Data Analysis and Auditing with Excel Pivot Tables

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UAF Information

ProCards implemented 1998
- Over 880 cards
- FY12 Transactions – 69,510
- FY12 Spend - $24.2M
- Average Transaction - $348

Travel Cards converted implemented 1999
- Two Programs
- Over 640 cards
- FY12 Transactions – 34,207
- FY12 Spend - $10.9M
- Average Transaction - $318
What is a Pivot Table?

Simple way to summarize data

- View the same data multiple ways
  - Add and delete columns as needed
- Compare major groups
  - e.g., spend by cardholder, department, organization
- Drill down to underlying data

Quickly and easily rearrange data

Sort data for presentation and reports

Filter data

Print reports

Create charts and graphs
Analysis Your Data – Purchasing Card

Spend by vendor and then by cardholder
- Is only one cardholder using the vendor? Why?
- Unusual vendors

Spend by Vendor, department, and cardholder
- Is one department spreading excessive spend across cardholders? Possible split purchases? Why?
- Unusual vendors?

Focus on specific vendors
- Eliminate contract vendors – find “Open Market” purchases
  - Identify possible “roque” spend
- Quickly gather information on troublesome vendors
  - PayPal, Amazon, etc.
Analysis Your Data – Purchasing Card

Total spend by vendor and then by date

- Identify possible split purchases that should be competed
  - Made over several days
  - Made on several cards

Spend analysis

- Look at cardholder limits
- Supplier spend analysis
Travel Card – Data Analysis

Spend by vendor and then by cardholder
- Standardize data by hotel chain
- Look for potential contract options
- Unusual vendors – e.g., luxury hotels

Spend analysis
- Look at cardholder limits
- Supplier spend analysis
Design Your Spreadsheet

Organize your spreadsheet!!

- All cells in Row 1 contain unique heading
- No blank columns
- No blank rows

Ensure each column has same type of data, e.g. vendor name in all rows

Remove any calculated fields or subtotals

If Tier III data is available include it.

TIP: Use columns only for the data source, not columns and rows

- Allows rows to be added without impacting the pivot table
- e.g.: $A:$X tells Excel all rows in columns A through X
Data Formatting

Format data consistently!!

- Dates as mm/dd/yyyy
- Numeric columns should be formatted numbers or dollars

Text columns formatted as text

- If you are not going to use a column in a calculation, format it as text or date
- Columns can have numeric values, but format as text e.g., merchant category codes

Blank cells are OK (not blank rows or columns). Will show as N/A in the table

- Shows possible missing data for you to research
Expand Your Data

Add look-up columns

- Data is often fragmented. You may need to run multiple reports to gather all the information into your table
- Job titles
- Focus lists
  - MCC Codes and titles
- Specific Vendors (contract list)
- Data from other systems (Works; PeopleSoft; Banner; web; etc.)
Pivot Table Components

Row Label

Pivot Table

Column Label

Report Filter

Values
Pivot Table Example

a. Report Filter
   • Organization, Department or other “high” level name

b. Rows
   • Vendor name
   • CH user name

c. Columns
   • Month
   • Month is “item”

d. Data (field name)
   • Sum of transaction

e. Data
   • Total monthly spend

```
<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organization Name</td>
<td>(All)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sum of AMOUNT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VENDOR</td>
<td>CH NAME</td>
<td>TRAN DATE</td>
<td></td>
</tr>
<tr>
<td>*FEDX CARD DELIVERY FEE</td>
<td>SHANE A RIDEOUT</td>
<td>Jan</td>
<td></td>
</tr>
<tr>
<td>*FEDX CARD DELIVERY FEE Total</td>
<td></td>
<td>Feb</td>
<td></td>
</tr>
<tr>
<td>001CORP-PAC. POWER PRO - 03608875995, WA</td>
<td>MIJA MCGUIRE</td>
<td>C</td>
<td>1677</td>
</tr>
<tr>
<td>001CORP-PAC. POWER PRO - 03608875995, WA Total</td>
<td></td>
<td>Mar</td>
<td></td>
</tr>
</tbody>
</table>
```
Creating the Pivot Table

Excel Demo
Useful Formulas for Excel Pivot Tables

=IF(): Evaluates the cell value. Returns one value if the condition is false and other value if the condition is true.

Example: =IF(A1>10, “Over 10”, “10 or less”).

=VLOOKUP(): searches the first column of a range of cells. Returns a value from any cell on the same row of the range.

Use Excel on-line help for examples of this formula.
Helpful Resources

Electronic handout on building a Pivot Table
ProCard Compliance Scorecard (state of Georgia)
  ◆ Excel Spreadsheet
  ◆ User Guide

http://www.microsoft.com
  ◆ Search on Pivot Tables
  ◆ Beginning articles and tutorials
    • PivotTable reports 101 – Excel – Microsoft Office
    • PivotTable I: Get started with PivotTable reports in Excel
Helpful Resources continued

Books

- Excel 2007 Inside Out (Microsoft Publishing)
- Excel PivotTables and PivotCharts (Wiley Publishing)
- Excel Data Analysis (Wiley Publishing)
- PivotTable Data Crunching (Que Publishing)
- Excel Dashboards and Reports (Wiley Publishing)
- PowerPivot for Excel 2010 (Microsoft Press)
- Learn Excel 2007-2010 from Mr Excel (Holy Macro! Books)
Helpful Resources continued

Web Tools
◆ MrExcel.com
◆ Learn Excel podcast

CD Tools
◆ How to Use Microsoft Excel PivotTables (Rockhurst Web Conference Series)
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Questions

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