Data Mining and Risk Assessment for DoD Purchase Card Online System (PCOLS)

Hoyt Fonger
Program Manager, Defense Logistics Agency Logistics Information Service
A Winning Hand: Solutions, Savings and Sustainability with GSA SmartPay

The 13th Annual GSA SmartPay Training Conference, Las Vegas
To ensure the best possible learning experience for participants, please adhere to the following house rules:

- Turn cell phones and pagers to vibrate
- Hold questions to end of session
- Ensure your participant badge is scanned to receive CLP credits
  - For each course
  - Must leave room and re-enter
- Take advantage of opportunities to provide feedback
  - Please select the Citi Q&A icon on any Citi PC at the conference
  - Answers to be emailed after the conference within 45 days
Data Mining/Risk Assessment

Agenda

- Data Mining (DM)
- Risk Assessment (RA)
- Help and Support
1. Data Mining
Data Mining Overview

- **Data Mining Application…**
  - Reviews 100% of the purchase card transactions.
    - Each transaction is assigned a score by the Risk Predictive Model.
    - High risk transactions and a statistically based sample of random transactions are referred for review.
    - The Case Manager interprets the referred transactions and creates specific cases that are assigned to the Approving/Billing Officials for review.
    - Through the use of the Case Manager Interview Process, the A/BO demonstrates that due diligence is exercised in the review of the referred transactions.
    - The interview process (questions) records information related to the data provided to support the validity of the purchase card transaction.
In accordance with MID 904, the Department of Defense has developed a data mining capability to identify purchase card transactions at risk of fraud, misuse or abuse. Additionally, a small number of transactions have been randomly selected to assist in the refinement of the application.

The following transaction in your Managing Account has been selected for review:

Cardholder Account Number: **********2708
Cardholder Name: Cardholder Name
TBR Hierarchy: 47168-00057-00001-01000-10000
Case Number: 565561
Transaction ID: 004de6b3f901fb5a
Date of the Transaction: 06-01-2011 02:05:39
Merchant Name: FED EX
Transaction Amount: $489.12

You are required to initiate and complete a review of the subject transaction. If action is not taken in a timely manner, the transaction will be forwarded to your Agency/Organization Program Coordinator for their action.

To review the transaction, click on the following link:

For account-related inquiries, please contact your designated Agency/Organization Program Coordinator. For PCOLS technical support, including system access, please contact the PCOLS help desk at the following phone numbers:

US (CONUS) - Commercial (toll-free): 1-800-576-7783
OCONUS - DSN: 661-7307
Direct dial: 296-961-7307

END EMAIL

Data Mining Access
Level 5 or Level 6 (Navy users) is the Company Number.

<table>
<thead>
<tr>
<th>SELECT</th>
<th>USER ROLE</th>
<th>HIERARCHY LEVEL</th>
<th>HIERARCHY LEVEL VALUE</th>
<th>HIERARCHY LEVEL VALUE TRAIL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select</td>
<td>Approving/Billing Official(A/B/C) - Primary</td>
<td>5</td>
<td>$6800</td>
<td>47163-000004-00044444-00000000-06800</td>
</tr>
</tbody>
</table>
Welcome JOHN SMITH. You are logged in as Approving/Billing Official(A/BO) - Primary.

<table>
<thead>
<tr>
<th>Level</th>
<th>NEW</th>
<th>UNDER A/BO REVIEW</th>
<th>CLOSED</th>
</tr>
</thead>
<tbody>
<tr>
<td>05:483</td>
<td>7</td>
<td>1</td>
<td>5</td>
</tr>
</tbody>
</table>

Managing Account Number
Welcome JOHN SMITH. You are logged in as Approving/Billing Official(A/BO) - Primary.

**Account Details**

**Transaction History**

<table>
<thead>
<tr>
<th>TRANSACTION DATE</th>
<th>STATUS</th>
<th>DISPOSITION</th>
<th>TYPE</th>
<th>AMOUNT</th>
<th>MERCHANT</th>
<th>MCC</th>
<th>VIEW</th>
</tr>
</thead>
<tbody>
<tr>
<td>02-09-2009 02:02:01</td>
<td>New Case</td>
<td>New Case</td>
<td>B</td>
<td>3.01</td>
<td><em>FINANCE CHARGE</em> CASH ADV</td>
<td>0000</td>
<td><a href="#">View</a></td>
</tr>
<tr>
<td>02-09-2009 02:02:01</td>
<td></td>
<td></td>
<td>B</td>
<td>6.13</td>
<td><em>FINANCE CHARGE</em> CASH ADV</td>
<td>0000</td>
<td><a href="#">Create</a></td>
</tr>
</tbody>
</table>
Welcome Group Seven AOPC. You are logged in as Agency/Organization Program Coordinator (A/OPC).

CardHolder Account Number: **********266389

- Card Status: 
- Managing Account Number: **********404385
- Member Since Date: 
- Card Issue Date: 
- Card Transaction Limit: 3000 
- Card Current Balance: 28525.98 
- Card Credit Rating: 
- Card Open Date: 2008-10-13 01:00:00.0 
- Card Expiration Date: 
- Card Cycle Purchase Limit: 
- Card Available Credit: 0
Welcome Group Seven AOPC. You are logged in as Approving/Billing Official(A/BO) - Primary.

### Case Details All Grouped

**VIEW:** Summary | All - Grouped

Go to: Transaction Information | Managing Account Details | Hierarchy Details | Cardholder Account Details | A/BO Details | Cardholder Details | Case Details | MCC Group |

<table>
<thead>
<tr>
<th>Transaction Information</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Account Number</td>
<td>**********256389</td>
</tr>
<tr>
<td>Managing Account Number</td>
<td>**********494385</td>
</tr>
<tr>
<td>Transaction Date</td>
<td>Fri Feb 06 2009 02:27:28</td>
</tr>
<tr>
<td>Transaction Type</td>
<td>K</td>
</tr>
<tr>
<td>Transaction Amount</td>
<td>450.00</td>
</tr>
<tr>
<td>Merchant Name</td>
<td>MICHELLE STROH 001051</td>
</tr>
<tr>
<td>Merchant City</td>
<td>ST. PAUL</td>
</tr>
<tr>
<td>Merchant Country</td>
<td>840</td>
</tr>
</tbody>
</table>
Welcome Group Seven AOPC. You are logged in as Approving/Billing Official (A/BO) - Primary.

### Case Details

**VIEW** Summary | All Grouped

#### Transaction Information

- **Account Number:** *******266389
- **Managing Account Number:** *******404835
- **Transaction Date:** Fri 06 2009 02:27:28
- **Transaction Type:** K
- **Transaction Amount:** $430.00
- **Case Opened Date:** Thu Apr 23 2009 08:32:00
- **Merchant Name:** MICHELLE STROH 001051 ST. PAUL, MN, 000000000 840
- **Last Updated Date:** Thu Apr 23 2009 08:33:02
- **MCC:** 6051
- **Last Action:** Suspected Fraud

#### Action History

<table>
<thead>
<tr>
<th>DATE</th>
<th>TYPE</th>
<th>DISPOSITION</th>
<th>RECOMMENDED ACTION</th>
<th>A/OPC NOTIFIED</th>
<th>REFERRED TO DOD ORGANIZATION</th>
<th>COMMENTS</th>
<th>USER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thu Apr 23 2009 08:33:02</td>
<td>A/BO</td>
<td>Valid Transaction</td>
<td></td>
<td></td>
<td></td>
<td>View</td>
<td>RM_GROUP TWO</td>
</tr>
<tr>
<td>Thu Apr 23 2009 11:15:29</td>
<td>IR</td>
<td>Suspected Fraud</td>
<td>Administration</td>
<td></td>
<td></td>
<td>View</td>
<td>Group Seven AOPC</td>
</tr>
<tr>
<td>Thu Apr 23 2009 11:16:17</td>
<td>IR</td>
<td>Suspected Fraud</td>
<td>Removal</td>
<td>YES</td>
<td></td>
<td>View</td>
<td>Group Seven AOPC</td>
</tr>
<tr>
<td>Case Review</td>
<td>Yes</td>
<td>No</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------------------------------------------------</td>
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<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>1. Was the item/service formally disputed with the bank?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Did the transaction amount exceed the micro purchase limit?</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Was this a split purchase?</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>4. Did the item/service exceed minimum needs?</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>5. Was the item/service for personal use?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Was the item a prohibited item?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Was this item subject to mandatory sourcing?</td>
<td></td>
<td></td>
<td>N/A</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Was Green Procurement considered?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Was there adequate source documentation?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Evidence of requester's requirements document (e.g., email or written request), Detailed Transaction Receipt / Vendor Invoice, Detailed Packing Slip, Proof of Delivery of Goods / Services, Detailed Controller Purchase Log, Evidence of Property Book Officer Notification.
### Case Disposition

<table>
<thead>
<tr>
<th>Case Disposition</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select</td>
<td></td>
</tr>
<tr>
<td>Under A/B/C Review</td>
<td></td>
</tr>
<tr>
<td>Valid Transaction</td>
<td></td>
</tr>
<tr>
<td>Administrative Discrepancy</td>
<td></td>
</tr>
<tr>
<td>Misuse</td>
<td></td>
</tr>
<tr>
<td>Suspected Fraud</td>
<td></td>
</tr>
<tr>
<td>Abuse</td>
<td></td>
</tr>
<tr>
<td>Lost</td>
<td></td>
</tr>
<tr>
<td>Stolen</td>
<td></td>
</tr>
</tbody>
</table>

[Select] [Select]

[Save] [Cancel]
## Case Details

**VIEW:** Summary | All - Grouped

### Transaction Information
- **Account Number:**
- **Transaction Date:**
- **Transaction Amount:**
- **Merchant Name:**
- **MCC:**

### Action History

<table>
<thead>
<tr>
<th>DATE</th>
<th>TYPE</th>
<th>Reason</th>
<th>Result</th>
<th>View</th>
<th>USER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thu Apr 23 2009</td>
<td>08:33:02</td>
<td>AGR</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thu Apr 23 2009</td>
<td>11:15:29</td>
<td>IR</td>
<td>Suspected Fraud</td>
<td>View</td>
<td>Group Seven AOPC</td>
</tr>
<tr>
<td>Thu Apr 23 2009</td>
<td>11:16:17</td>
<td>IR</td>
<td>Suspected Fraud</td>
<td>View</td>
<td>Group Seven AOPC</td>
</tr>
</tbody>
</table>

### Add Independent Review

**Case Disposition:**

- [Select]

**Comments:**

- [Blank]

[Add Independent Review]
2. Risk Assessment
Risk Assessment

- **Risk Assessment** ...
  - Allows users to analyze risk and report on the “health” of an organization’s purchase card program
  - RA Components
    - **Controls**: Risk indicators for which exceptions that exceed predetermined thresholds are monitored.
    - **Dashboards**: The primary component that assesses the risk of the purchase card program for each individual control and cumulative risk assessment for the overall hierarchical level calculated based on each individual control’s risk assessment.
    - **Quarterly Reports**: Provide a three cycle, side-by-side snapshot of the controls’ exceptions.
Dashboard Elements

Welcome Group Seven AOPC. You are logged in as Agency/Organization Program Coordinator (A/OPC).

A/OPC Dashboard

To view the details of a control, click the control name.

Category 1: Span of Control

Control 1.1: Cardholder Accounts to A/BOs
More than seven cardholder accounts to one A/BO

Control 1.2: Cardholder Accounts to A/OPCs
More than 300 cardholder accounts to one A/OPC

Overall Risk Assessment:

- Scale: 0
- Exceptions: 30

- Scale: 0
- Exceptions: 1
Welcome Group Seven AOPC. You are logged in as Agency/Organization Program Coordinator (A/OPC).

To view the details of a control, click the control name.

<table>
<thead>
<tr>
<th>Total A/BOs: 2</th>
<th>Overall Risk Assessment:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category 1: Span of Control</td>
<td>Risk Assessment</td>
</tr>
</tbody>
</table>

**Control 1.1: Cardholder Accounts to A/BOs**
More than seven cardholder accounts to one A/BO

- Scale: 7
- Exceptions: 30

**Control 1.2: Cardholder Accounts to A/OPCs**
More than 300 cardholder accounts to one A/OPC

- Scale: 8
- Exceptions: 1
## A/OPC Dashboard

**Welcome Group Seven AOPC. You are logged in as Agency/Organization Program Coordinator (A/OPC).**

**To view the details of a control, click the control name.**

### Overall Risk Assessment:

<table>
<thead>
<tr>
<th>Total AIOCs</th>
<th>Risk Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

#### Category 1: Span of Control

- **Control 1.1: Cardholder Accounts to AIOCs**
  - More than seven cardholder accounts for one AIOC
    - Some: 1
    - Exceptions: 1

- **Control 1.2: Cardholder Accounts to AIOCs**
  - More than 300 cardholder accounts to one A/OPC
    - Some: 10
    - Exceptions: 10

#### Category 2: Separation of Duties

- **Control 2.1: Inadequate Separation of Duties**
  - Accounts for which the cardholder and AIOC are the same individual
    - Some: 1
    - Exceptions: 0

#### Category 3: Authorization Controls

- **Control 3.1: Spending Ratio Unexceeded Credit Limits**
  - Accounts for which the six cycle spend average is less than 70% of the average cycle credit limit
    - Some: 10
    - Exceptions: 10

- **Control 3.2: Single Merchant Spending**
  - Accounts that have at least ten transactions and an 80% or greater spending percentage at one merchant
    - Some: 10
    - Exceptions: 10

#### Category 4: Card Status

- **Control 4.1: Delinquent Accounts**
  - Managing Accounts delinquent for 30+ days
    - Some: 1
    - Exceptions: 0

- **Control 4.2: Account Usage**
  - Accounts that have been inactive for six cycles or have never been used (Excludes newly issued cards)
    - Some: 1
    - Exceptions: 0

- **Control 4.3: Lost/Stolen Cards**
  - Accounts that have greater than one lost/stolen card(s) in the last 12 cycles
    - Some: 1
    - Exceptions: 0

#### Category 5: Transaction Review Controls

- **Control 5.1: Average Cycle Transactions Reviewed**
  - Higher than average number of transactions (>100) per cycle reviewed by the AIOC, based on three cycles of data
    - Some: 2
    - Exceptions: 0

- **Control 5.2: AIOC Response Rate**
  - AIOC failure to initiate case review in Case Management for flagged transactions within ten days
    - Some: 1
    - Exceptions: 0

- **Control 5.3: Flagged Transaction Determination**
  - Flagged transactions determined to be either valid in Case Management (Misuse/Abuse/Suspected Fraud)
    - Some: 1
    - Exceptions: 12

- **Control 5.4: Convenience Check Amounts**
  - Convenience Checks over $3,000
    - Some: 1
    - Exceptions: 0

---

**For Official Use Only (FOUO)**
## A/BO Dashboard

**Welcome Group Seven AOPC. You are logged in as Approving/Billing Officer (A/BO) - Primary.**

**Select Cycle:** 02/19/2000

---

### Overall Risk Assessment

- Total Cardholder Accounts: 4
- Exception: 0

#### Category 1: Span of Control
- **Control 1.1: Cardholder Accounts to A/BO**
  - More than seven cardholder accounts to one A/BO
    - Exception: 0

#### Category 2: Separation of Duties
- **Control 2.1: Inadequate Separation of Duties**
  - Accounts for which the cardholder and A/BO are the same individual
    - Exception: 0

#### Category 3: Authorization Controls
- **Control 3.1: Spending Ratio - Underutilized Credit Limits**
  - Accounts for which the six cycle spend average is less than 70% of the average cycle credit limit
    - Exception: 4
- **Control 3.2: Single Merchant Spending**
  - Accounts that have all six transactions and an 80% or greater spending percentage at one merchant
    - Exception: 0

#### Category 4: Card Status
- **Control 4.1: Delinquent Accounts**
  - Managing Accounts delinquent for 30+ days
    - Exception: 0
- **Control 4.2: Account Usage**
  - Accounts that have been inactive for six cycles or have never been used (Excludes newly issued cards)
    - Exception: 0
- **Control 4.3: Lost/Stolen Cards**
  - Accounts that have greater than one lost/stolen card(s) in the last 12 cycles
    - Exception: 0

#### Category 5: Transaction Review Controls
- **Control 5.1: Average Cycle Transactions Reviewed**
  - Higher than average number of transactions (~100) per cycle reviewed by the A/BO, based on three cycles of data
    - Exception: 0
- **Control 5.2: A/BO Response Rate**
  - A/BO failure to initiate case review in Case Management for flagged transactions within 10 days
    - Exception: 0
- **Control 5.3: Escalated Transaction Determination**
  - Flagged transactions determined to be other than valid in Case Management (Malicious/Abuse/Suspected Fraud)
    - Exception: 0
- **Control 5.4: Convenience Check Amounts**
  - Convenience checks over $5,000
    - Exception: 0

---

*For Official Use Only (FOUO)*
# Viewing Control Reports

<table>
<thead>
<tr>
<th>Category</th>
<th>Control</th>
<th>Exception Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1: Span of Control</strong></td>
<td>Control 1.1: Cardholder Accounts to A/BOs</td>
<td>More than seven Cardholder accounts to one Approving/Billing Official</td>
</tr>
<tr>
<td></td>
<td>Control 1.2: Cardholder Accounts to A/OPCs</td>
<td>More than 300 Cardholder accounts to one A/OPC</td>
</tr>
<tr>
<td><strong>2: Separation of Duties</strong></td>
<td>Control 2.1: Inadequate Separation of Duties</td>
<td>Accounts for which the Cardholder and A/BO are the same individual</td>
</tr>
<tr>
<td><strong>3: Authorization Controls</strong></td>
<td>Control 3.1: Spending Ratio - Underutilized Credit Limits</td>
<td>Accounts for which the six cycle spend average is less than 70% of the average cycle credit limit</td>
</tr>
<tr>
<td></td>
<td>Control 3.2: Single Merchant Spending</td>
<td>Accounts that have at least ten transactions and an 80% or greater spending percentage at one merchant</td>
</tr>
<tr>
<td><strong>4: Card Status</strong></td>
<td>Control 4.1: Delinquent Accounts</td>
<td>Managing Accounts delinquent for 30+ days</td>
</tr>
<tr>
<td></td>
<td>Control 4.2: Account Usage</td>
<td>Accounts that have been inactive for six cycles or have never been used (Excludes newly issued cards 60 days from the end of the billing cycle)</td>
</tr>
<tr>
<td></td>
<td>Control 4.3: Lost/Stolen Cards</td>
<td>Accounts that have greater than one lost/stolen card(s) in the last 12 cycles</td>
</tr>
<tr>
<td><strong>5: Transaction Review Controls</strong></td>
<td>Control 5.1: Average Cycle Transactions Reviewed</td>
<td>Higher than average number of transactions (&gt;100) per cycle reviewed by the A/BO, based on three cycles of data</td>
</tr>
<tr>
<td></td>
<td>Control 5.2: A/BO Response Rate</td>
<td>A/BO failure to initiate case review in Case Management for flagged transactions within 10 days</td>
</tr>
<tr>
<td></td>
<td>Control 5.3: Flagged Transaction Determination</td>
<td>Flagged transactions determined to be other than valid in Case Management (Misuse/Abuse/Suspected Fraud)</td>
</tr>
<tr>
<td></td>
<td>Control 5.4: Convenience Check Amounts</td>
<td>Convenience Checks over $3,000</td>
</tr>
</tbody>
</table>
Useful information to assist with the Data Mining/Risk Assessment Application include:

- Data Mining and Risk Assessment Application User Manual
- PCOLS Data Mining/Risk Assessment Job Aid

Both can be found at:

PCOLS Website at DAU Acquisition Community Connection (ACC)

Data Mining/Risk Assessment

3. Help and Support
Help and Support

PCOLS Help Desk

Phone: 800-376-7783, com 269-961-7307, or DSN 661-7307
Email: dlacontactcenter@dla.mil
Operation Hours: 24x7

PCOLS DAU Continuous Learning Module CLG005

https://learn.dau.mil/html/clc/Clc1.jsp
Contains: Role-Based Training for PCOLS

PCOLS Website at DAU Acquisition Community Connection (ACC)

http://acc.dau.mil/CommunityBrowser.aspx?id=213561 or

PCOLS Website at DLA Logistics Information Service

http://www.logisticsinformationservice.dla.mil/PCOLS/
Contains: Frequently Asked Questions (FAQs)
System User Manuals (EMMA, AIM, DM/RA, REPORTING)
DEERS Address Update and User Maintenance Portal Links
Various Training Aids
Data Mining

Hoyt Fonger
Thank you for attending!

Visit the Citibank Welcome Center
  – Level 3 Foyer - West
  – National Industries for the Blind will have a display of products
  – Conference Slide Show – come see yourself shine!

Visit the Citibank One-on-One Lab – Lido Room 3101 A/B

Visit the Citibank Mini Sessions – Lido Room 3001 A/B

Citi Q&A Link – Tell us your thoughts
In January 2007, Citi released a Climate Change Position Statement, the first US financial institution to do so. As a sustainability leader in the financial sector, Citi has taken concrete steps to address this important issue of climate change by: (a) targeting $50 billion over 10 years to address global climate change; includes significant increases in investment and financing of alternative energy, clean technology, and other carbon-emission reduction activities; (b) committing to reduce GHG emissions of all Citi owned and leased properties around the world by 10% by 2011; (c) purchasing more than 52,000 MWh of green (carbon neutral) power for our operations in 2006; (d) creating Sustainable Development Investments (SDI) that makes private equity investments in renewable energy and clean technologies; (e) providing lending and investing services to clients for renewable energy development and projects; (f) producing equity research related to climate issues that helps to inform investors on risks and opportunities associated with the issue; and (g) engaging with a broad range of stakeholders on the issue of climate change to help advance understanding and solutions.

Citi works with its clients in greenhouse gas intensive industries to evaluate emerging risks from climate change and, where appropriate, to mitigate those risks.