weaver

Assurance • Tax • Advisory

Fraud Detection & Prevention

Leveraging Data Monitoring and Analytics

Today's Presenters

▶Travis Casner, CFE

Managing Director, Weaver

- Over 12 years of experience providing forensic and investigative services in the public and private sectors
- Investigations include allegations of fraud, waste and abuse, misuse of public funds, employee theft and other white collar crime

▶Cal Webb III, CPA, CIA, CFE, PI

Consultant, Gradient Solutions

- Over 15 years of business consulting experience in numerous sectors
- Executive Leadership as a CFO, and audit background

Today's Agenda

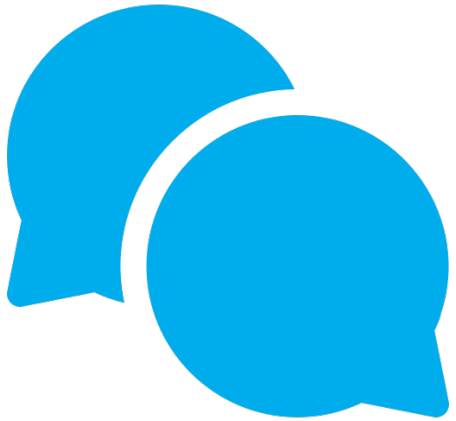
- Recent Fraud Trends
- Data Analysis Trends in Fraud
- Review of Recent Fraud Cases
- Key Questions to Ask

Fraud Trends

Polling Question #1

What is the most common type of fraud scheme according to the ACFE Report to the Nations?

a) Billing Schemes
b) Payroll Schemes
c) Corruption
d) Financial Statement Fraud



Fraud Trends

Fraud Schemes in Government (ACFE Reports for 2018 – 2022)

Fraud Scheme	2022 Report	2020 Report	2018 Report
Corruption	57%	48%	50%
Billing Schemes	21%	18%	15%
Noncash	16%	17%	22%
Payroll	16%	17%	7%
Expense Reimbursements	12%	17%	11%
Check and Payment Tampering	9%	4%	9%
Financial Statement Fraud	8%	4%	5%
Skimming	8%	7%	11%
Cash on Hand	7%	9%	11%
Cash Larceny	8%	5%	11%

Source: ACFE Report to the Nations for 2018, 2020 and 2022

Fraud Trends

Fraud Loss by Scheme (ACFE Reports for 2018 – 2022)

Fraud Scheme	Median Loss (2022)	% of Frauds (2022)
Corruption	$12,500	57%
Billing Schemes	$5,600	21%
Noncash	$6,500	16%
Payroll	$2,500	16%
Expense Reimbursements	$2,200	12%
Check and Payment Tampering	$5,600	9%
Financial Statement Fraud	$32,900	8%
Skimming	$3,100	8%
Cash on Hand	$1,300	7%
Cash Larceny	$3,200	8%

Source: ACFE Report to the Nations for 2022

Fraud Trends

How is Fraud Detected (ACFE Reports for 2018 – 2022)

Detection Method	2022 Report	2020 Report	2018 Report
Tip (e.g., employee, anonymous)	42%	43%	40%
Internal Audit	16%	15%	15%
Management Review	12%	12%	13%
Document Examination	6%	3%	4%
By Accident	5%	5%	7%
Account Reconciliation	5%	4%	5%
Automated Transaction / Data Monitoring	4%	0%	0%
External Audit	4%	4%	4%
Surveillance / Monitoring	3%	3%	3%

Source: ACFE Report to the Nations for 2018, 2020 and 2022

Fraud Trends

Fraud Duration and Loss (2022 ACFE Report)

Detection Method	Duration	$ Loss
By Accident (5%)	23 Months	$100,000
External Audit (4%)	20 Months	$219,000
Notification by Law Enforcement (2%)	18 Months	$500,000
Confession (1%)	14 Months	$159,000
Document Examination (6%)	12 Months	$200,000
Tip (42%)	12 Months	$117,000
Internal Audit (16%)	12 Months	$108,000
Management Review (12%)	12 Months	$105,000
Account Reconciliation (5%)	8 Months	$74,000
Surveillance/Monitoring (3%)	6 Months	$60,000
Automated Transaction/Data Monitoring (4%)	6 Months	$50,000

Source: ACFE Report to the Nations for 2022


Data Analysis
Trends in Fraud

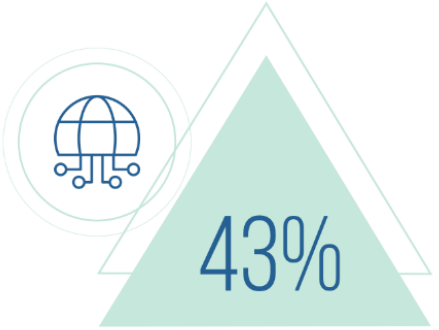
Data Analysis Trends

Trends

- More than **50%** of organizations currently use exception reporting and anomaly detection
- Within two years, use of these techniques is expected to grow to **66%** or more
- **99%** of organizations say that increased volume of transaction review and anomaly detection were beneficial to anti-fraud programs
- Budget and financial concerns are the biggest challenges for organizations implementing new anti-fraud technology

Source: ACFE 2022 Anti-Fraud Technology Benchmarking Report

of organizations expect an increase in their
ANTI-FRAUD TECHNOLOGY BUDGETS
in the next two years.

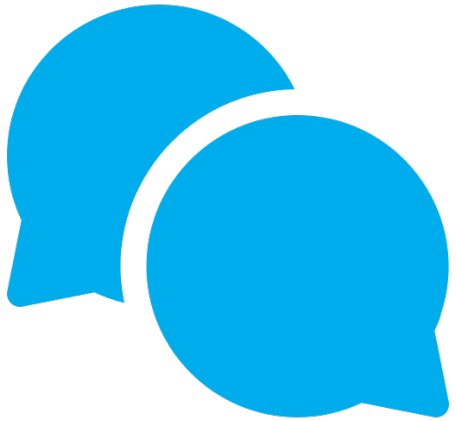


of organizations have increased their use of
DATA ANALYTICS
in response to the COVID-19 pandemic.

Polling Question #2

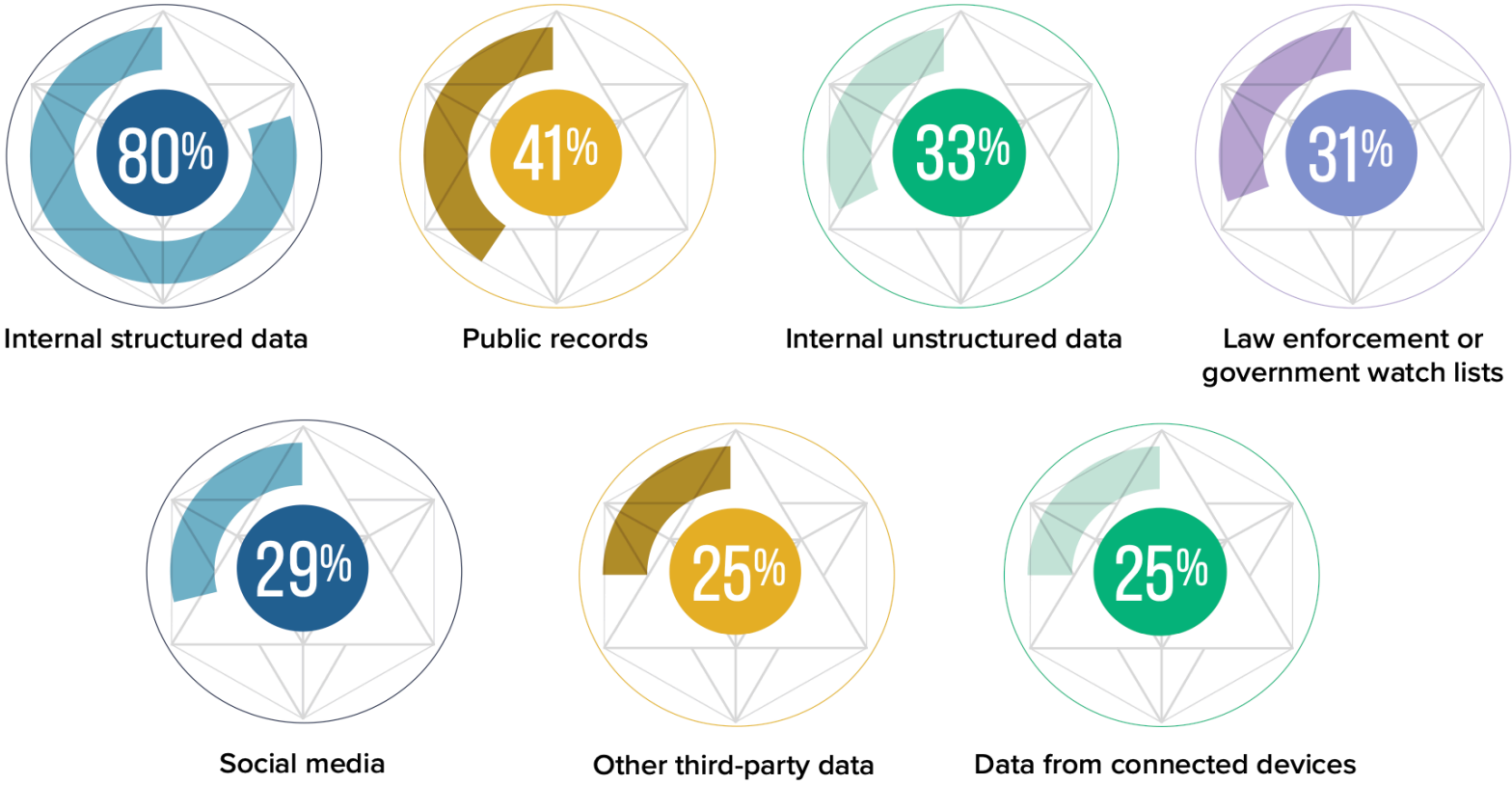
What is the most common source of data used by organizations in their anti-fraud data analytics initiatives?

a) Internal Structured Data
b) Internal Unstructured Data
c) Public Record
d) Social Media



Data Analysis Trends

What data does your organization have and how are you using it?



Source: ACFE 2022 Anti-Fraud Technology Benchmarking Report

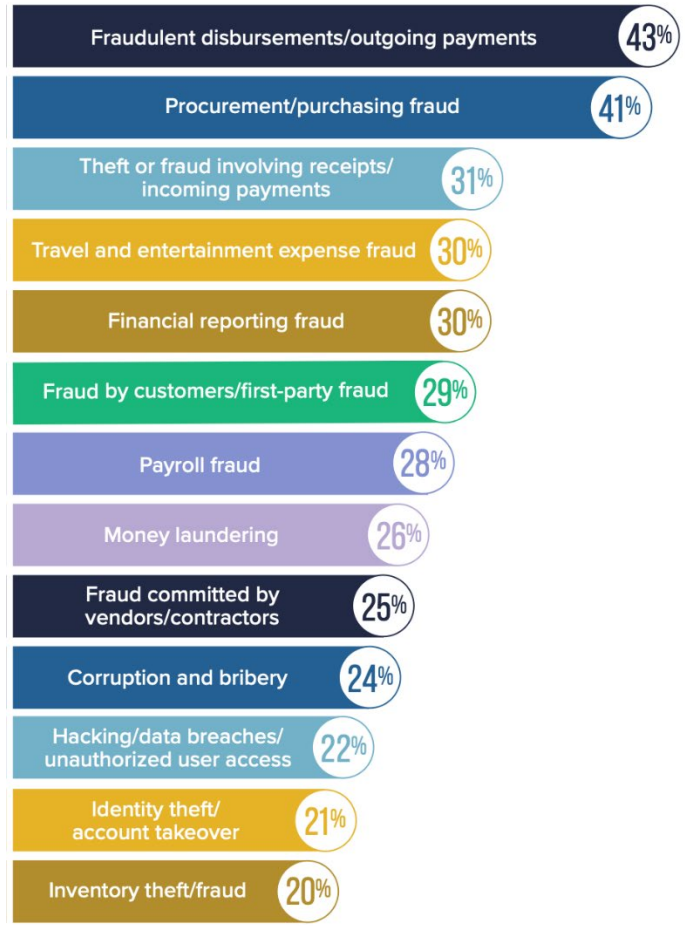
Data Analysis Trends

According to the report, "when deploying anti-fraud analytics, organizations often take a risk-based approach – that is, they tie their analytics initiatives to the areas of the organization where fraud risks are highest…"

Where are the risks highest in your organization? Are you using data in those areas?

Source: ACFE 2022 Anti-Fraud Technology Benchmarking Report

FIG. 3 In what risk areas do organizations use data analytics to monitor for fraud?



Billing Scheme – Case Study

Billing Scheme Case Study

FOR IMMEDIATE RELEASE

Tuesday, July 12, 2022

DeSoto ISD Employee Pleads Guilty to Wire Fraud Conspiracy

A DeSoto Independent School District employee pleaded guilty today to embezzling more than $250,000 from the district, announced U.S. Attorney for the Northern District of Texas Chad E. Meacham.

Overview of the Fraud Scheme

- Employee Position: Director of Energy Management
- Size of the Fraud: $250,000 (January 2017 – August 2018)
- Fraud Scheme: Fictitious vendor paid through district credit card for energy efficiency audits of facilities
- Concealment Measures: Credit card payments issued to PayPal and Square accounts controlled by employee (fictitious vendor name appeared on credit card statements)
- Systems Involved: ERP System and purchasing card system

Billing Scheme Case Study

Red Flags

- Payments escalated over time
- Purchases surpassed procurement thresholds
- Vendor not in Vendor Master File (circumvented by paying with credit card)
- Vendor not registered with SOS
- Payment receipts from PayPal and Square submitted in lieu of vendor invoices
- No evidence of any services performed by vendor or vendor coming onsite
- Employee made comments to co-workers about frequent gambling trips and owning numerous cars

Month	Amount
Jan-17	$ 3,500
Feb-17	3,100
Mar-17	2,200
Apr-17	9,400
May-17	9,000
Jun-17	17,600
Jul-17	5,700
Aug-17	17,600
Sep-17	9,000
Oct-17	9,000
Nov-17	9,000
Dec-17	27,000
Jan-18	9,000
Feb-18	9,000
Mar-18	18,000
Apr-18	11,000
May-18	20,000
Jun-18	18,000
Jul-18	20,000
Aug-18	40,000
Total	**$267,100**

Billing Scheme Case Study

How could this have been avoided?

- Credit cards not intended for vendor payments (travel and emergency purchases only)
- Require detailed invoices/receipts from payee for approval
- Require additional review for payments from third-party payment processors (e.g., PayPal)
- Two-person verification for completion of services

Billing Scheme Case Study

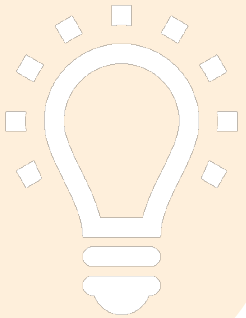
How could this have been detected sooner?

- Payment analytics related to split purchases and round-dollar payments
- Monitoring of payments through PayPal and Square for further review
- Monitoring of vendor payments via credit card
- Vendor monitoring of Secretary of State registration
  - Taxable Entity Search

Billing Scheme Case Study

How could this have been detected with analytics?

- New vendors in the purchasing card system are flagged automatically
- Unusual increases in spending by a cardholder are subject to additional scrutiny
- Purchasing card vendor spend is monitored against procurement thresholds and/or consolidated into the ERP system
- Development of specific analytics for "director" level positions in the organization



Financial Statement Fraud – Case Study

Financial Statement Fraud

FOR IMMEDIATE RELEASE

Wednesday, December 15, 2021

San Antonio Man Pleads Guilty to Embezzling 1.1M from Johnson City

AUSTIN – Today a San Antonio man pleaded guilty in federal court to embezzling over $1.1 million from the City of Johnson City, Texas.

Overview of the Fraud Scheme

- **Employee Position:** Chief Administrative Officer
- **Size of the Fraud:** $1.1 million (2015 - 2020)
- **Fraud Scheme:** Monthly transfers of $500 - $10,000 from City's cash account to employee's personal account for living expenses
- **Concealment Measures:** Falsification of audited financial statements (employee delayed the release of financial statements and changed dates and numbers on statements from prior years)
- **System Involved:** ERP System and banking system

Financial Statement Fraud

How could this have been avoided?

- Vendor onboarding and approval process involving multiple individuals.
- Segregation of duties (SOD) within the vendor master file and purchase to pay cycle.
- Regular review of system access rights and risk relating to those rights.
- Implementation of compensating controls due to SOD risks within a smaller organization.

Financial Statement Fraud

How could this have been detected with analytics?

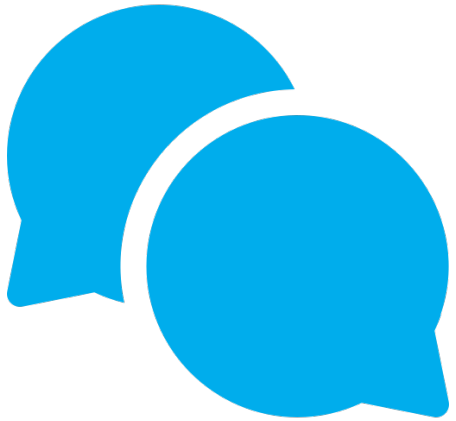
- Compare and/or stratify expenses by month and to prior year and investigate outliers.
- Analyze expenses after significant cut-off dates to identify any delayed records.
- Analyze time of invoice to payment and identify invoices with unexpectedly short times between invoice and payment.
- Periodic data analysis of ERP audit logs.

Noncash Fraud Schemes – Case Study

Polling Question #3

What is the cost of a gallon of ink toner?

a) $100
b) $500
c) $1,000
d) $5,000



Ink Toner Fraudster

Accounting Associate II

- Employee purchased $1.3 million in unneeded toner and unknown thousands in personal electronics
- Edited invoices and used third parties to hide purchase details; Shipped to his home
- Sold items over online marketplaces and to toner resellers

Transaction details September 27, 2018 at 3:51:05 PM PDT | Transaction ID: SBV18518AN858323N

Payment sent to [redacted] Retailer

Payment Status: Completed

Payment Type: Checkout

Gross amount
-$1,545.78 USD

Shipping address
randall whited
[redacted] PII
kyle, TX [redacted] PII
United States
Confirmed

Whited's home address

No item details

Transaction Activity		Gross amount	Fee amount	Net amount
Sep 27, 2018	Authorization to [redacted] Retailer	-$1,545.78 USD	$0.00 USD	-$1,545.78 USD

Order details	Quantity	Price	Subtotal
BBY Order Id : BBYTX-805565076319	1	$1,545.78 USD	$1,545.78 USD
		Purchase Total	$1,545.78 USD

Noncash Fraud Schemes

How can we level up?

Understand our data:

- Analyze Printer Data – utilize print server event log to identify key usage statistics
- Complimentary Usage Consumables – Compare usage ratio of ink to paper purchases

Key Questions to Ask

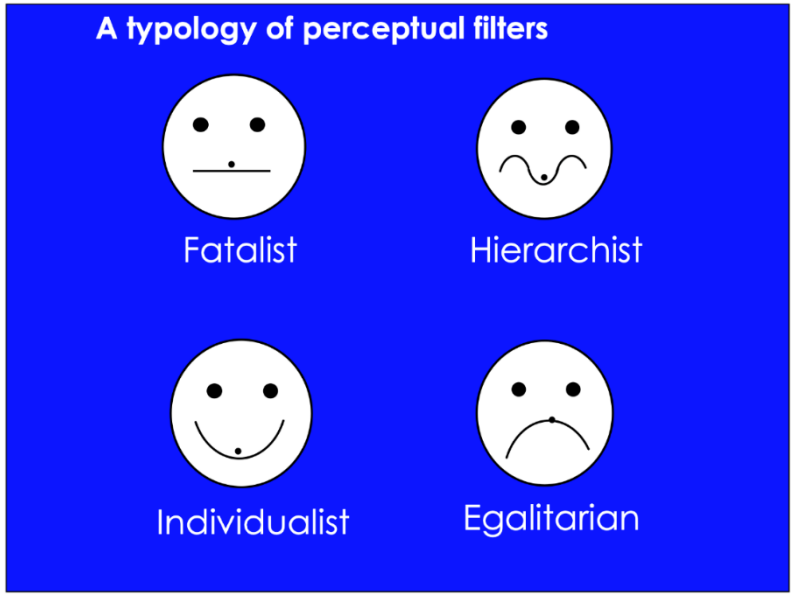
Key Questions to Ask

How do individual perspectives impact the use of data analysis?

- Individualist – Can't prove dangerous, assume safe
- Egalitarian – Can't provide safe, assume dangerous
- Fatalist – Little control
- Hierarchist – Exploit for benefit

You matter in data analysis but so do others!

http://john-adams.co.uk/wp-content/uploads/2006/diageo%20cadbury%20schweppes%20final.pdf



Key Questions to Ask

What type of analysis software should I use?

"We don't attend to everything that we see. Visual perception is selective, as it must be, for awareness of everything would overwhelm us. Our attention is often drawn to contrasts to the norm."

A variety of approaches is appropriate!

Source: Stephen Few. "Now You See It!"

Key Questions to Ask

What questions should I be asking about my organization's data?

- What areas of my organization could benefit from data analysis (i.e., risk reduction or strategy support)?
- What data is available in those areas?
- What people or technology assets are available to utilize that data?
- What groups will use the data analysis results and how will they review them?

Start small and specific!

weaver

Assurance • Tax • Advisory

Travis Casner, CFE

Managing Director, Forensics and Litigation Services

Weaver

Cal Webb III, CPA, CIA, CFE, PI

Consultant

Gradient Solutions