREMENT LEAKAGES

USING PREDICTIVE ANALYTICS, A&M CAN DO A RISK SCORING OF VENDORS WHICH CAN HELP PROCUREMENT MANAGERS IDENTIFY AND ELIMINATE VENDORS THAT HAVE CAUSED DISRUPTIONS OR LEAKAGES IN THE PAST.

#### SOURCE DETERMINATION



- Leaking advance knowledge of procurement activity giving extra time and context to selected vendors invited for bids
- Structuring contracts payment schedule and terms and conditions that may result in over-invoicing by vendors (e.g. selecting a cost reimbursement payment model instead of a fixed price one)

#### VENDOR SELECTION



- Conflict of interest between evaluating members and vendors
- Approvals for pricing schedules that may result in over charging (e.g. clauses relating to travel, sub-contracted procurement by vendors)
- Bid rigging whereby a set of bidding firms indulge in collusive price-fixing in order to guarantee selection of at least one member



#### GOODS RECEIPT

- Product substitution, accepting substandard goods for the same price as the ones agreed in original contract



#### BUYING

- Manual/Long open POs
- Unauthorized changes to POs
- Unjustified terms (e.g. advance payment)

## COMMON PROCUREMENT FRAUD SCHEMES



#### PAYMENT PROCESSING

- Duplicate payments made to a vendor without services rendered to justify the second payment. This fraud is normally committed by a vendor with collusion of an employee.
- Changing vendor master file so that payments can be routed to parties not originally part of the agreement



#### REQUIREMENTS BUYING DEFINITION

- Creating product requirements that favor a specific bidder
- Inadequate market research that results in unnecessary restrictions in competition



#### INVOICE VERIFICATION

- Phantom Vendor-Employee establishes a fictitious vendor and submits false invoices for payment
- Kickbacks often facilitated through accounts payable, a company or individual submits an invoice for services that never occurred, or is inflated by the amount of kickback

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IN COLLABORATION WITH THE STAKEHOLDERS, A&M CAN DEFINE VARIOUS BUSINESS CRITICAL KPIs AND KRIs (KEY RISK INDICATOR) AND MONITOR THESE REAL TIME TO MANAGE AND ELIMINATE RISK. PROACTIVE TRACKING KPI/KRI LIKE THE ONES MENTIONED BELOW, CAN HELP PREVENT PRECIOUS WORKING CAPITAL LEAKAGES:

- PERCENTAGE OF OPEN PO
  - PERCENTAGE OF INVOICES WITHOUT A PO
  - PERCENTAGE OF PROCUREMENT REQUESTS SERVICES BY NON STANDARD VENDORS
  - PERCENTAGE OF RFP WITH MULTIPLE BIDS
  - SKU BOUGHT AT MULTIPLE PRICES
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## TRADITIONAL DATA ANALYTICS, WHICH INVOLVES ANALYSING PAST DATA ONLY, PROVIDES LIMITED UTILITY

This lack of visibility arises largely because of the inefficiencies that exist across all three strategic levers including people, process and technology. Consider some of the examples below.

### LACK OF A CLEARLY DEFINED BUSINESS CONTEXT FOR ANALYTICS

Procurement fraud analytics requires having detailed knowledge of various fraud schemes along with symptoms of each and associated data points. In many cases, companies jump into the technical aspects of big data without having a clear idea of the problem that they are looking to solve. This often results in wasted analytics investments and erosion of senior management confidence.

### DATA PROLIFERATION AND CONTROL

Data proliferates across many departments and systems including ERP, billing, supplier management, contract management, shared databases. This poses major challenges on procuring internal data for analysis.

### DATA QUALITY ISSUES

Lack of centralized data ownership often leads to severe data quality issues such as disparate naming conventions for the same entities, inconsistent data, duplicate data, and missing data. Addressing data quality issues takes the focus away from insights delivery to data management.

### LACK OF REAL-TIME REPORTING

Having models to identify suspect transactions is one thing but the ability to flag these in real time using easily accessible dashboards requires significantly more advanced data integration capabilities without which effective fraud management remains a major challenge.

### LACK OF RESPONSE HANDLING CAPABILITIES

For effective fraud handling, the ability to flag fraud in real time needs to be supplemented by further course correction capabilities that involve specialist manual intervention. This often requires dedicated field teams with the right access levels and business knowledge so as to allow quick response to fraud alerts.

## LEVERAGING BIG DATA IN PROCUREMENT

Effectively handling procurement fraud requires analyzing large amounts of data to not just identify known and unknown fraud schemes, but also provide real time notifications about these followed by effective intervention strategies that can prevent or minimize loss.

### HISTORICAL SPEND DATA

What the company spent by BU, project, region, supplier in a given time-frame.

### SUPPLIER DATA

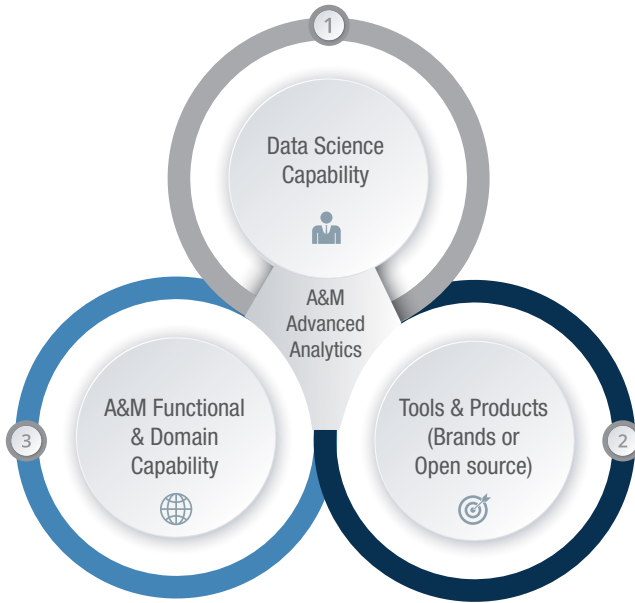
Key personnel, corporate account numbers, certifications, regulatory compliance history, sourcing practices (e.g. child labor, minimum wage violations etc.), third party information about suppliers (financial data, partnerships, key clients, pending litigations, etc.)

### SOURCING DATA

RFIs, RFPs, RFQs, supplier bids and proposals, contract examples, current and past suppliers, supplier selection criteria and best practices.

### TRANSACTIONAL DATA

Requisition to PO times, PO approval times, PO to payment times, change orders, invoice and payment data.

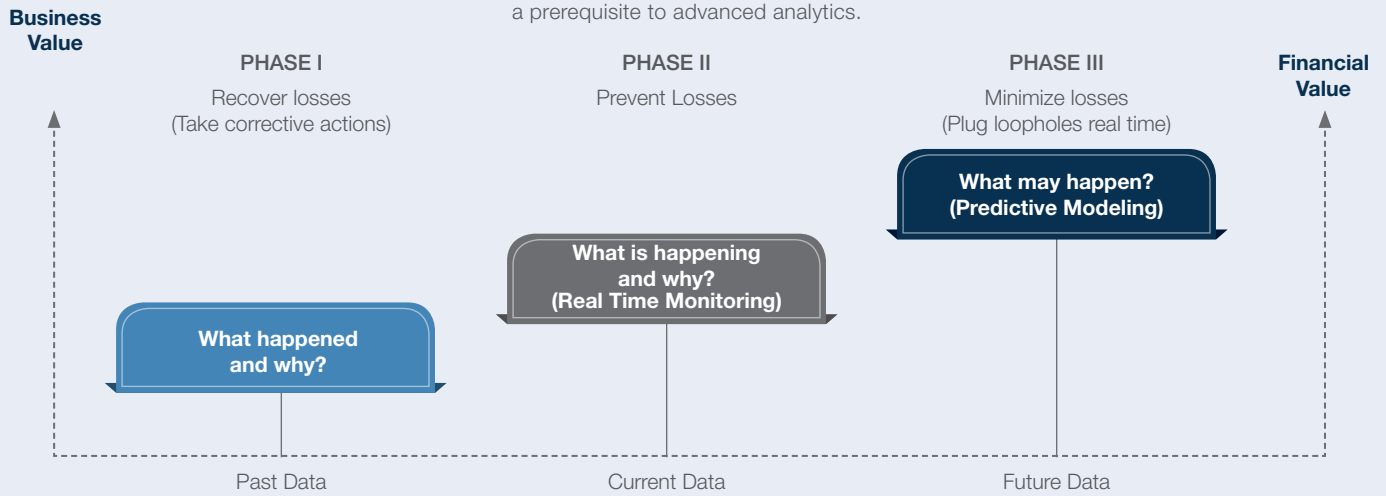


A&M'S ADVANCED DATA ANALYTICS SOLUTIONS HAVE DELIVERED 1% TO 5% OF PROCUREMENT COST SAVINGS TO OUR CLIENTS

USING PREDICTIVE MODELLING, A&M CAN PREDICT THE RAW MATERIAL REQUIRED TO BE PROCURED BASED ON VARIOUS PARAMETERS. THIS CAN BE USED TO GENERATE PO FOR THE SKU OR COMPARED WITH THE PO RAISED TO DETERMINE THE OPTIMUM LEVEL.

### The A&M Advanced Data Analytics Approach

A&M procurement fraud analytics solution deploys a 3-phase approach to incrementally build analytics rigor. This provides Clients with not just immediate quick wins with their analytics investments but also a strategic roadmap for planning and process capability improvements that are a prerequisite to advanced analytics.



### A&M APPLIED DATA ANALYTICS (ADA) PLATFORM



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