



Adding Value with Data Analytics

IIA – Springfield IL Chapter

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How does looking at the small details add big picture value?



Agenda

- Overview
 - Management Expectations and Perspectives
 - Benefits of Data Analysis
 - Data Analysis Tools
 - Data Integrity
- Adding Value
 - Provide Management Information
 - Quantify Exceptions
 - Improve the Bottom Line
 - Increase Operational Efficiency
 - Include Fraud Tests
 - Implement Continuous Auditing
- Make It Work
 - Planning
 - Performance
 - Evaluation



Overview

Management Expectations

Standard audit and SOX findings aren't enough anymore.

- Undocumented policies and procedures
- Missing sign off on reconciliations
- Segregation of duties conflict

Overview

Management Expectations

Management expects us to find everything!

- Cost savings opportunities
- Operational improvements
- Quantified exceptions
- Fraud

Overview

Management Perspectives

Ask big-picture questions:

- What risks exist that would effect the company's operations?
- Should we expand our definition of risk?
 - Public relations
 - Related parties and strategic relationships
 - Future growth of the organization
- What is necessary to manage risk?

Overview

Benefits of Data Analysis

- 100% vs. sampling
- Red flags and trends
- Comparison to an outside source
- Identification of control weaknesses
- A new perspective

The definition of insanity is doing the same thing over and over again and expecting a different result.

Overview

Systems Don't Stand Alone

- Systems and manual processes must work together
- One can't exist without the other
- Analysis is most effective with good business and process knowledge

Overview

Data Analysis Tools

- ACL and IDEA
 - No limits on data type or size
 - Fast processing
 - Prebuilt programs
- Excel and Access
 - Already have access and knowledge
- System query tools, Crystal Reports, SQL, and SAS

Overview

Data Integrity

- Weak system controls lead to bad data
- Bad data leads to bad information
- Integrity tests:
 - Corruption, completeness, uniqueness, logical relationships, proper boundaries

Overview

Discussion Topics

- What software does your company use for data analysis?
- What data analysis projects have you already performed?
- What projects would you like to do or are currently planning?

Adding Value

- Provide Management Information
- Quantify Exceptions
- Improve the Bottom Line
- Increase Operational Efficiency
- Include Fraud Tests
- Implement Continuous Auditing

Adding Value



Provide Management Information

Does management get the reports they need?

Example – Accounts Receivable

- Extend aging categories.
- Consolidate credit exposure for companies with more than one customer number.

Adding Value

Quantify Exceptions

Is 5 of 20 reviewed really 25%?

Examples:

- All ineligible participants on health plan.
- All customers with extended or unapproved credit terms.
- All terminated employees with system access.

Adding Value



Quantify Exceptions – Example Results

Analysis Objective	Results
<p>Identify potential exception transactions based on:</p> <ul style="list-style-type: none">• Transactions on unauthorized cards.• Transactions to invalid vendors.• Transactions on weekends or holidays.• Transactions over the \$1,000 corporate policy limit.• Transactions over the limit as stated by the credit card processor.	<p><u>Unauthorized cards</u> – None noted.</p> <p><u>Invalid Vendors</u> - Approximately 100 transactions, totaling \$58,000, which were mostly travel related.</p> <p><u>Transactions on Weekends</u> – 73 transactions totaling \$43,000. Many of these were made at Wal-Mart, Target, Office Supply stores, etc.</p> <p><u>Transactions on Holidays</u> – 5 transactions totaling \$5,300 were on New Year’s Day, Thanksgiving, and Christmas Eve.</p> <p><u>Transactions Over \$1,000</u> - 85 transactions totaling \$123,000 over the \$1,000 corporate policy. Five of 6 procurement card users had transactions over \$1,000.</p> <p><u>Transactions Over Limit</u> – None noted</p>

Adding Value



Quantify Exceptions – Example Results

Analysis Objective	Results
Identify potential duplicate payments - Potentially the same invoices that were paid to the same vendor with <i>different</i> vendor numbers.	82 records (44 duplicates) totaling \$893,622 were identified based on a different vendor number with the same: <ul style="list-style-type: none">• Invoice Number• Invoice Date• Amount Paid
Identify potential duplicate payments - Potentially the same invoices that were paid under two different invoice numbers to the <i>same</i> vendor number.	99 records (53 duplicates) totaling \$285,319 were identified based on a the same: <ul style="list-style-type: none">• Vendor Number• Invoice Number after removing an “A” at the end of the invoice number in the data• Amount Paid

Adding Value



Quantify Exceptions – Observations

Observation: Employees paid premiums for one plan but received the benefits of a different plan due to inconsistencies in the eligibility data maintained by the Company and the TPA. In 6 cases, the employee elected a lower cost plan but received the benefit of a higher cost plan. Premiums were paid correctly based on their election. Claims were \$35,192 for these 6 individuals and their families during the timeframe of our review.

Observation: Significant variances were noted between the Company's tracking of eligibility and the eligibility maintained by the TPA. The impact of these variances results in exposure to claim losses, undue administration fees and the potential that the stop loss coverage will not apply to these individuals. In addition, the eligibility data is used to actuarially calculate premiums for the Plan. The Company's eligibility database is incomplete and inaccurate. We noted the following:

- 577 instances of dependents with incomplete/invalid social security numbers.
- 18 instances in which an employee/dependent was removed timely from the Company's eligibility system, but not updated timely in the TPA's database, including 4 deceased employees. Excess claims totaling \$45,240 were paid.
- Spouses of deceased employees were incorrectly allowed to remain on the Plan for years. A total of \$72,606 in claims was paid by the Company in 2009 for 25 surviving spouses.

Adding Value

Improve the Bottom Line

- Cost Recovery
 - Duplicate payments
 - Missed discounts
 - Unused credits
- Revenue Leakage
 - Underreported inventory samples
 - Service payroll compared to billing

Adding Value

Increase Operational Efficiency

Where is your auditee's time spent?

- Several days to perform a reconciliation.
- Weeks to manually review system access segregation of duties.
- Do they consider it impractical to perform the reviews at all?

Adding Value

Include Fraud Tests

- Why not build in test for fraud?
- What are you searching for?
- How will you know it when you see it?
- Use everything you can.

Adding Value

Payroll Fraud

- Ghost employees
 - Duplicate addresses or routing numbers
 - No withholdings or deductions
 - No overtime for hourly
- Misdirected payments
 - Frequent changes to routing numbers
 - Terminated employees with current pay

Adding Value

Accounts Payable Fraud

- Conflict of Interest

Employee / Vendor match

- Matching addresses or routing numbers
- Same name
- Last name as part of vendor name

Adding Value

Accounts Payable Fraud

- Vendor Red Flags
 - PO Box or no address
 - Unusual payment terms
 - Same vendor with different vendor number (key on addresses and FIN)
 - Payments prior to due date

Adding Value

Accounts Payable Fraud

- Purchaser Red Flags
 - Sole source vendor awards
 - Split purchase orders to circumvent authorization levels
 - Purchases by unapproved purchaser

Adding Value



Implement Continuous Auditing

- Enhance the control environment.
- 100% transaction testing to reduce operational, compliance and financial risks.
- Increase efficiency and effectiveness of the internal audit department.
- Provide cost savings and stop revenue leakage.
- Facilitate fraud detection.
- Enhance control environment as employees become aware of the level of detail review.
- Increase timeliness of control failure detection and quickly mitigate the risk of ongoing control failures.
- Provide a quick response to operational changes when used as a risk assessment tool.

Adding Value

Continuous Auditing – Risk and Test Identification

- **What would you like to monitor for ongoing risk assessment?**
Ratios and/or key performance indicators trended by:
 - Time Period (daily, monthly, quarterly, etc.), locations, product, shift, employee
- **What are your areas of highest risk?**
Search for patterns and identify red flags to monitor high risk areas.
 - Known areas of weak internal controls
 - Assets susceptible to physical theft
 - Revenue leakage
 - Overpayments
 - Key performance indicators
- **Where do you have large amounts of data?**
- **Do you have disparate systems that may increase risk?**
- **What analysis is currently time intensive?**

Adding Value

Continuous Auditing Planning

- How will follow up of the exceptions be performed? Who is responsible – management or audit?
- How frequently will the analysis be performed?
- How will you obtain the data?

Make it Work



- Planning
- Performance
- Evaluation

Make it Work - Planning



- Consider data analysis during audit plan development.
- Review existing audit programs for replacement procedures.
- Understand IT requirements to obtain data.
- Include learning curve time in the initial budget.

Make it Work - Performance



- Track time spent on:
 - Data collection
 - Training
 - Data analysis
- Set on-the-job training expectations.
- Define documentation and file retention requirements.

Make it Work - Evaluation



- Request management feedback.
- Determine if the project is one that should be repeated.
- Develop database/method for sharing knowledge gained.
- Consider continuous auditing or monitoring.

Make it Work

Discussion Topics – Training

- Who should you train?
 - What skills should the candidate possess?
 - How many people should you train? Should you develop a super user or introduce the entire department?
 - What level of training is needed?
 - Should you train IT Auditors, operational auditors, or both? What if you're only training one super user?

- Complementary software training
 - Are any of the following necessary or desirable as well -- Excel, Access, general ledger queries, etc.?

Make it Work

Discussion Topics – Data Access

- How do you identify what is required?
- How do you get the data you need?
- What sources should you consider?
- What roadblocks might arise?
- How will you transfer the data?
- Are there any confidentiality concerns?
- How do you get IT upper management buy-in?

Summary



Data Analysis can help you to:

- Change the way management views the audit department.
- Improve the company's bottom line.
- Strengthen the control environment.

Contact Information



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