Information Integrity:
Vision Beyond Technology

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- Please indicate how important you believe each of the following issues is to your organization: Information Integrity/Data Quality and 20 other issues.

- What is your overall level of satisfaction with your organization's "information integrity", defined as accuracy, consistency and reliability of information?

- To what extent is the current level of information integrity hampering (lengthening response times, raising cost, reducing confidence, etc.) your ability to attain your business objectives?

- Does your organization have plans to improve its information integrity in the next 12 months?
2007 FEI/FERF Survey Results

- Information Integrity/Data Quality ranked as the most critical issue

- 73% of companies over $5B in revenue consider lack of Information Integrity as negatively impacting business performance

- 70% of all respondents plan to undertake programs to improve Information Integrity over next year
Topics

- FERF/CSC Survey
- A Conceptual Framework
- The Information Mirror
- Information Explosion
- An Enterprise Information Model
- Information Risks
- Vision Beyond Technology
Information Integrity: What is it?

- Integrity
- Edit
- Validate
- Proof
- Recompose
- Balance
- Verify
- Audit
- Credibility
- TOLERANCE
- Mistake
- Reliability
- Test
- Review
- Dependability
- Information
- CHECK
- Accuracy
- Consistency
- Data Quality
- Fix
- Reconcile
- Believability
- Failures
- Quality
- Correctness
- Precision
- Glitch
- Audit
- Corruption
- Data
- Audit
- Balck
- Infogix
Information Value Triangle

Usefulness

$\$

Usability

Integrity
Information Integrity Defined

information integrity  n
1: the dependability and trustworthiness of information
2: the accuracy, consistency and reliability of the information content, processes and systems
The New Information Environment

Physical Environment

Information Environment

Operational Integrity
Operational Controls
Business Activity
Business Activity Information
Information Controls
Information Integrity
## Industrial Revolutions

<table>
<thead>
<tr>
<th>First Industrial Revolution</th>
<th>Second Industrial Revolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturing</td>
<td>Software</td>
</tr>
<tr>
<td>Transportation</td>
<td>Internet</td>
</tr>
<tr>
<td>Energy</td>
<td>E-Commerce</td>
</tr>
<tr>
<td>Explosion of Products</td>
<td>Explosion of Information</td>
</tr>
</tbody>
</table>

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Information Explosion

More New Information Over Next 2 Years Than in All Previous History

93% of new information born digital

Source: UC Berkeley
EMC Copyright 2001
Information Errors: In The News

**PUBLISHER BLAMES FINANCE VP FOR ERRORS**

An audit committee investigation at ProQuest found that certain deficiencies in internal controls allowed a former finance executive to increase current-period net income.

Stephen Taub
An internal probe at an educational publisher found that the former vice president of finance at one of its units “bears primary responsibility for the accounting misstatements” that forced the company to restate results.

**CITY’S $8 MIL GOOF**

By Lisa Marsh
Who’s checking the checks?
A couple of misplaced commas on a check issued by the City Comptroller’s Office nearly wound up costing

**WARNACO FINDS ACCOUNTING ERRORS AT CHAPS**

New York - Clothing company Warnaco Group Inc. said Tuesday it will restate its financials for the year 2005 and the first quarter of this year after discovering accounting irregularities and errors.

**Solo Cup to Restate Certain Previously Issued Financial Statements**

HIGHLAND PARK, ILL. - (BUSINESS WIRE) - Solo Cup

**$350,000 in freebies from ATMs**

A Chemical spokesman confirmed the existence of the hack, but de

By Avery Johnson
Just how do you know when a price is too good to be true? In recent weeks, sharp-eyed consumers have spotted a number of travel pricing mistakes - including several $1.86 US Airways flights, and a $51 flight to Fiji on Travelocity - and have raced to cash in.

**Booking a $51 Flight to Fiji Online**

Consumers Race to Cash In On Flurry of Pricing Errors That Some Are Honoring
## Spreadsheet (SS) Errors

<table>
<thead>
<tr>
<th>Study</th>
<th># of SS audited</th>
<th>% with Errors</th>
</tr>
</thead>
<tbody>
<tr>
<td>KPMG</td>
<td>22</td>
<td>91% major errors</td>
</tr>
<tr>
<td>Coopers &amp; Lybrand</td>
<td>23</td>
<td>91% value off &gt; 5%</td>
</tr>
<tr>
<td>Butler</td>
<td>273</td>
<td>11% large enough to demand additional tax</td>
</tr>
<tr>
<td>Cragg &amp; King</td>
<td>6,384</td>
<td>25% serious errors</td>
</tr>
</tbody>
</table>

### Restatements

**Earnings Restatements from Period 1977 to 2004**

- **Period 1977 to 1983**: 33
- **Period 1984 to 1990**: 222
- **Period 1991 to 1997**: 350
- **Period 1998 to 2004**: 1,293

(Source: 2006, Min Wu, New York University Stern School of Business)
### Information Errors: Enterprise Costs

<table>
<thead>
<tr>
<th>Company</th>
<th>Revenue</th>
<th>I*I Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>AT&amp;T</td>
<td>$65B</td>
<td>$3B+</td>
</tr>
<tr>
<td>Citi</td>
<td>$111B</td>
<td>$1.1B – 5.5B</td>
</tr>
<tr>
<td>Walmart</td>
<td>$191B</td>
<td>$1.9B-9.5B</td>
</tr>
<tr>
<td>United States</td>
<td>$2.1 trillion</td>
<td>$20B – 100B</td>
</tr>
<tr>
<td>Fortune 1000</td>
<td>$8.2 trillion</td>
<td>$80B – 400B</td>
</tr>
</tbody>
</table>
Information Errors: Economic Impact
Enterprise Information Model

- Shareholders
- Suppliers / Partners
- Customers
- Regulators

Core Processes
Application Systems
Information Exchanges
Financial Processes

3rd Parties
- Customers
- Payroll Processors
- Banks
- Regulators
- Other Financial Services Companies

Core Process
- Day to Day Transactions
- Revenue and Expense Recognition
- Manage G/L
- A/R & A/P
- Taxes
- Treasury

Financial Reporting
- Periodic Reporting (Monthly, Quarterly, Annually)
- Prepare & Present Financial Statements to the SEC

Budgeting & Forecasting
- Prepare Budgets
- Compare Budget to Actual
- Adjust Budget & Re-Forecast

Support Functions
- Customer Information Management
- Sales
- Procurement
- Real Estate
- Executive Management
- Billing

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Information Risks: Extrinsic Factors (Five C’s)

- **Change**
  - e.g., Systems, Regulations

- **Complexity**
  - e.g., Heterogeneity, Volume, Speed

- **Communication**
  - e.g., E-Commerce, Distributed Computing

- **Conversion**
  - e.g., Transformation, Migration

- **Corruption**
  - e.g., Failure, Fraud
Information Risks: Intrinsic Factors (Five D’s)

- **Design Errors**
  - e.g., Faulty Design

- **Development Errors**
  - e.g., Poor Testing

- **Deployment Errors**
  - e.g., Embedded Controls

- **Detection Errors**
  - e.g., Human Oversight

- **Data Errors**
  - e.g., Defective Input
The Vision Beyond Technology
Questions?