Accounts Payable and Data Quality: Driving Sustained Improvement through an Integrated Approach

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Executive Summary/Abstract: Poor accounts payable data quality has a direct negative impact on an organization's cash flow. Even so, many organizations still experience data quality problems in their accounts payable process. We have seen a variety of approaches used to assess and address this problem. However, these approaches tend to be applied in a "one off" manner and not in an integrated and sustained manner. The integrated use of business process mapping, data quality control assessments, and data analysis can identify data quality problems in the accounts payable area and be used to drive corrective actions resulting in cash flow savings. When combined with data quality continuous monitoring and improvement techniques, cash flow savings are sustained.

Outline

- Importance of Data Quality in Accounts Payable
  - **Costs**
  - **Relevance of Data Quality**
- An Integrated Approach
  - **Assess Examples:**
    Process Flow
    Data Quality Dimension Analysis
    Data Analysis
  - **Transform Examples:**
    Corrective Action Plan
    Recovery Tools
  - **Sustain Examples:**
    Continuous Monitoring Reports
- Case Study
- Summary and Conclusion

Costs of Poor Data Quality in Accounts Payable

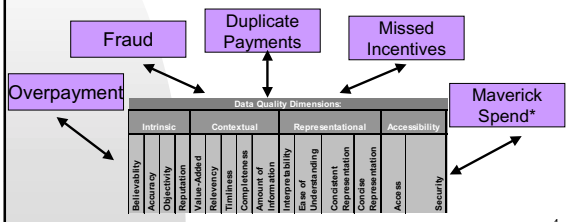
- Significant

In 2000, one cost recovery firm reviewed over 20 billion transactions for more than half of the Fortune 100 companies to recover approximately $1 billion for their clients.[1]

- Direct
  - **Easier to quantify than many data quality problems, because of the direct financial impacts**
  - **Organizations sensitive to direct impacts on cash flow**
- Widespread: Based on experience working directly with our clients, many types of organizations are impacted
- Good place to start a Data Quality Initiative – quick results related to cash flow.

Accounts Payable Problems are Data Quality Problems

- Accounts Payable processes produce a variety of "information products", including checks and electronic payments
- Problems in the Accounts Payable Process can be linked to the various dimensions of Data Quality[2]



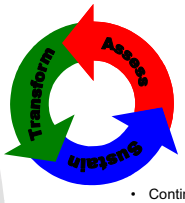
***Maverick spend** is procurement outside of authorized channels (e.g., employee purchases an item and asks for reimbursement rather than going through standard purchasing process.)

One-Dimensional Solutions Have Limitations

Technique	*Strength*	*Limitation*
Process and Control Reviews	Can identify problems or potential problem areas fairly efficiently, but provides no quantification	Less useful without detailed verification of the process as it is "supposed to be"
Data Analysis and Reporting	Findings based on "hard evidence", not conjecture	If not focused on high risk areas, significant time and effort can be involved
Cost Recovery Projects	Direct impact to bottom line	"Band-aid" solution, not a long term solution

Integrated Approaches to Dealing with Data Quality Problems in Accounts Payable Are Required

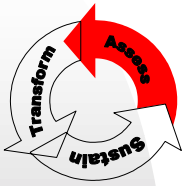
- Corrective Action Plan
- A/P Recoveries
- Data cleansing



- Assess Process & Controls
- Analyze Data
- Identify Root Causes

- Continuous Monitoring and Scorecards
- Re-evaluation
- On-going Prevention

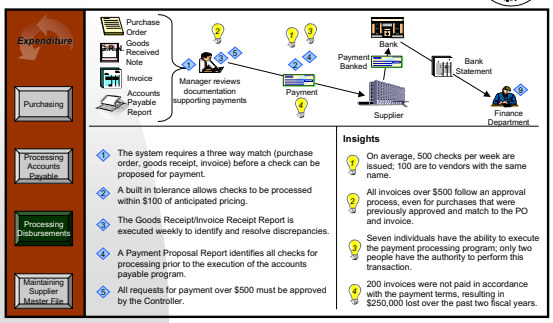
Assess



- Gain an understanding of and evaluate process flows, purchasing strategy and relevant business rules
- Define data quality metrics
- Estimate costs of rework due to poor data quality
- Perform data quality risk assessment
- Perform data analysis
- Quantify results of data analysis performed
- Investigate root causes

In addition to performing assessment activities, it is important to give early attention to the benefits of focusing on data quality issues.

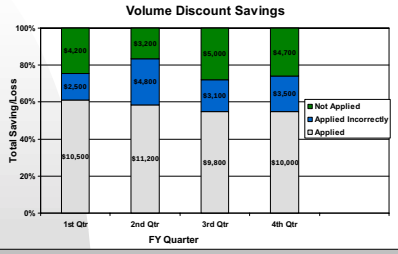
Example Process Flow



Example Data Quality Dimension Analysis

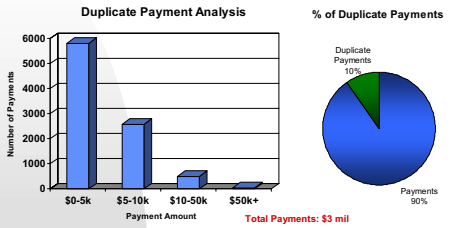
Symptom	Intrinsic: Believability	Intrinsic: Accuracy	Intrinsic: Objectivity	Intrinsic: Reputation	Contextual: Value-Added	Contextual: Relevancy	Contextual: Timliness	Contextual: Completeness	Contextual: Amount of Information	Representational: Interpretability	Representational: Ease of Understanding	Representational: Consistent Representation	Representational: Concise Representation	Accessibility: Access	Accessibility: Security	Possible Causes:
Fraud	x	x	x	x		x						x	x		x	Lack of Standardization and Controls on Vendor Master Files.
Overpayments / Underpayments	x	x		x		x		x	x	x	x	x	x			Inability to match appropriate invoice information to payment process.
Duplicate Payments	x	x		x		x			x	x	x	x	x	x		Poor Quality of fields to match invoice to payment, or Vendor Master is not standardized.
Missed Incentives: Discounts, Rebates, etc.	x	x		x	x	x	x	x			x					Inability to effectively mine vendor information, or Vendor Data is inaccurate.

Example Data Analysis (Slide 1 of 2)



By quantifying potential savings areas (e.g., discounts, duplicate prevention), data quality issues can be prioritized.

Example Data Analysis (Slide 2 of 2)



Total Payments: $3 mil

Total Duplicates: $300k

Transform

- Design data quality corrective action plan
- Design cash flow optimization strategies
- Implement data quality corrective action plan and cash flow optimization strategies
- Identify and pursue recoveries
- Integrate data quality strategies with Vendor Performance Metrics

The detailed steps of the Transformation phase are largely dependent on the results of the Assessment phase.

- **Design data quality corrective action plan:**
  - Assigning Appropriate Data Owners
  - Applying appropriate Business Process Understandings to develop Data Definitions
    - Example: Sales Price (per lb, per kg, etc.)
  - Implementing key controls around significant data elements.
    - Example: Proper approval on large payment items.
- **Design cash flow optimization strategies**
  - Using data collected in the assessment phase, identify items such as vendor discounts not being used or invoices being paid early. Implement system controls to prevent these types of issues.
- **Identify and pursue recoveries**
  - Assign appropriate personnel to follow up on anomalies found in the data assessment portion of the review. Perform procedures such as following up on older and / or significant credit balances.
- **Integrate data quality strategies with Vendor Performance Metrics**

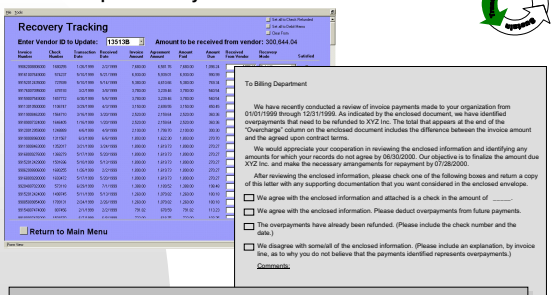
The Transformation phase will include some combination of the above.

Example Root Cause Analysis / Corrective Action Plan

Issue	Root Cause	Corrective Action	Owner	Deadline	Corrective Action Impact
1) Late Payments	Terms cannot be appropriately linked to dates.	System updated to terms to dates appropriately.	John Smith	6/15/2002	Late Payments decreased from 7.5% to 1 %.
2) Duplicate Payments	Goods are paid without a receipt.	Receipt matching process implemented. System updated to require receipt number on payment transaction.	Jessica Dunten	8/15/2002	Duplicate Payments eliminated.
3) Overpayments	Undershipped and Defective Items are not accounted for.	Defective and missing items are calculated properly applied to the receipt form and accounted for within the new receipt matching process.	Jessica Dunten	8/15/2002	Errors occurring for misshipments and defective items reduced from a 5% error rate to a .5% error rate.
4) Missed Payments	There is a significant delay in entering new vendors into the system.	Vendor Approval Process automated to increase efficiency of process.	Sally Mitchell	9/15/2002	Time between Vendor application and approval reduced from 3 months to 3 days.

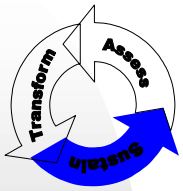
Based upon the identified root cause and agreed upon corrective action, ownership can be assigned within the organization.

Example Recovery Tools



Recoveries require administrative overhead, which can be reduced with tools such as tracking databases or recovery letter templates.

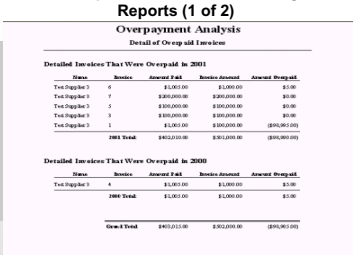
Sustain



- Confirm the effectiveness of ongoing prevention measures
- Implement continuous monitoring process
  - Track Information Quality Metrics
  - "Early warnings" preferred
- Continuous monitoring processes will lead to corrective actions, but only if data ownership/stewardship is appropriately tied in

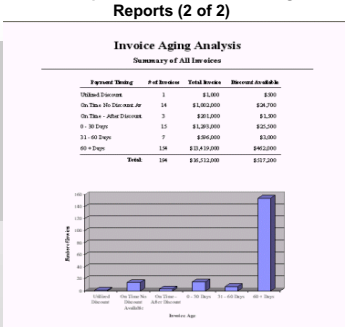
Sustaining high data quality in Accounts Payable may be manageable within a single organization. Many accounts payable problems cross intra-organizational boundaries, which adds additional challenges.

Example Continuous Monitoring Reports (1 of 2)



Continuous monitoring of identified issues is facilitated with reporting. When system limitations are identified in earlier phases, ad hoc reports may be generated outside of the accounts payable system (as in this example).

Example Continuous Monitoring Reports (2 of 2)



Case Study (1 of 2)

- Background
  - **Major retailer was submitting claims to vendors that were reducing the amount payable to the vendors.**
  - **For the majority of these claims, the vendors provided supporting documentation (e.g., proof of shipment and proof of delivery) that resulted in a claim reversal.**
- Data Quality Implications
  - **Quality of payments submitted by retailer**
  - **Quality of claims submitted by retailer**
  - **Data quality issues causing impacts across intra-organizational boundaries**
- Impacts
  - **Inefficient, unproductive process for retailer and for vendors**
  - **Damaging to vendor relationships**
  - **Created an environment where claim reversals were expected**

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Case Study (2 of 2)

- Key Outcomes
  - **Assess**
    - Process analysis revealed inconsistencies in receiving practices across locations
    - Cost of rework for retailer estimated at more than 50 FTEs to process claim reversals
    - System contributed to problem: Difficulty handling partial shipments
    - Data analysis and reporting used to quantify and localize results – results differed by channel, distribution center, and store
  - **Transform**
    - Improve receiving by:
      - Improving business system
      - Improving processes within a location
      - Move receiving to other locations (e.g., move more receiving to DCs from stores)
  - **Sustain**
    - Impacts of changes to receiving monitored, and other inefficiencies explored (e.g., importance of inputting reason codes when processing claims reversals)

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Summary / Conclusions

- **Integrated Approach –** Data quality problems are complex. An approach that applies a variety of techniques in an integrated manner is critical for success.
- **Costs of Poor Data Quality**: Poor A/P data quality is costly and widespread.
- **Business Process Controls**: Use of process flows, control identification and control remediation as discussed in the audit and control literature[3] [4] is relevant to A/P
- **Continuous Improvement**
  - Remediation of data quality problems in A/P should be supported by continuous improvement methodologies, as discussed in the Quality literature
  - Advantages to "doing it right" vs. doing it wrong and attempting recoveries. Recovery alone does not fix the causes of poor DQ

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Questions?

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References

[1] PRG-Schultz, Inc. Corporate web page.

[2] Huang K.T., Lee Y.W., Wang R.Y. *Quality Information and Knowledge*, Prentice Hall, 1999.

[3] Information Systems Audit and Control Foundation. *Control Objectives for Information and related Technology (COBIT)*, 2000.

[4] Internal Control – Integrated Framework. *Committee of Sponsoring Organizations of the Treadway Commission (COSO)*, 1994.

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