IIA Dallas Chapter Meeting

Using Data Analysis to Detect Fraud

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Disclaimer

The views in this presentation are those of Mr. Glynn. Although he works for us, he has a tendency to get carried away in large group presentations and he may, with the express hope that the audience will remember and find useful something/anything he said:

- Show off;
- Try to be humorous;
- Misconstrue language (English and others)

Knowing Mr. Glynn as we do, achieving his presentation objectives is likely not possible. As a result, PricewaterhouseCoopers disclaims any and all responsibility for just about everything Mr. Glynn may do or say to you today.

Any alignment of Mr. Glynn’s views and those of PwC are therefore largely coincidental.

Chief Risk & Quality Partner
PricewaterhouseCoopers LLP
“There is a tendency to mistake data for wisdom, just as there has always been a tendency to confuse logic with values, intelligence with insight. Unobstructed access to facts can produce unlimited good only if it is matched by the desire and ability to find out what they mean and where they lead. Facts are terrible things if left sprawling and unattended. They are too easily regarded as evaluated certainties rather than as the rawest of raw materials crying to be processed into the texture of logic. It requires a very unusual mind, Whitehead said, to undertake the analysis of a fact. The computer can provide a correct number, but it may be an irrelevant number until judgment is pronounced.”

Why good people do bad things

Opportunity

Pressure

Rationalization
"I thought it was legal—I wrote it on a legal pad."
Who detects fraud?

Source:

PricewaterhouseCoopers’ Global Economic Crime Survey 2005

http://www.pwc.com/extweb/insights.nsf/docid/D1A0A606149F2806852570C0006716C0
Outline

Data Analysis Framework
Analytic Techniques
Technology
Data Analysis Framework

Industry & Company Knowledge

Company Data
- Payments
- Purchasing
- Vendor
- Employee

Industry Data
- Consortium
- Addresses
- Public Records

Investigative Procedures
- High Priority
- Of Interest
- No Action

- Identify and Develop Analytics
- Apply Analytics to Data
- Research Leads
- Refine Analytics

Repository
Outline

Data Analysis Framework
Analytic Techniques
Technology
"Hard figures are not available, but Henry’s poem explores the essence of our situation."
## Analytic Techniques

### Compare suppliers to employees

Standard test to show potential conflicts of interest

<table>
<thead>
<tr>
<th>Employee Id</th>
<th>Vendor</th>
<th>Vendor Name</th>
<th>Amount</th>
<th>Transactions</th>
<th>Address</th>
<th>City</th>
<th>State</th>
<th>Zip</th>
</tr>
</thead>
<tbody>
<tr>
<td>307295188</td>
<td>LEVITSKI ALEXANDER</td>
<td>16139 - INC TORONTO QL CONTRACTING</td>
<td>150,721.03</td>
<td>35</td>
<td>10 TANGение COURT #1801</td>
<td>TORONTO</td>
<td>ON</td>
<td>M2M4B9</td>
</tr>
<tr>
<td>85706754</td>
<td>UPUGUNDURI SRINIVASA</td>
<td>35370 - INC 3036 REDSTORM INC.</td>
<td>184,409.47</td>
<td>7</td>
<td>3036 Silverland Dr.</td>
<td>San Jose</td>
<td>CA</td>
<td>95135</td>
</tr>
<tr>
<td>29008398</td>
<td>KAHANA-LANDAU TALYA</td>
<td>32839 - INC PETTY MOSHE LEVY</td>
<td>5,764.76</td>
<td>37</td>
<td>3650 131st Ave. SE App. 400</td>
<td>BELLEVUE</td>
<td>WA</td>
<td>98006</td>
</tr>
<tr>
<td>13627993</td>
<td>RAFALOWITZ NORMAN</td>
<td>11533 - BROOKLYN RAFALOWITZ ASSOCIATES</td>
<td>1068 54th St</td>
<td>1068 54TH ST</td>
<td>BROOKLYN</td>
<td>NY</td>
<td>11215-4042</td>
<td></td>
</tr>
<tr>
<td>35751 - INC 1068 54TH</td>
<td>NORMAN RAFALOWITZ</td>
<td>40,193.00</td>
<td>37</td>
<td>3650 131ST AVE. SE SUITE 400</td>
<td>BELLEVUE</td>
<td>WA</td>
<td>98006</td>
<td></td>
</tr>
<tr>
<td>577688063</td>
<td>SIMPSON JIM</td>
<td>35888 - INC 10 JAMES F. SIMPSON</td>
<td>53,809.98</td>
<td>5</td>
<td>10 FARMSTEAD COURT EAST</td>
<td>NEW JERSEY</td>
<td>NJ</td>
<td>7869</td>
</tr>
<tr>
<td>246371678</td>
<td>HAITH ALICIA</td>
<td>30844 - INACT ST. ROBERT MERRIMAN</td>
<td>856 Pennsylvania Ave. St</td>
<td>856 Pennsylvania</td>
<td>ST. LOUIS</td>
<td>MO</td>
<td>63130</td>
<td></td>
</tr>
<tr>
<td>24741 - INC ST. LOUIS</td>
<td>ROBERT MERRIMAN (1099)</td>
<td>35,294.37</td>
<td>14</td>
<td>856 PENNSYLVANIA</td>
<td>ST. LOUIS</td>
<td>MO</td>
<td>63130</td>
<td></td>
</tr>
</tbody>
</table>
Analytic Techniques

Analyze vendor activity

Do you see an anomaly?

**Sequential invoice numbers**

<table>
<thead>
<tr>
<th>Vendor Number</th>
<th>Vendor Name</th>
<th>Invoice Number</th>
<th>Invoice Date</th>
<th>Invoice Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>10034578</td>
<td>CPG Air Freight</td>
<td>3041</td>
<td>7/12/2006</td>
<td>12,723</td>
</tr>
<tr>
<td>10034578</td>
<td>CPG Air Freight</td>
<td>3042</td>
<td>8/18/2006</td>
<td>11,863</td>
</tr>
<tr>
<td>10034578</td>
<td>CPG Air Freight</td>
<td>3043</td>
<td>9/8/2006</td>
<td>14,771</td>
</tr>
<tr>
<td>10034578</td>
<td>CPG Air Freight</td>
<td>3044</td>
<td>10/4/2006</td>
<td>14,750</td>
</tr>
<tr>
<td>10034578</td>
<td>CPG Air Freight</td>
<td>3045</td>
<td>11/17/2006</td>
<td>18,992</td>
</tr>
<tr>
<td>10034578</td>
<td>CPG Air Freight</td>
<td>3046</td>
<td>12/1/2006</td>
<td>18,972</td>
</tr>
<tr>
<td>10034578</td>
<td>CPG Air Freight</td>
<td>3047</td>
<td>12/22/2006</td>
<td>18,990</td>
</tr>
</tbody>
</table>

Total Invoiced: **111,061**
Analytic Techniques

Ghost employees

Do you see the anomaly? *Direct deposit numbers are identical for three employees in three geographies*

<table>
<thead>
<tr>
<th>Employee ID</th>
<th>Employee Name</th>
<th>Location</th>
<th>Direct Deposit Account</th>
<th>Deposit Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>10078</td>
<td>William Kayak</td>
<td>Buffalo, NY</td>
<td>000756227</td>
<td>3,243</td>
</tr>
<tr>
<td>11265</td>
<td>Edward Cook</td>
<td>Miami, FL</td>
<td>000756227</td>
<td>5,538</td>
</tr>
<tr>
<td>13655</td>
<td>Nancy Wright</td>
<td>Chicago, IL</td>
<td>000756227</td>
<td>2,236</td>
</tr>
</tbody>
</table>

Total Paid: 11,017
Analytic Techniques

Unrecorded payments

Gaps in Check Numbers by issuing bank

<table>
<thead>
<tr>
<th>BANK</th>
<th>GAP_START</th>
<th>GAP_END</th>
<th>GAP_COUNT</th>
<th>GAP_START_DATE</th>
<th>GAP_END_DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>BANKONE</td>
<td>4</td>
<td>4</td>
<td>1</td>
<td>8/18/2003</td>
<td>8/20/2003</td>
</tr>
<tr>
<td>BANKONE</td>
<td>10</td>
<td>10</td>
<td>1</td>
<td>8/24/2003</td>
<td>8/24/2003</td>
</tr>
<tr>
<td>BANKONE</td>
<td>59</td>
<td>60</td>
<td>2</td>
<td>10/15/2003</td>
<td>10/16/2003</td>
</tr>
<tr>
<td>BANKONE</td>
<td>70</td>
<td>70</td>
<td>1</td>
<td>11/3/2003</td>
<td>11/5/2003</td>
</tr>
<tr>
<td>BANKONE</td>
<td>86</td>
<td>86</td>
<td>1</td>
<td>11/24/2003</td>
<td>11/24/2003</td>
</tr>
<tr>
<td>BANKONE</td>
<td>128</td>
<td>128</td>
<td>1</td>
<td>2/10/2004</td>
<td>2/12/2004</td>
</tr>
<tr>
<td>BANKONE</td>
<td>144</td>
<td>144</td>
<td>1</td>
<td>3/17/2004</td>
<td>3/19/2004</td>
</tr>
<tr>
<td>BANKONE</td>
<td>175</td>
<td>175</td>
<td>1</td>
<td>5/10/2004</td>
<td>5/12/2004</td>
</tr>
<tr>
<td>BANKONE</td>
<td>223</td>
<td>223</td>
<td>1</td>
<td>8/9/2004</td>
<td>8/10/2004</td>
</tr>
<tr>
<td>BANKONE</td>
<td>247</td>
<td>247</td>
<td>1</td>
<td>10/12/2004</td>
<td>10/25/2004</td>
</tr>
<tr>
<td>BANKONE</td>
<td>3</td>
<td>5</td>
<td>3</td>
<td>8/25/2003</td>
<td>9/9/2003</td>
</tr>
<tr>
<td>BANKONE</td>
<td>8</td>
<td>14</td>
<td>7</td>
<td>10/9/2003</td>
<td>11/10/2003</td>
</tr>
<tr>
<td>CITIBANK</td>
<td>300095</td>
<td>300095</td>
<td>1</td>
<td>11/1/2004</td>
<td>11/2/2004</td>
</tr>
</tbody>
</table>
Benford’s Law

Utilizes digit and number patterns to detect fraud, errors, biases, and irregularities. Significant differences between a data set’s digit distribution and the digit distribution of Benford’s Law serve as a flag for manufactured or manipulated data and suggest that further analysis may be necessary.
Analytic Techniques

Who can pronounce this word?

INVIGILATION: Keep an eye on, watch over, observe, follow

Compare “fraud free” locations to other locations
Analytic Techniques

How do you analyze 100 million transactions?

a. One at a time
b. Run a query
c. Grouping and sequencing
Analytic Techniques

Combining several sources of data

- **Orders**
- **Inventory Movements**
- **Shipping**
- **Freight Bills**
- **Disbursements**
- **Customer Billing**

**Cash Receipts**
Using Data Analysis to Detect and Deter Fraud
PricewaterhouseCoopers

<table>
<thead>
<tr>
<th>Orders</th>
<th>Inventory</th>
<th>Shipping</th>
<th>Freight</th>
<th>Disbursements</th>
<th>Billing</th>
<th>Cash Receipts</th>
</tr>
</thead>
<tbody>
<tr>
<td>10101010</td>
<td>10101010</td>
<td>10101010</td>
<td>10101010</td>
<td>10101010</td>
<td>10101010</td>
<td>10101010</td>
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<tr>
<td>01010101</td>
<td>01010101</td>
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<td>01010101</td>
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<td>10101010</td>
<td>10101010</td>
<td>10101010</td>
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<tr>
<td>01010101</td>
<td>01010101</td>
<td>01010101</td>
<td>01010101</td>
<td>01010101</td>
<td>01010101</td>
<td>01010101</td>
</tr>
</tbody>
</table>
Analytic Techniques

Testing across combined attributes

<table>
<thead>
<tr>
<th>Orders</th>
<th>Inventory</th>
<th>Shipping</th>
<th>Freight</th>
<th>Disbursements</th>
<th>Billing</th>
<th>Cash Receipts</th>
</tr>
</thead>
<tbody>
<tr>
<td>10101010</td>
<td>10101010</td>
<td>10101010</td>
<td>10101010</td>
<td>10101010</td>
<td>10101010</td>
<td>10101010</td>
</tr>
<tr>
<td>01010101</td>
<td>01010101</td>
<td>01010101</td>
<td>01010101</td>
<td>01010101</td>
<td>01010101</td>
<td>01010101</td>
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<tr>
<td>10101010</td>
<td>10101010</td>
<td>10101010</td>
<td>10101010</td>
<td>10101010</td>
<td>10101010</td>
<td>10101010</td>
</tr>
<tr>
<td>01010101</td>
<td>01010101</td>
<td>01010101</td>
<td>01010101</td>
<td>01010101</td>
<td>01010101</td>
<td>01010101</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>Count</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>894</td>
<td>470,356</td>
</tr>
<tr>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>273</td>
<td>(21,754)</td>
</tr>
<tr>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>122</td>
<td>(9,274)</td>
</tr>
<tr>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>165</td>
<td>(11,666)</td>
</tr>
<tr>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>65</td>
<td>(7,249)</td>
</tr>
<tr>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>13</td>
<td>(3,254)</td>
</tr>
<tr>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>43</td>
<td>(64,089)</td>
</tr>
</tbody>
</table>
Clustering

Grouping of matched entities by property type

A=B, B=C; therefore, A=B=C

- A = Bob Jones
- B = Trucking Inc (Attn: Robert Jones)
- C = NY Trucking Inc
### Data Quality Challenges

<table>
<thead>
<tr>
<th>ID#</th>
<th>Name</th>
<th>Address</th>
<th>City</th>
<th>State</th>
<th>Zip</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>5154155</td>
<td>Lane M. Hitchcock</td>
<td>910 17th Street NW</td>
<td>Washington</td>
<td>DC</td>
<td>20006</td>
<td></td>
</tr>
<tr>
<td>A1617</td>
<td>Lane Hitchcock, M.</td>
<td>910 Seventeenth Street NW</td>
<td>Washington</td>
<td>DX</td>
<td>20006</td>
<td>02111</td>
</tr>
<tr>
<td>5146261</td>
<td>Myron Stucky</td>
<td>110 Eye St. N.W.</td>
<td>Washington</td>
<td>DC</td>
<td>20005</td>
<td>CHK ID</td>
</tr>
<tr>
<td>87121</td>
<td>Stucky, Myron</td>
<td>110 I Street 1st floor</td>
<td>Washington</td>
<td>DC</td>
<td></td>
<td>FR Alert</td>
</tr>
<tr>
<td>87458</td>
<td>Fisher &amp; Smith Inc</td>
<td>319 7th St. S.E.</td>
<td>Washington</td>
<td>DC</td>
<td>20003</td>
<td></td>
</tr>
</tbody>
</table>

**Key Challenges:**
- No unique key
- No consistent naming convention
- Spelling Errors
- Data Entry Errors
- Missing Values
- Free Form Text

**Issues Illustrated:**
- Data in Wrong Field
- Buried Information
- Company Names
- Data Entry Errors
- Missing Values
- Free Form Text

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Using Data Analysis to Detect and Deter Fraud
PricewaterhouseCoopers

March 2007
Slide 21
Data Quality Challenges – Transliteration of Names

حج محمد عثمان عبد الرقيق

West Africa
Hage Imhemed Otmene
Abderaqib

Levantine
Muhamad Usman
Abdel Raqeeb

Iraq
Hajj Mohamed Uthman Abd
Al Ragib

East Africa
Hag Muhammad Osman
Abdurra‘ib

Persian Gulf
Haj Mohd Othman
Abdul Rajeeb
Data Quality Challenges – Transliteration of Names

Zhang Qiusu
Chang Ch’iu-Su
Chiusu Sae Chang
Cheung Yiau So
Cheung Yau So

Map of Asia showing countries such as China, Taiwan, Philippines, Indonesia, Thailand, Cambodia, Myanmar (Burma), Laos, Vietnam, Hong Kong, Macau, Malaysia, Singapore, and others.
Data Cleansing

**Personal Name Cleanse:**

<table>
<thead>
<tr>
<th>FULL_NAME</th>
<th>FIRST_NAME</th>
<th>MIDDLE_NAME</th>
<th>LAST_NAME</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 MARIA CLAUDIA MASI</td>
<td>Maria</td>
<td>Claudia</td>
<td>Masi</td>
</tr>
<tr>
<td>2 VINCENZO LUBRANO LAVADERA</td>
<td>Vincenzo</td>
<td>Lubrano</td>
<td>Lavadera</td>
</tr>
<tr>
<td>3 GIAN CARLO BELLODI</td>
<td>Gian</td>
<td>Carlo</td>
<td>Bellodi</td>
</tr>
<tr>
<td>4 MARIA TERESA LANDI</td>
<td>Maria</td>
<td>Teresa</td>
<td>Landi</td>
</tr>
<tr>
<td>5 DOMENICO DELLA MONICA</td>
<td>Domenico</td>
<td>Della</td>
<td>Monica</td>
</tr>
<tr>
<td>6 CONCETTA LISA FERRIGNO</td>
<td>Concetta</td>
<td>Lisa</td>
<td>Ferrigno</td>
</tr>
<tr>
<td>7 FEDERICO SERGIO TINTI</td>
<td>Federico</td>
<td>Sergio</td>
<td>Tinti</td>
</tr>
<tr>
<td>8 MARIA ROSARIA BASILE</td>
<td>Maria</td>
<td>Rosaria</td>
<td>Basile</td>
</tr>
</tbody>
</table>

**Organization Name Cleanse:**

<table>
<thead>
<tr>
<th>ORIGINAL_ORGANIZATION_NAME</th>
<th>CLEANSED_ORGANIZATION_NAME</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 PFIZER CORPORATION</td>
<td>PFIZER</td>
</tr>
<tr>
<td>2 CORPO NOVE SAS</td>
<td>CORPO NOVE</td>
</tr>
<tr>
<td>3 COMPLIANCE SOFTWARE SOLUTIONS CORP</td>
<td>COMPLIANCE SOFTWARE SOLUTIONS</td>
</tr>
<tr>
<td>4 YUHAN CORPORATION</td>
<td>YUHAN</td>
</tr>
<tr>
<td>5 CORPORATE SOFTWARE INC</td>
<td>CORPORATE SOFTWARE</td>
</tr>
<tr>
<td>6 THE DIALOG CORPORATION LTD</td>
<td>THE DIALOG</td>
</tr>
</tbody>
</table>

**Address Cleanse:**

<table>
<thead>
<tr>
<th>MDM2 ID</th>
<th>PC_ADDR</th>
<th>LINE1</th>
<th>PC_C</th>
<th>PC</th>
<th>PC_POSTA</th>
<th>PC_COLN</th>
<th>FL_RA</th>
<th>FL_STREET_NAME</th>
<th>FL_STREET_TYPE</th>
<th>FL_CITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 1203798</td>
<td>2007 PAYSHERE CIR</td>
<td>CHIC</td>
<td>II</td>
<td>60674</td>
<td>0000</td>
<td>UNITED</td>
<td>S</td>
<td>2807</td>
<td>PAYSHERE</td>
<td>CHICAGO</td>
</tr>
<tr>
<td>2 1203798</td>
<td>701 MORRISON ROAD</td>
<td>GAH</td>
<td>OH</td>
<td>43230</td>
<td>6662</td>
<td>UNITED</td>
<td>S</td>
<td>701</td>
<td>MORRISON</td>
<td>GAHANNA</td>
</tr>
<tr>
<td>3 1203797</td>
<td>5000 N WHEELING AVE</td>
<td>MUN</td>
<td>IN</td>
<td>47304</td>
<td>5000</td>
<td>UNITED</td>
<td>S</td>
<td>WHEELING</td>
<td>AVENUE</td>
<td>MUNCIE</td>
</tr>
<tr>
<td>4 1203800</td>
<td>980 ATKIN AVENUE</td>
<td>SARI</td>
<td>NW 1A7</td>
<td>CANADA</td>
<td>960</td>
<td>ATKIN</td>
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Outline

Data Analysis Framework
Analytic Techniques
Technology
Technology

A sampling of technology

Data Cleansing

- Data Flux
- FirstLogic
- LAS
- USPS
- SSN
- Addresses
- OFAC
- World Check
- World Compliance
Technology

A sampling of technology

Continuous Monitoring

• ACL Continuous Controls Monitoring (“CCM”)  
• Oversight Systems  
• PwC General Ledger Tool  
• PwC Transaction Risk Identification & Analysis (“TRIA”)
About Transaction Risk Identification & Analysis ("TRIA")

TRIA provides analysis of data at the sub-ledger level. The depth of the TRIA has been expanded to contain approximately 180 reports related to the following business cycles:

- Accounts payable
- Revenue
- Inventory
- Payroll
- Fixed assets
TRIA Highlights

TRIA applies machine intelligence to solve matching and pattern detection problems.

**Key features of TRIA:**

- Combines machine intelligence with human intelligence
  - Computer matching + Manual review process
- Utilizes USPS Address Standard and Firstlogic*
- Interacts with outside database and third party software resources (e.g. known fraudulent names/addresses, validity checks)
  - World Compliance**
  - World Check**
  - Mail Box etc. list
  - Name Variations*
  - SSN**
  - DUNS Number*
- Flexible Design
  - User configurable clustering engine
  - Matching and pattern detection algorithms can be customized
- Provides an online environment to review matches
- Provides multi-year analysis across application/ERP boundaries
- Ability to dynamically design ad-hoc reports/analysis (ORACLE DBMS)
### Analytic Techniques

#### TRIA Highlight

#### Vendors with addresses on the “common hotlist”

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<tr>
<th>Entity Type</th>
<th>Full Name 1</th>
<th>No. of Payments</th>
<th>Total Payment Amount</th>
<th>Hotlist Description</th>
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<tr>
<td>ABC Vendor</td>
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<td>CHECK CASHING SERVICE</td>
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TRIA Highlight

Disbursements within $500 of $10,000 approval limit
Technology

TRIA Demo
Questions
Appendix

Report List
Accounts Payable

1. Vendor Invoices With No Corresponding Purchase Order
2. Unique General Ledger Entries
3. Manual Checks
4. Disbursements Paid to Vendors With No Corresponding Invoice
5. Payments to Vendors not Listed in the Vendor Master File
6. Vendors With No Tax ID Information in the Vendor Master File
7. Disbursements within a Specified Range and Approval Limit
8. Round dollar disbursements
9. Sequential Invoice Numbers (by Vendor)
10. Disbursements to Payees Labeled as “Cash”, “Do Not Use”, or is Blank
11. Voided Checks
12. Duplicate on Vendor Number and Payment Amount
13. Receipt of Inventory Coded as Obsolete
Accounts Payable (Continued)

16. Cash Disbursement - Invoice Age
17. Vendor master file controls and maintenance
18. Working Capital Analysis - Days Payable Outstanding (DPO)
19. Vendors With No Phone Number Listed
20. Vendors With No Terms Listed
21. Vendors With No Addresses Listed
22. Segregation of Duties - Disbursement and Vendor Master File
23. Duplicate on Invoice Number, Invoice Date and Payment Amount
24. Duplicate on Vendor Number, Invoice Date and Invoice Number
25. Payments Stratified by Transparency International Corruption Index and Country
26. Payments to government owned entities
27. Payments to agents
28. Payments to Agents with the Same Address
Accounts Payable (Continued)

31. Payments Made to Foreign Bank Accounts
32. Zero Dollar and Negative Disbursements
33. Duplicates on Vendor Number and Check Date
34. Duplicates on Vendor Number, Invoice Number, and Payment Amount
35. Comparison of Sales Versus Expenses by Country
36. Compare Vendors with Government Entity List / Politically Exposed People
37. Actual Vendor List
38. Vendors on UN Oil for Food Report
39. Vendors with Domestic Address and Foreign Bank
40. Vendors with Only One Payment
41. Vendor Accounts with a Debit Balance
42. Inventory Received in Excess of Invoiced
Accounts Payable (Continued)

46. Aggregate Payments in Alphabetical Order
47. Aggregate Payments in Descending $ Order
48. Cancelled Checks
49. Check Amounts <> Sum of Invoice Amount
50. Check Number Gaps
51. Check Register Vendor <> Vendor List
52. Checks with Multiple Names or Vendor Numbers
53. Compare vendors address with customer address
54. Compare vendors with common hotlist that have same address
55. Compare vendors with project hotlist that have same name or same address
56. Duplicate Check Amounts
57. Duplicate Check Numbers
58. Entities with same address
Accounts Payable (Continued)

61. Entities with same tax id
62. First Digit of Check Amount
63. First Digit of Invoice Amount
64. Min/Max Check Amounts and Dates
65. Payment Frequencies in Alphabetical Order
66. Payment Frequencies in Descending $ Order
67. Vendors with same address
68. Vendors with same address and different name
69. Vendors with same name
70. Vendors with same name and different address
71. Vendors with same phone number
72. Vendors with same tax id
73. Voided Checks
74. Whole Dollar Amount Checks
Revenue

76. Segregation of Duties - Sales Orders and Customer Master File
77. Duplicate Invoice Amounts to Customers
78. Customers With No Phone Number Listed
79. Unique General Ledger Entries
80. Customers with an Address Match on the Common Hotlist
81. Quantity of Products Invoiced Exceeds the Quantity of Products Shipped
82. Invoice Dollar Amount Exceeds Purchase Order Dollar Amount
83. Round Dollar Customer Invoices
84. Percentage of Customer Returns Compared to Customer Sales (by Customer)
85. Unusual Customer Trends (Based on Sales and Return Amounts)
86. Discount Applied Differs from what is Stated in the Credit Terms
87. Unauthorized Ship to Address
Revenue

91. Customer Ship Address Same as Employee Address
92. Shipping Address is on the Common Hotlist
93. Sales to Customers Not In Customer Master File
94. Cash Receipts and Credit Memo Analysis by Customer
95. Top Customer Case Receipts/Payments Analysis (80/20 Rule)
96. Sales Invoice/Cash Receipts Stratification
97. Working Capital Analysis on Customer Receipts
98. Days Sale Outstanding by Terms and Working Capital Analysis
99. Customer master file controls and maintenance
100. Deviation of invoice terms from master file
101. Credit memo analysis - customer
102. Unauthorized price changes
103. Credit Memo Analysis by Creator
104. Credit memo analysis - reason code
Revenue

106. Customers With No Terms Listed
107. Customer Invoices With No Corresponding Sales Order
108. Sales Stratified by Transparency International Corruption Index and Country
109. Sales to Government Owned Entities
110. Actual Customer List
111. Customers Matching Government Entities or Politically Exposed People
112. Customer Accounts with a Credit Balance
113. Sales by Country
114. Sales to Country Different from Ship to Country
115. Fixed Asset Additions Analysis
116. Compare customers with common hotlist that have same address
117. Compare customers with project hotlist that have same name or same address
Revenue

121. Customers with same tax id
122. Entities with same address
123. Entities with same name
124. Entities with same phone number
125. Entities with same tax id
Payroll

126. Compare employees with common hotlist that have same address
127. Compare employees with project hotlist that have same name or same address
128. Employees with same address
129. Employees with same address and different name
130. Employees with same banking information
131. Employees with same DOB
132. Employees with same name
133. Employees with same name and different address
134. Employees with same phone number
135. Employees with same tax id
136. Entities with same address
137. Entities with same name
138. Entities with same phone number
Inventory

140. Unique General Ledger Entries
141. Shipping Address is on the Common Hotlist
142. Receipt of Inventory Coded as Obsolete
143. Inventory Adjustment Analysis
144. Inventory Received in Excess of Invoiced
145. Item Classification
146. Inventory Cycle Count Program - Last Count Analysis
147. Inventory Cycle Count Program - Location Analysis
Fixed Assets

148. Unique General Ledger Entries
149. Fixed Asset Additions Analysis