Jumping on the Analytics Bandwagon
How to Utilize the Data Within Your Organization’s Systems to Gain Valuable Insight

- Data vs Information
- Garbage In - Garbage Out
- Analytics to Intelligence
Data vs Information

Data is unprocessed facts and figures without any added interpretation or analysis.

• “We serve 500,000 constituents.”

Company Data Examples
• Journal entries
• Customer lists
• Vendor lists
• Invoices
• Expenses
• Employee listings

Information

Information is data that has been interpreted so that it has meaning for the user.

• “The number of constituents that we serve has increased from 300,000 to 500,000 in 3 years” gives meaning to the data.

Company Information
• Financial statements
• A/R Aging
• A/P Aging
• Sources of Funding
• Employee Retention

• Data is raw, unorganized facts that need to be processed. Data can be something simple and seemingly random and useless until it is organized.

• When data is processed, organized, structured or presented in a given context so as to make it useful, it is called information.
Information from Data

Any thoughts on what this is?

GI-GO

- Computers, since they operate by logical processes, will unquestioningly process unintended, even nonsensical, input data ("garbage in") and produce undesired, often nonsensical, output ("garbage out").

Garbage In - Garbage Out

- Data is not entered in correctly
- The purpose/usage of the field is not defined
Causation & Correlation

- **Correlation**: a relationship between two variables
- **Causation**: an act that occurs in such a way that something happens as a result

Correlation does not imply causation
Types of Analytics

Historical
• Descriptive Analytics: condense large amounts of data into smaller, more useful nuggets of information
• Diagnostic Analytics: determining if the correlation is causal

Forward Looking
• Predictive Analytics: probability of different outcomes
• Prescriptive Analytics: integrate tried-and-true predictive models into our repeatable processes to yield desired outcomes

Accounts Payable Analytics

• Check Gaps and Duplicates
• Vendors
  – Lacking Key Data
  – Duplication of Key Data
  – Employees Set up as Vendors
• Vendor Payments
  – Dormant to Increased Activity
  – Rounded Amount Payments

• Duplicate Payments
  – Vendor, Amount
  – Vendor, Amount, Date
• Cash Payments
• Payments below threshold approvals
• Vendors with Consecutive Invoice Numbers
• Trend Analysis on Vendor Payments

Payroll

Noted 1 employee record with no name or address. No payroll disbursements were made.

5 employees with PO Box as their addresses.

Only 10 salaried employees who were paid during the year. Calculated an average hourly rate for these EE and they were all paid a consistent rate for all pay periods.

15 employees who met scope of GrossPay≥$10,000 and Deduction Ratio < .1

Tools

• Microsoft Excel
• Microsoft Access Database
• ACL and IDEA
Questions?

Reema Parappilly, CISA
Senior Manager, IT Advisory
reema.p@weaver.com
832.320.3254