GSA SmartPay® Data Analytics
GSA SmartPay® Training Forum – August 7-9, 2018

Perry Hampton
GSA SmartPay® Training Agenda

• Training Overview and Expectations
• What Is Analytics?
• Why is Analytics Important?
• What Tools are Currently Available?
• Potential Use Cases
Overview

- Participants can expect an overview of data analytics and its importance to the GSA SmartPay® Program. AOPCs will gain necessary oversight into their programs and create time and money saving efficiencies. This training will give AOPCs insight into both best practices and the commercial tools currently available* as part of the GSA SmartPay® Program.

* Some tools described in this overview will only be available to headquarters level AOPCs.
Expectations

• Upon completion of this course, participants will have a greater understanding of:
  – The concepts of data analytics;
  – The applicability of data analytics to the GSA SmartPay® Program;
  – The resources available to AOPCs as part of the GSA SmartPay® Program; and
  – The use of data analytics tools to increase oversight within agency card programs.
Foundations of Data Analytics
Data Analytics and the GSA SmartPay® Program

- Both GSA and customer agency A/OPCs have access to extremely large sets of data that may be analyzed to reveal patterns, trends or other important insights. Given this access to big data, analytics are an essential part of the GSA SmartPay Program. Analytics empower CCCM and customer agencies to leverage data to improve operations, maximize oversight capabilities, and make evidence based decisions in real time.
What is Data Analytics?

Data Analytics refers to the use of advanced computational and statistical methods. The image below signifies the different levels of analytics: reporting, discovery analytics, and predictive modeling and data mining. Reporting consists of running basic spreadsheet functions to organize data. Discovery Analytics involves the creation of real-time dynamic visualizations and benchmarking. Finally, at the most sophisticated level, Predictive Modeling and Data Mining involves the use of advanced statistical techniques to predict future outcomes.

**SmartPay® Examples**

- Government wide Metrics Dashboards
- Stats Tool
- Brand Tools
- Data Warehouse Queries
- EAS Reports

**Data Analytics Specialties**
- Sampling & Statistical Techniques
- Time Series & Forecasting
- Simulation & Optimization
- Machine Learning

**Analytics**
- Dynamic Visualizations
- Data Integration, Aggregation & Manipulation
- Evaluation & Benchmarking
- Performance Metrics Development

**Reporting**
- Running Reports
- Querying Data
- Structured Data Systems

**Predictive Modeling & Data Mining**
Levels of Data Analytics

Data
Storage and Access
- Spreadsheets
- Data Aggregators

Analytics
Insights & Predictions
- Statistical Analysis
- Predictive Analytics

Visualization
User Interfaces & Dashboards
- Dynamic Analytics Visualizations
- Classic Business Intelligence

Graph showing trend over months with data points.

Table showing data:

<table>
<thead>
<tr>
<th>Month</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oct</td>
<td>$1.50</td>
</tr>
<tr>
<td>Nov</td>
<td>$1.00</td>
</tr>
<tr>
<td>Dec</td>
<td>$0.50</td>
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<tr>
<td>Jan</td>
<td>$0.50</td>
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<tr>
<td>Feb</td>
<td>$1.00</td>
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<tr>
<td>Mar</td>
<td>$1.50</td>
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<tr>
<td>Apr</td>
<td>$2.00</td>
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<tr>
<td>May</td>
<td>$2.50</td>
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<tr>
<td>Jun</td>
<td>$3.00</td>
</tr>
<tr>
<td>Jul</td>
<td>$3.50</td>
</tr>
<tr>
<td>Aug</td>
<td>$4.00</td>
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</tbody>
</table>
## Purpose of Data Analytics

- Data-driven organizations are more likely to report significant improvements in their decision making and risk avoidance.
- Data analytics allow customer agencies to leverage contractor, program, and master file data as well as publicly available external data to improve operation and oversight capabilities through benchmarking and measurement.
- Customer agencies can turn knowledge into actionable data and discover powerful predictor variables.
Why Should GSA SmartPay® Program Managers Use Data Analytics?
Reasons and Impact

- The implementation of key data analytics principles can enhance AOPCs’ ability to run their programs efficiently. Data analytics can enhance controls against fraudulent activity and reduce the time associated with gleaning program insights.
- AOPCs can use data analytics to grow their programs by leveraging trends in the transaction data to increase both carded spend and refunds. This includes opportunities for the expanded use of both carded and other solutions.
- In addition to the impacts on program efficiency, the data analytics solutions offered within the GSA SmartPay® Program helps AOPCs meet compliance requirements.
**FY18 NDAA Title XVIII—Government Purchase and Travel Cards**


<table>
<thead>
<tr>
<th>Expanded Use Of Data Analytics</th>
<th>Improving Information Sharing To Curb Improper Payments</th>
<th>Interagency Charge Card Data Management Group</th>
<th>Reporting Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Identify examples or patterns of questionable transactions</td>
<td>• Issue guidance on improving information sharing by agencies</td>
<td>• GSA and OMB shall co-chair an interagency charge card data management group</td>
<td>• GSA Report</td>
</tr>
<tr>
<td>• Identify opportunities for agencies to leverage administrative process streamlining and cost reduction</td>
<td>• Require agency officials to identify and communicate high-risk activities</td>
<td>• Cover rules, edits, and task order or contract modifications related to card-issuing banks</td>
<td>• Agency Reports And Consolidated Report To Congress</td>
</tr>
<tr>
<td>• Develop a set of metrics and benchmarks for high-risk activities</td>
<td>• Require that agency officials review the reports issued by card-issuing banks on questionable transaction activity</td>
<td>• Include review of accounts payable information and transaction data for the purpose of identifying potential strategic sourcing</td>
<td>• Office Of Management And Budget Report To Congress</td>
</tr>
<tr>
<td>• Develop a plan to create a library of analytics tools and data sources</td>
<td>• Provide for sharing of information related to questionable transactions, fraud schemes, and high-risk activities</td>
<td>• Include other best practices as determined by the Administrator and Director</td>
<td>• Report On Additional Savings Opportunities</td>
</tr>
</tbody>
</table>
FY18 NDAA Agency Reporting Requirement

- OMB Requirements Report Due in JUNE 2018
- NDAA Title XVIII required agency reports:
  - (b) AGENCY REPORTS AND CONSOLIDATED REPORT TO CONGRESS.—Not later than one year after the date of the enactment of this Act, the head of each Federal agency described in section 2 of the Government Charge Card Abuse Prevention Act of 2012 (Public Law 112–194) shall submit a report to the Director of the Office of Management and Budget on that agency’s activities to implement this title. (Emphasis added)
  - Provide a reporting template to agency
  - Data Management Group
    - Agency HQ participation
    - OMB Co-Chair Stannis Smith
Government Charge Card Reporting pursuant to Appendix B of OMB Circular A-123 – Chapter 5 of Appendix B to OMB Circular A-123 (2009) on “Statistical Reporting” in section 5.3.1 and “Narrative Reporting” in section 5.3.2 are now optional and not required to be submitted to OMB. Agencies are still required to maintain statistical and narrative information for their own use and management of their charge card program. OMB is finalizing an update to Appendix B of OMB Circular A-123 (2009). This update will streamline reporting requirements and consolidate existing requirements in a central location. In addition, agencies are still required to report purchase card violations pursuant to OMB Memorandum M13-21 (Implementation of the Government Charge Card Abuse Prevention Act of 2012).
A-123 Appendix B Reporting Requirements (1 of 3)

- OMB memorandum M-17-26 discontinued agency statistical reporting to OMB. However, it requires agencies maintain this statistical information for their own use and management of their charge card program. The memorandum also calls for consolidating existing reporting requirements in a central location.
- For agencies subject to the CFO Act, GSA’s Center for Charge Card Management (CCCM) will post the required reporting information in GSA Interact for agencies participating in the GSA SmartPay Program; information pertaining to other GSA SmartPay participating agencies may be posted as well.
A-123 Appendix B Reporting Requirements (2 of 3)

- Section 5.3.1 Statistical Reporting requires the statistical reporting information listed below to be posted, at a minimum, on an annual fiscal year basis:
  - Total number of accounts across the charge card program as compared to the prior reporting period;
  - Total charge card dollars spent; total refunds earned; and
  - Ratio of the number of confirmed violations reported pursuant to P.L. 112-194 as compared to the number of valid transactions within the reporting period (GSA’s Center for Charge Card Management will obtain confirmed violation information from OMB/ OFFM)

- This revision has not been finalized and approved by OMB
A-123 Appendix B Reporting Requirements (3 of 3)

**Purchase cards only**
- Ratio of A/OPCs to P cardholders (span of control)
- Number of P cards with transaction limits over the MPT threshold

**Convenience Checks Only**
- Total Number of convenience checks written
- Number of checks written over MPT threshold
- Number of checks written under MPT threshold
- Total dollar amount of checks written

**Fleet Cards Only**
- Ratio of reviewing officials to fleet cards
- Number of fleet cards with transaction limits over MPT threshold

**Integrated Cards Only**
- Ratio of A/Os to integrated cardholders (purchase)
- Ratio of reviewing officials to integrated cards (fleet)
- Number of integrated cards with transaction limits over the MPT threshold
What Tools Are Currently Available?
Effective applications of data analytics involve the use of multiple tools and processes to address agency specific needs.
Visa IntelliLink

- How it works:
  - Visa IntelliLink creates an online transaction reporting and spend management system.
  - Program managers can utilize Visa’s reporting and analytical tools to implement centralized spending policies and identify areas where agencies can make better purchasing decisions.

- Features:
  - Provides card managers with dashboards for real time access to key spend and transaction information; and
  - Contains a sourcing tool for analysis of entire spend, including spend outside of the GSA SmartPay® carded solutions, to identify opportunities for expanded card use.

Brand Tools       Bank Tools       Other Tools
MasterCard Expert Monitoring System (EMS)

• How it works:
  – MasterCard EMS is a rules-based interface that uses transaction and/or Master File data to provide web-based fraud detection and customized services.
  – In addition for fraud monitoring, EMS can supply card managers with data mining, card holder messaging and alerts, and information on spending behavior patterns.

• Features:
  – EMS loads all data into a fully customizable EMS database. From here, card managers can perform data mining, benchmarking, and behavior patterning.
  – MasterCard’s Enhanced Merchant Reporting System (EMR) allows users to create reports based on card spend.
Additional Training

- More information and specific trainings on Visa IntelliLink and MasterCard EMS can be accessed at the following sites:
  - http://intellilink.spendmanagement.visa.com
  - http://globalrisk.mastercard.com/online-resources-2016/
US Bank Payment Analytics

- How it works:
  - U.S. Bank Payment Analytics is a web-enabled tool that lets AOPCs monitor adherence to commercial card payment policies. It also provides the necessary audit functionality to mitigate your control-related risk.

- Features:
  - Payment Analytics allows AOPCs to choose from a variety of rule templates that flag transactions based on MCCs, excessive cash withdrawals, etc.
  - Payment Analytics also contains case management capabilities.
Citi Program Audit Tool (PAT)

- How it works:
  - PAT is an audit, compliance and reporting tool that systematically identifies transactions that meet pre-defined business rules. This allows AOPCs to identify potential misuse and abuse as well as perform monthly audit requirements.

- Features:
  - PAT contains a dashboard summary view and the capabilities for AOPCs to send email notifications to card holders.
JPMC PaymentNet

• How it works:
  – JPMC PaymentNet allows AOPCs to monitor card spend and centralize reporting.

• Features:
  – Administrators can order new cards, modify spending limits, adjust cardholder profiles and monitor policy adherence.
  – Cardholders can review and dispute transactions.
  – Managers can access transaction details and comprehensive reporting enabling them to make better decisions and more accurate forecasts.
Additional Training

- Please see the Training Schedule for information on training offered by contractor banks at the Forum.
- For more information on the training offered by your contractor bank, please see the following sites and contact information:
  - Citibank:  
    Customer Service:  (800) 790-7206
    - JP Morgan Chase
      [https://www.paymentnet.com/Login.asp](https://www.paymentnet.com/Login.asp)
      Customer Service:  (888) 297-0781
    - U.S. Bank
      [https://access.usbank.com/cpsApp1/index.jsp](https://access.usbank.com/cpsApp1/index.jsp)
      Customer Service:  (888) 994-6722

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Brand Tools  Bank Tools  Other Tools
EAS Reporting Tools

• How it works:
  – Each contractor bank’s EAS generates over 50 standard reports to help managers detect questionable transactions. These reports include:
    • Account Activity Report
    • Declined Authorizations Report
    • Disputes Report
    • Unusual Activity Spending Report
    • Lost/Stolen Card Report
Government-Wide Quarterly Metrics

CCCMM has worked closely with the Data Management Group to develop quarterly program metrics that provide valuable insight into agency management. The following categories are incorporated into the Quarterly Metrics, posted on GSA Interact:

<table>
<thead>
<tr>
<th>Category</th>
<th>Metrics</th>
<th>Business Line</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Purchase</td>
</tr>
<tr>
<td><strong>YTD Spend Metrics</strong></td>
<td>✓ Agency Program Spend by Business Line</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>✓ YTD Program Spend Growth by %</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>✓ Top Merchants by Spend</td>
<td>✓</td>
</tr>
<tr>
<td><strong>YTD Program Indicators</strong></td>
<td>✓ # of Highly Monitored MCC Transactions</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>✓ # of Disputed Charges</td>
<td>✓</td>
</tr>
<tr>
<td><strong>YTD Program Utilization Metrics</strong></td>
<td>✓ Micro-purchase Threshold Spend Breakdown</td>
<td>✓</td>
</tr>
<tr>
<td><strong>YTD Refund Metrics</strong></td>
<td>✓ Quarterly Agency Refund Growth</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>✓ YTD Refund Growth by %</td>
<td>✓</td>
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GSA SmartPay® Resources

• GSA Smart Bulletins
  – https://smartpay.gsa.gov/content/smart-bulletins-news-events

• Other Program Manager Resources
  – https://smartpay.gsa.gov/content/resources

• GSA SmartPay Training
  – General Info: https://smartpay.gsa.gov/content/training
  – Log In: https://training.smartpay.gsa.gov/user
AOPC Data Analytics Best Practices

- AOPCs can use a combination of these tools to enhance program oversight and increase carded spend/refunds in the following ways:
  - Use brand tools in conjunction with A/P File reviews and contractor bank tools to discover additional spend to capture under SmartPay Program.
  - Use reports/tools to monitor non-card spend, such as ATM Cash Advances, to discover instances in which cards can be substituted to increase refunds to support agency missions.
  - Use bank/brand tools (where applicable) to establish transaction alerts to increase program oversight and monitor for fraud.
  - Use forecasting tools available (applicable brand and bank tools) to estimate agency spend and monitor progress toward goals.