Forensic Audit and Automated Oversight

Case Study: Purchase Card

Federal Audit Executive Council
January 21, 2010

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Joint Purchase Card Project (2002)

- Project purpose
- Project approach
  - Universe under review
  - SME Conferences
  - Developing indicator combinations
  - Field research
- Project results

- Review objectives
  - Develop an automated oversight capability to identify anomalies in purchase card data that may indicate fraud or abuse
  - Identify effective indicators that could be embedded into purchase card process
- Universe under review
  - 12 million purchase card transactions for 12 month period 2001-2 ($6.5 billion)
- Team – 300 auditors/investigators from DoDIG and Defense agencies
- Subject Matter Expert conference I
  - Structured brainstorming with 35 auditors, investigators, GSA officials
  - Developed 115 indicators of potential fraud
  - 40 indicators were codable in ACL and MS Access
- Identify and obtain transaction-level data
- Build targeted business rules and run against data
- Subject Matter Expert conference II
  - Validate indicators
  - Cardholder profile
  - Target transactions and sites for field research
- Field research
- Report and process improvements
Developing Indicator Combinations

- Few single indicators are effective
- Need to reduce false positives
- A few of the most interesting combinations can be initially selected and evaluated
- Other combinations can be continuously developed and evaluated
- Highly interesting individual transactions are also identified during the process of evaluating indicators
DoD Joint Purchase Card Review Results

• Transaction Universe
  • 12 million purchase card transactions ($6.5B)
  • 200,000 cardholders and 40,000 authorizing officials

• Data mining Results
  • Developed 40 fraud indicators from SME conferences
  • 6.5 million transactions (1+ indicator)
  • 13,393 transactions (combinations of indicators)
    - 2066 cardholders and 1604 approving officials in 752 locations
  • 8243 transactions (researched by auditors)
  • 1250 questioned transactions (some level of misuse)

• Outcomes
  - 175 cases with adverse action and 100 investigations opened
  - Capability to embed data mining indicators in credit card company systems to promote continuous monitoring
ALL AGENCIES BY STATE
PUSHPIN MAP

Pushpins
- UNDER INVESTIGATION
- NAVY
- OTHER DEFENSE
- ARMY
- AIR FORCE
Many credits

Merchant is "I-Bill"

Merchant address = "Moscow"

8 of 11 transactions were flagged

27 CHs

Reason Flagged
Top Performing Data Mining Combinations

• 97%  Entertainment Internet sites, Weekend/Holidays
• 67%  Purchases from 1 vendor, CH=AO
• 57%  Internet transactions, 3rd party billing
• 53%  Interesting vendors, many transactions
• 43%  Even dollars, near limit, same vendor, vendor business w/few CHs
Purchase Card Problem Areas

• Splitting procurements
• Purchasing goods or services which, although for a valid governmental purpose, are prohibited on a purchase card
• Purchasing items for which there is no government need
• Invoices were being certified without being reviewed.
Fraud Indicators

- Repetitive buying pattern even dollars, near purchase limits, or same or similar name for vendor
- Name for merchant and cardholder (or approving official) the same
- Fewer than 5 cardholders using a specific vendor
- Purchases approved by cardholder or no specific person instead by a office
- Cardholder accounts with numerous disputes
Fraud Indicators

- Regularly recurring split purchases, often to the same vendor
- Purchases outside normal purchase pattern of cardholder (possibly made by others)
- Recurring purchases from relatively unknown sources/vendors
- Cardholder accounts with several limit increases over a short period of time
- Frequently delinquent cardholder accounts
Examples of Fraudulent Activity

• Cardholders knowingly pay inflated prices for merchandise
• Large fraudulent transactions broken up and disguised as “split purchases”
• Vendors provide merchandise, services, gifts and/or portion of profit as a reward/incentive for purchase (kickbacks)
• Cardholder accounts with incomplete records available for review/inspection
• Purchased items not annotated on property books
Examples of Fraudulent Activity

- Bogus companies are established and co-owned by cardholders and vendors
- Solicitation/direction of other cardholders to use bogus companies known for kickbacks
- No product shipment, but invoices paid
- Falsified documents/invoices created and placed in files to cover audit trail
Examples of Fraudulent Activity

• Similar invoices from different vendors (software generated)
• Cardholder preference of particular vendor(s) (minimal rotation)
• Questionable purchases of consumable items (accountability subversion)
• Subversion of current Management Controls (by cardholder and/or approving official)
Examples of Fraudulent Activity

- Indications that approving official isn’t conducting monthly reconciliation of cardholder accts.
- Overly documented cardholder files (fresh new documents and signatures)
- Recurring purchases of high value items (profit generation for kickbacks)
- Lack of inventory controls or failure to adhere to existing controls (accountability)
Future Potential Applications

- Unauthorized and Questionable Purchases
- Purchase Cards
- Travel Cards
- Communications Services, including long distance services, cellular phones and phone cards
- Fleet Cards
- AIR Cards
- Contract Action Data Discrepancies
Questions?