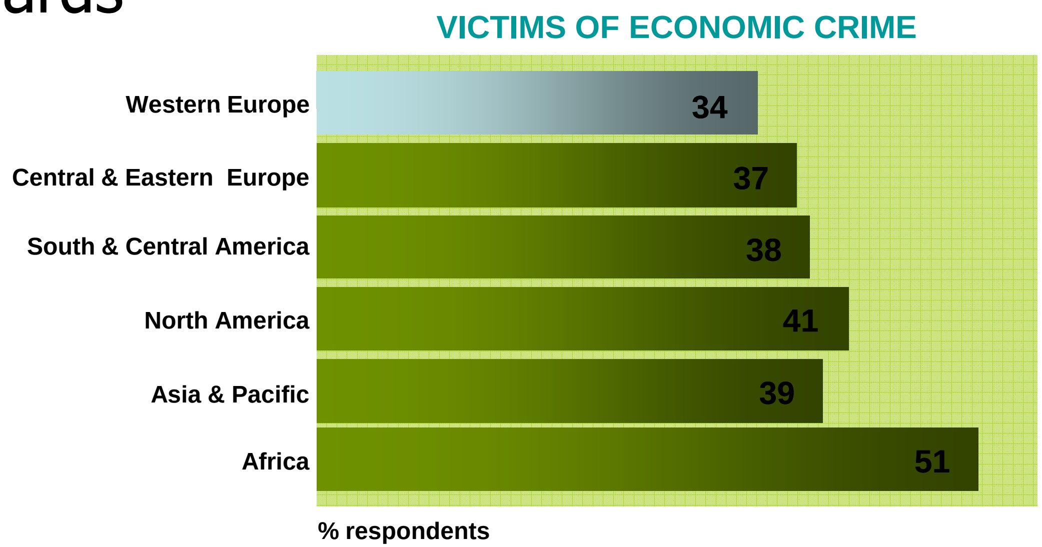
Using Transactional Analysis for Effective Fraud Detection

- Date: 15th January 2009

- **Nishith Seth**
- Seth Services .P. Ltd.
- www.sspl.net.in

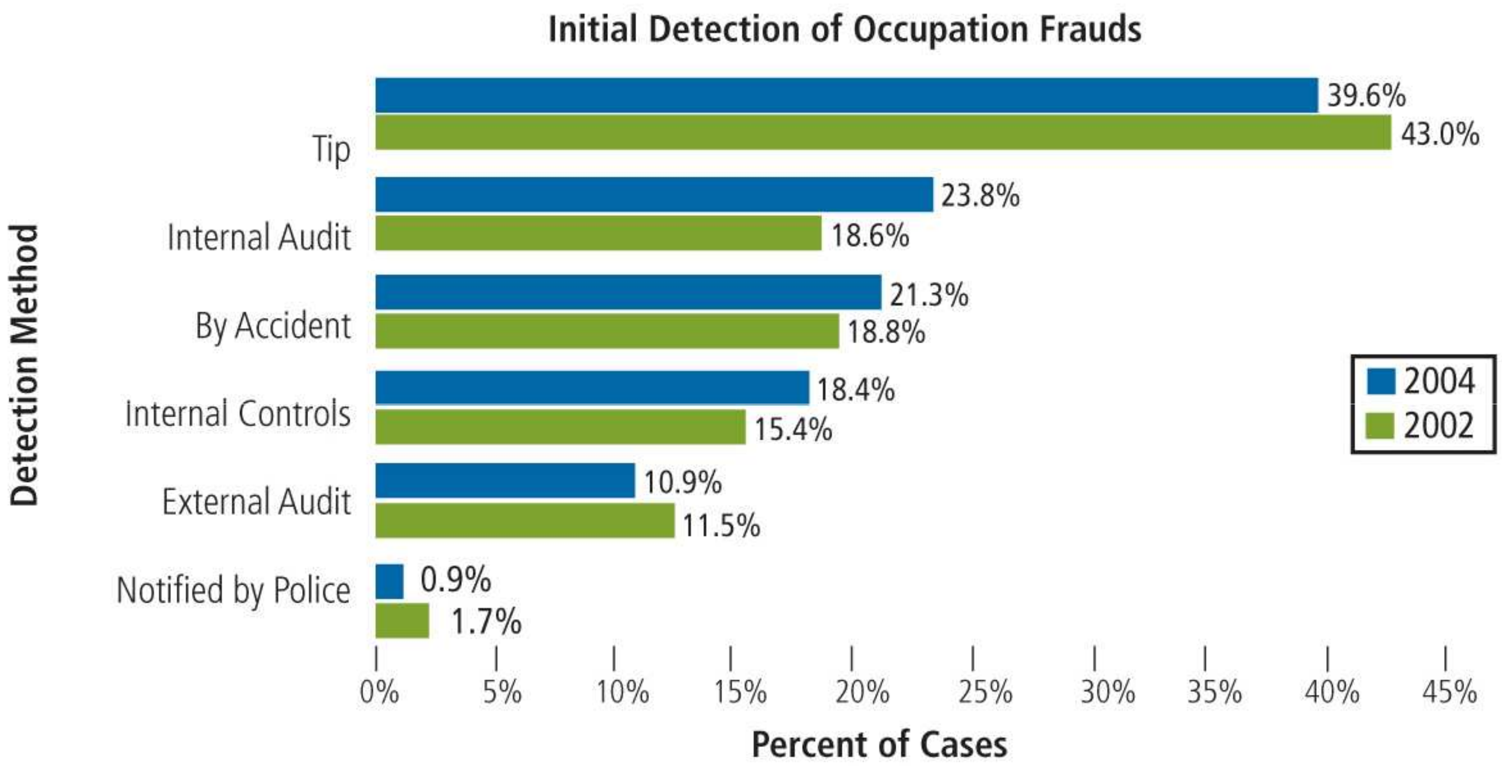
Fraud Issues & Impact

- Cost
  - Indirect costs: image, morale
  - Direct costs: 6% revenue loss each year = $660 billion in U.S. (ACFE)
- Compliance/Standards
  - Sarbanes-Oxley
  - SAS 99
- Global toll



PricewaterhouseCoopers Economic Crime Survey 2003

Detection of Fraud



Source: 2004 Report to the Nation on Occupational Fraud and Abuse, Association of Certified Fraud Examiners

Seth services
simplified ▪ business ▪ solutions

Detection through Controls

- Best approach for detection: internal controls
  (E&Y Global Survey 2003)
  - Often overridden or not properly understood
  - Gaps in controls occur in interfaces between applications or systems
- Inadequate internal controls rated second highest factor contributing to fraud (KPMG Fraud Survey 2003)
  - Management override rated third
  - Factors relating to internal controls accounted for 70% of responses
- Opportunity to strengthen controls and procedures

Fraud Detection & Internal Controls

"These (improper) payments occur for many reasons including insufficient oversight or monitoring, inadequate eligibility controls, and automated system deficiencies. However, one point is clear – the basic or root cause of improper payments can typically be traced to a lack of or breakdown in internal controls."

GAO report on "Coordinated Approach Needed to Address the Government's Improper Payments Problems" [August 2002]

Seth services
simplified ▪ business ▪ solutions

The Case for Data Analytics

- Data analytics recommended by AICPA, ACFE, IIA as an effective means to detect fraud
- Aids in risk analysis
- Quickly identifies indicators of fraud

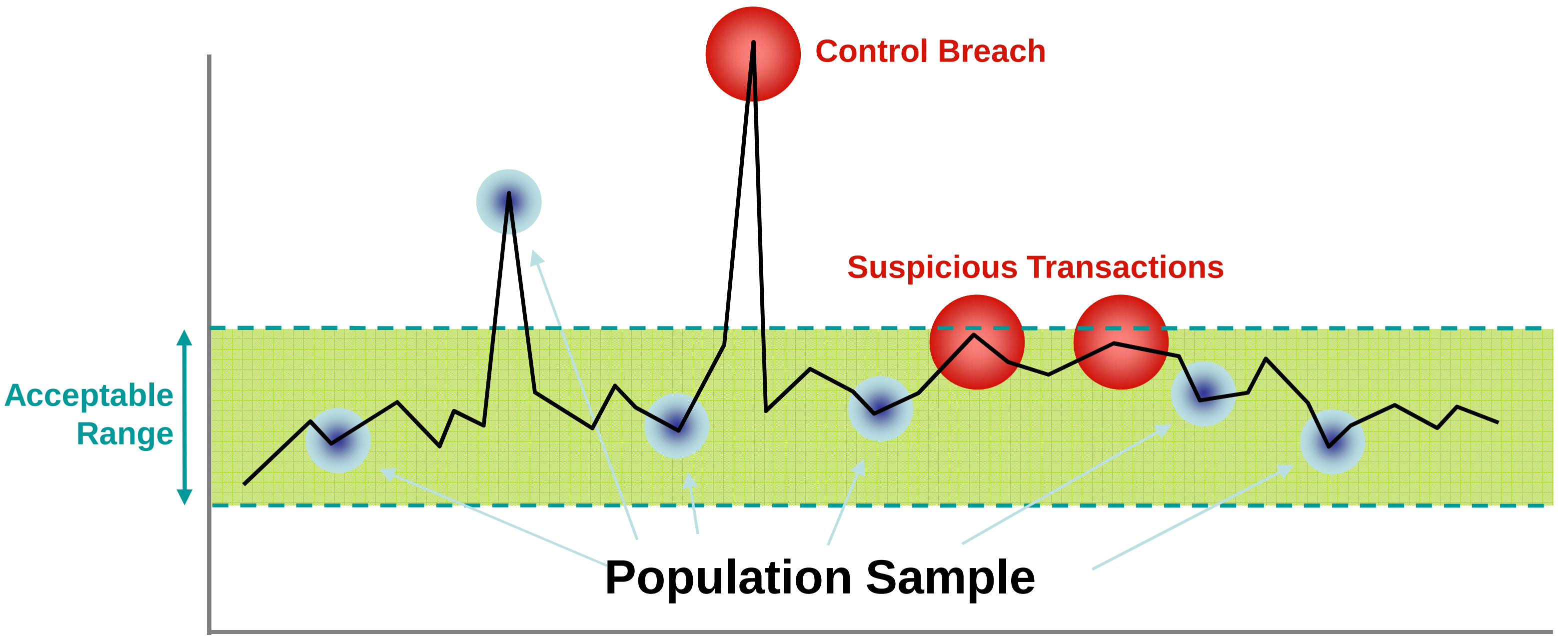
Benefits of Data Analytics

- Close control loopholes before fraud escalates
- Quantifies the impact of fraud
- Cost-effective
- Acts as a deterrent
- Can be automated for continuous auditing
- Provides focus based on risk and probability of fraud
- Direct pointers to critical evidence
- Support for regulatory compliance
  - Logs for review and evidence

Techniques for Fraud Detection

Many review approaches no longer sufficient

- Sampling



Techniques for Fraud Detection

Many review approaches no longer sufficient

- Sampling
- Standard reports
  - → Questionable accuracy
  - → Comprehensive tests?
  - → Across systems and processes?
  - → Drill down capability for further analysis?

Techniques for Fraud Detection

Many review approaches no longer sufficient

- Samples…details missing
- Standard reports
- ERP application controls
  - Inconsistent effectiveness
  - Test rules rather than transactions
  - Seldom compare data from disparate systems, nor look for control breaches

Need independent, comprehensive, complete testing

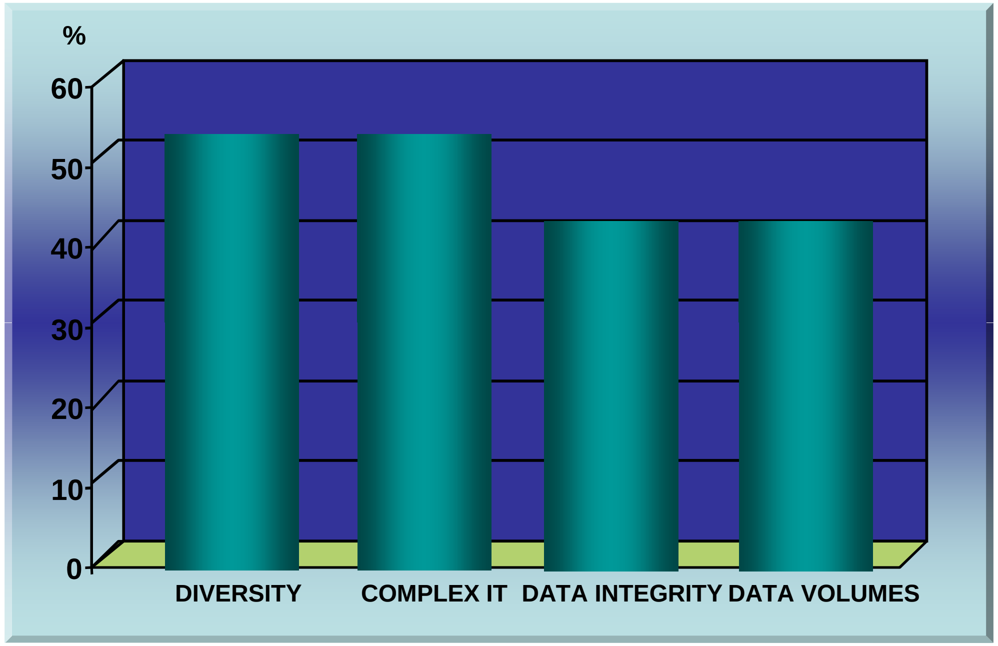
Use of Spreadsheets

- Risk considerations
  - Complexity and size
  - Purpose and use
  - Number of users
  - Frequency and extent of changes
  - Potential for error
    - Recent audits of 54 spreadsheets found that 91% had errors*
    - 30-90% of spreadsheets suffer from at least one major error*
- Limitations
  - Data from diverse system
  - Volumes, file sizes

"The Use of Spreadsheets: Considerations for Section 404 of the Sarbanes-Oxley Act," PwC, July 2004

Challenges

- Volumes and accuracy of data
- Growing complexity and diversity of systems



ACL/IIA Webinar: Driving Internal Audit Value and Performance, June 2005

- Continual changes in business processes
- Creative fraudsters

Specialized Data Analysis Software

- Review 100 percent of transactions
- No limit on file size
- Compare data from different applications & systems
- Perform tests that are designed for audit and control purposes
- Conduct tests proactively
- Ability to automate high-risk areas to catch fraud before it escalates
- Maintain comprehensive logs of all activities performed

Data Analytics Approaches

Ad Hoc Analysis

- Project based
- Point-in-time
- Investigative, exploratory
- First step toward automation

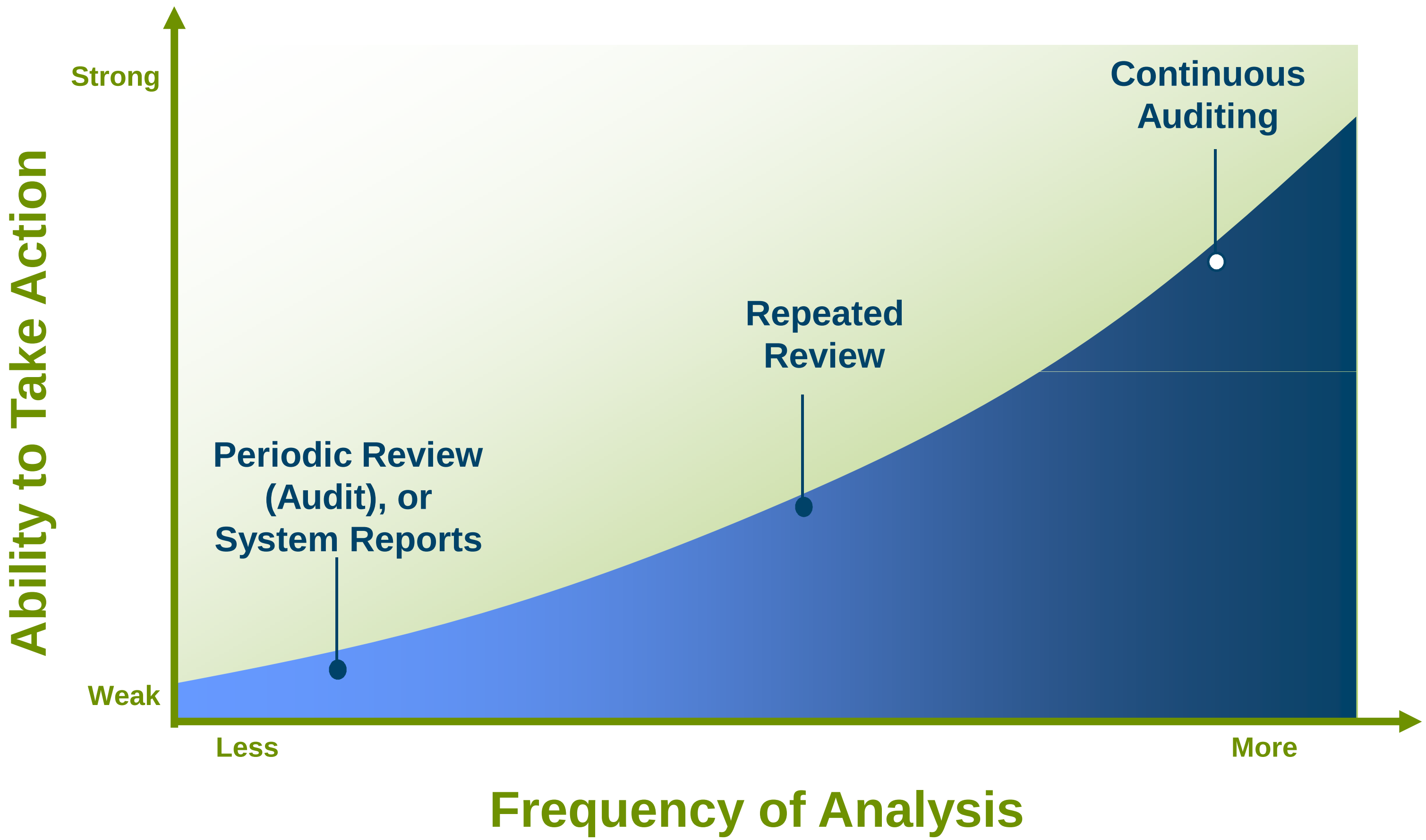
Repeated Audit Tests

- Pre-defined tests
- Timely
- Automated
- Repeatable
- Efficient

Continuous Auditing

- Increased frequency
- Targets risk across entire organization
- Highly efficient
- Scalable, sustainable

Continuous Auditing



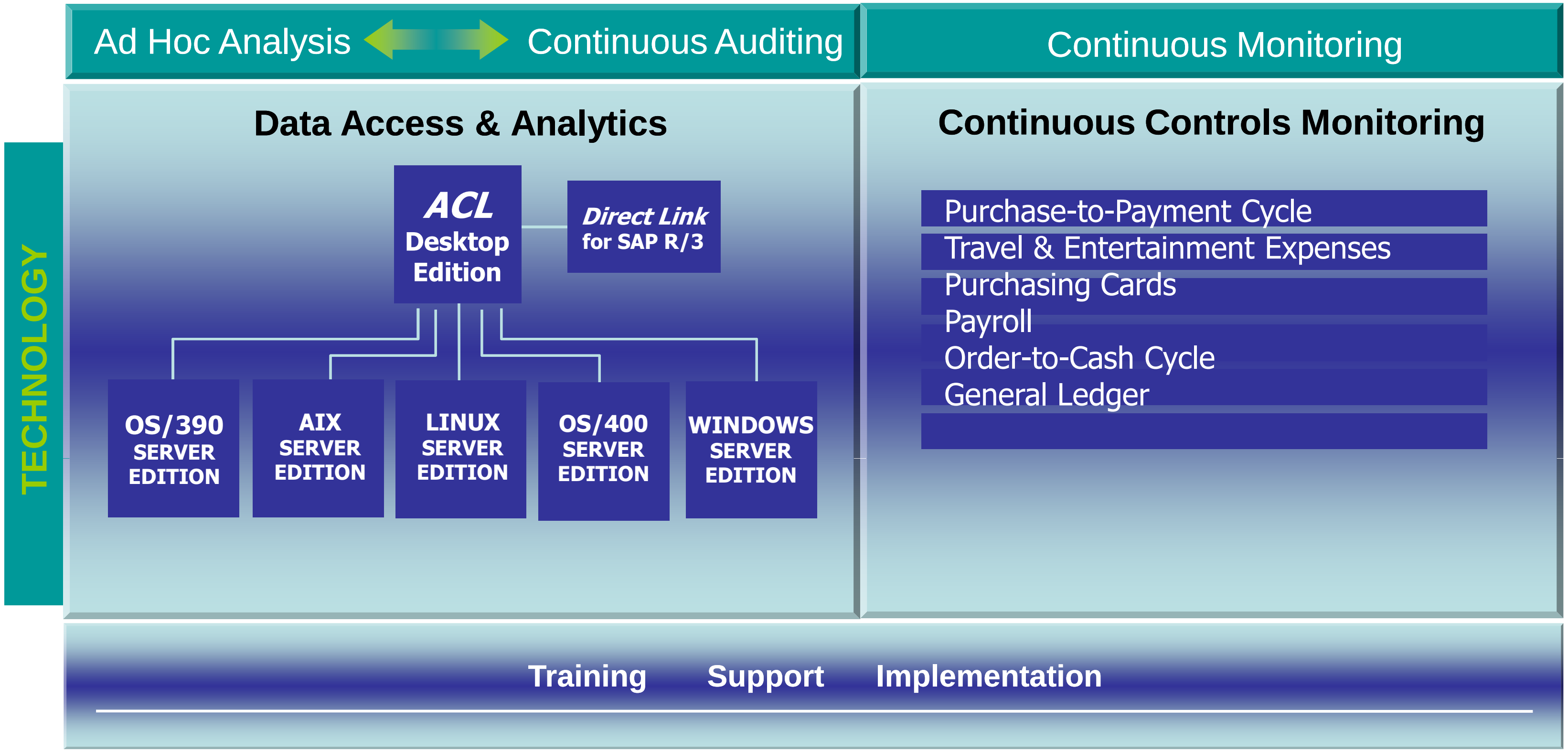
Seth services
simplified ▪ business ▪ solutions

Continuous Auditing Benefits

- Key to ensuring internal controls are in place and operating effectively
- Exposes control weaknesses to prevent fraud
- Reveals anomalies close to time they occur to detect fraud early
- Existence is a deterrent

Seth services
simplified ▪ business ▪ solutions

Integrated Assurance



Seth services
simplified ▪ business ▪ solutions

Application Areas for Data Analytics

- Accounts payable
  - Phantom vendors
- Purchasing
  - Purchase splitting
  - Kickbacks
- Purchase cards
  - Inappropriate, unauthorized purchases
- Travel & Entertainment Expenses
  - Duplicate claims, inappropriate activity
- Payroll
  - Ghost Employees

Data Analysis Techniques

- Drill-down analysis
  - Review large population and determine true areas of risk
  - Isolate “red flags” and drill down
- Exception analysis
  - Begin with entire population and filter for transactions matching specific criteria
- File matching
  - Compare separate data files and look for disparities or matches (e.g., phantom vendors)

Examples of Fraud Tests: Payables

- Questionable invoices
  - Invoices without a valid P.O.
  - Sequential invoices
- Over-billing
  - Quantity shipped less than quantity ordered
  - Item shipped of lower value than item ordered
- Duplicate invoices
  - Multiple invoices for same item description
  - Invoices for same amount on the same date
  - Multiple invoices for same P.O. and date

UK Supplier of Construction Materials

Simple test uncovered £1.5 million worth of duplicate invoices billed over three years.

Examples of Fraud Tests: Purchases

- Questionable purchases
  - P.O./invoices with amount paid > amount received
  - Purchases of consumer items
- Split purchases
  - Similar transactions for same vendor within specific timeframe
- Inflated prices
  - Compare prices to standard price lists or to historical prices
- Phantom vendors
  - Vendor/employee comparison
  - Vendor has mail drop as sole address

Retail Company
Employee submitted invoices for non-existent service from phantom vendor (his wife).

Examples of Fraud Tests: P-Cards

- Split purchases to avoid purchasing card limits
  - Purchases processed as two or more separate transactions
  - Identified by isolating purchases from specific vendors within short periods of time
- Favored vendors for kickbacks
  - Trend analysis to compare current transaction volumes to previous time period
- Suspicious purchases
  - Transactions that occur on weekends, holidays, or vacations

US Government Agency

Monitored 12 million transactions, identified $38 million in suspect transactions

Seth services
simplified ▪ business ▪ solutions

Examples of Fraud Tests: T&E

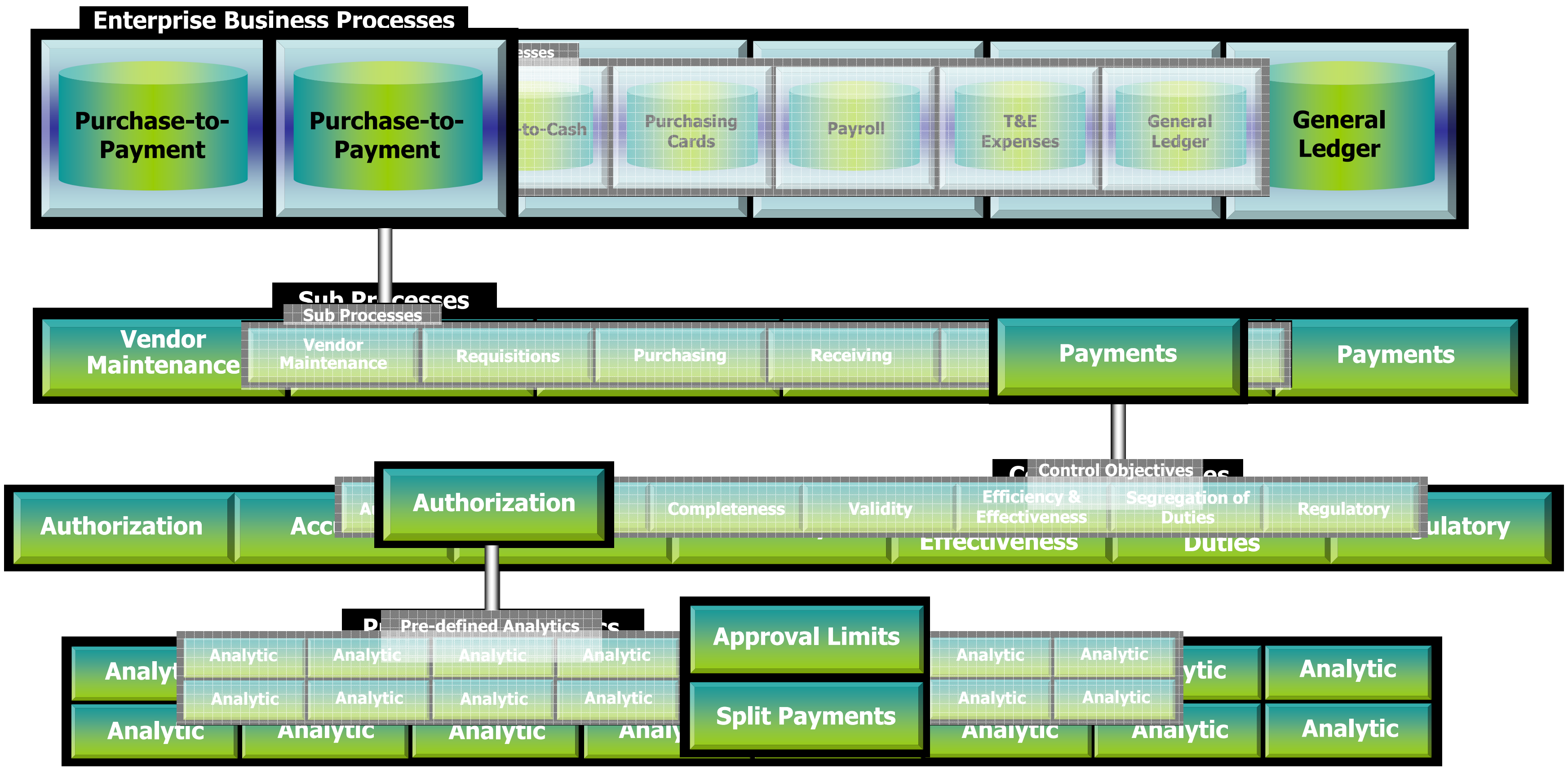
- Duplicate claims
  - Submitting claims twice
- Tracking “no receipt” claims
  - Isolate expenses without receipts and identify underlying trends through profiling techniques
- Threshold reviews
  - Track personnel exceeding thresholds
- Inappropriate activity
  - Compare expenses to travel records to ensure expenses claimed for valid trips

Financial Services Firm

Identified a single expense fraud worth $30,000 and in excess of 200 instances of expense abuse in one month.

Seth services
simplified ▪ business ▪ solutions

Process & Analytic Examples



Seth services
simplified ▪ business ▪ solutions

Key Consideration

1. **Build** a profile of potential frauds to be tested
2. **Analyze** data for possible indicators of fraud
3. **Automate** the detection process through continuous auditing/monitoring of high-risk business functions to improve controls
4. **Investigate** and drill down into emerging patterns
5. **Expand** scope and repeat as necessary

Summary

- Regulatory and corporate governance initiatives demand a focus on fraud detection/prevention and assurance that internal controls are effective
- Technology has proven to be effective tool in fighting fraud and monitoring effectiveness of internal controls – but is under-used
- Continuous auditing and monitoring has grown rapidly; offers effective way to overcome challenges of fraud detection and the new regulatory environment

Seth services
simplified ▪ business ▪ solutions

www.sspl.net.in