

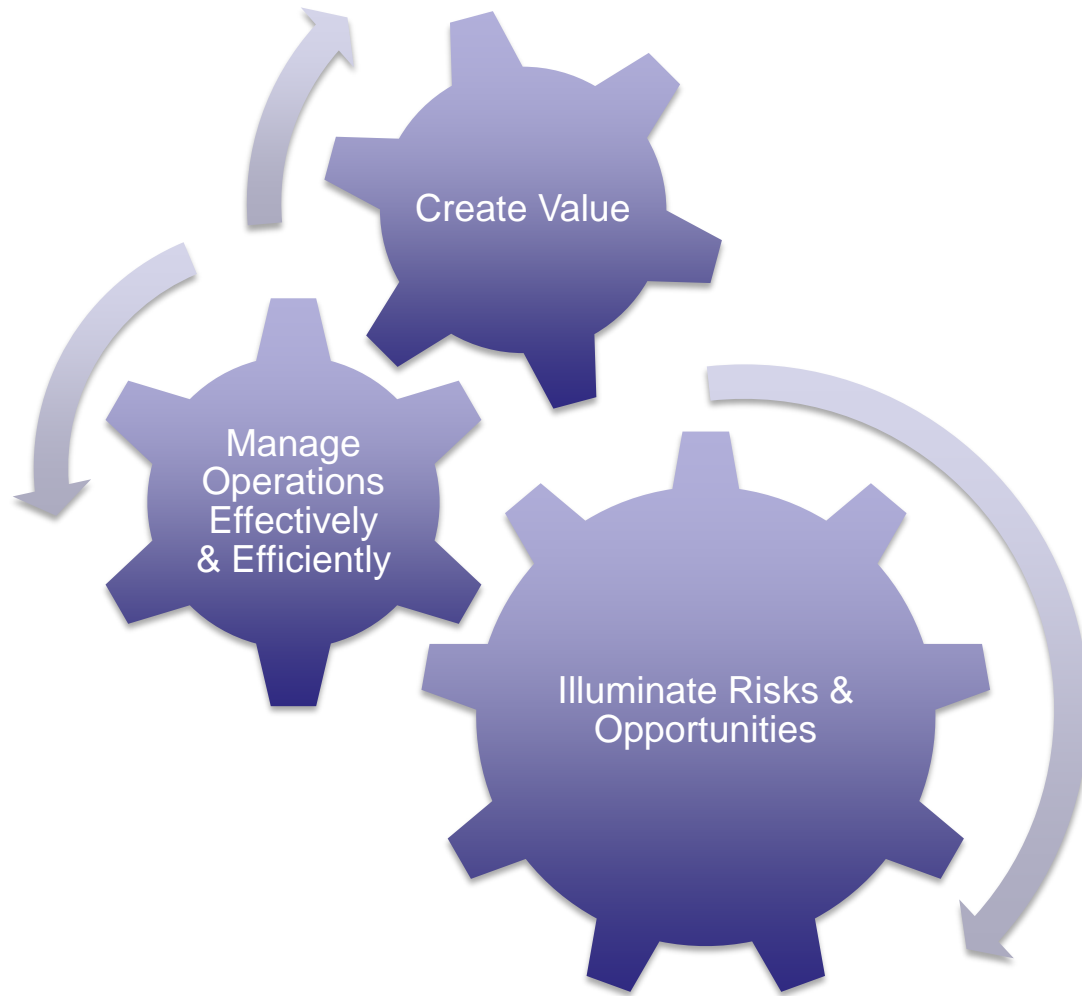
Maximizing the Value of Data Analytics for Operational Risk Intelligence

Don't just do data analytics. Transform data analysis activities into ORM programs.

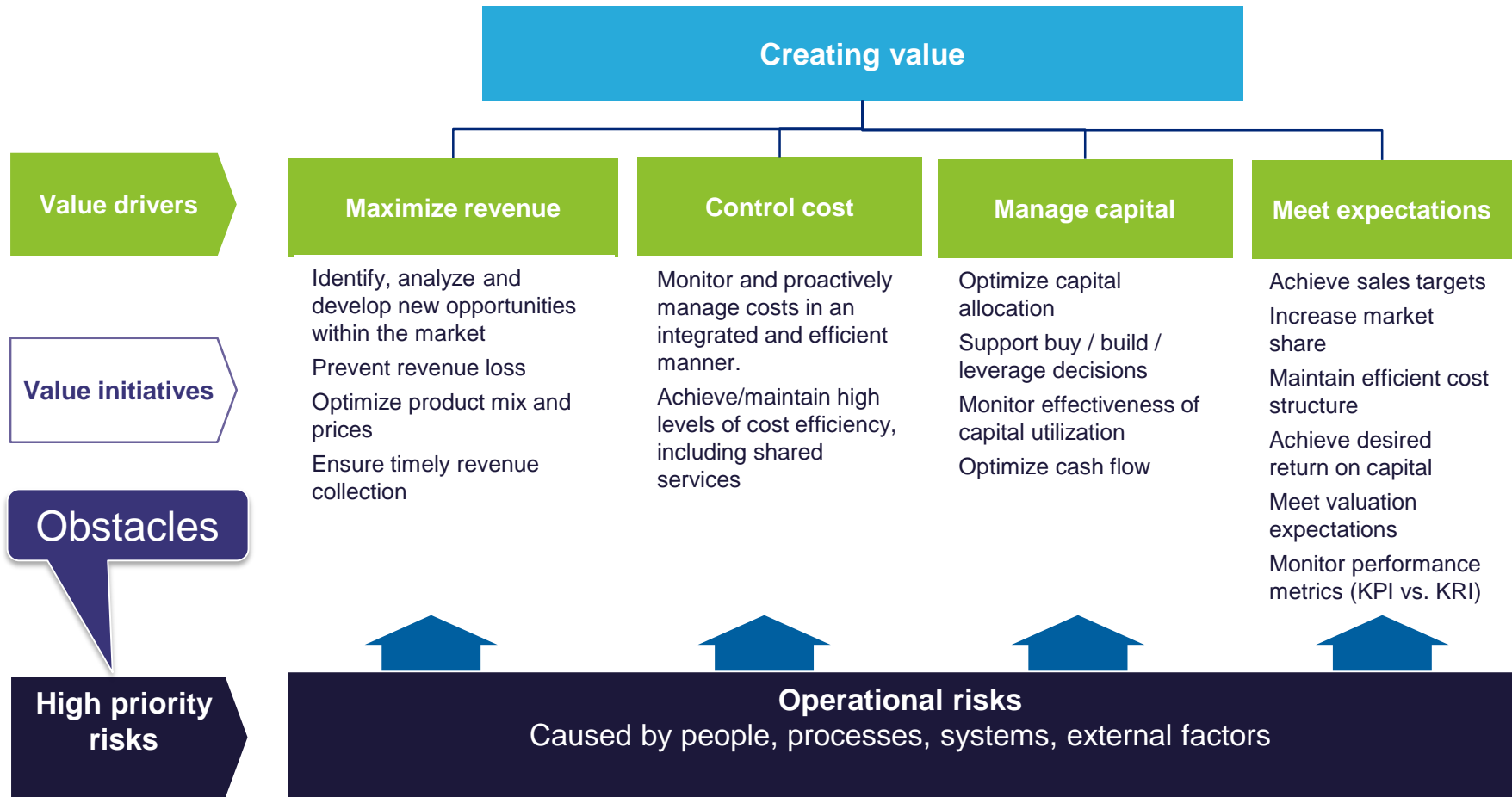
Presented by:

Sergiu Cernautan, CPA, CISA; Director of GRC Strategy, ACL Services, Ltd.


THE ORGANIZATION'S DATA CONTAINS THE KNOWLEDGE TO ...



WHAT ARE THE TYPICAL VALUE CREATION OBJECTIVES?



WHAT STANDS IN THE WAY OF ACHIEVING VALUE OBJECTIVES?



The risk of direct or indirect loss resulting from inadequate or failed internal processes, people and systems or from external events.

- **Basel Committee's definition of Operational Risk**

Operational risk can result in loss of revenue, increased costs, poor return on capital, and failure to meet performance expectations.

An effective ORM process enables organizations to identify, escalate, assess, prioritize, respond to, monitor and report risks that could impact achievement of value initiatives.

HOW IMPORTANT IS DATA TO PERFORMANCE IN OPERATIONS?

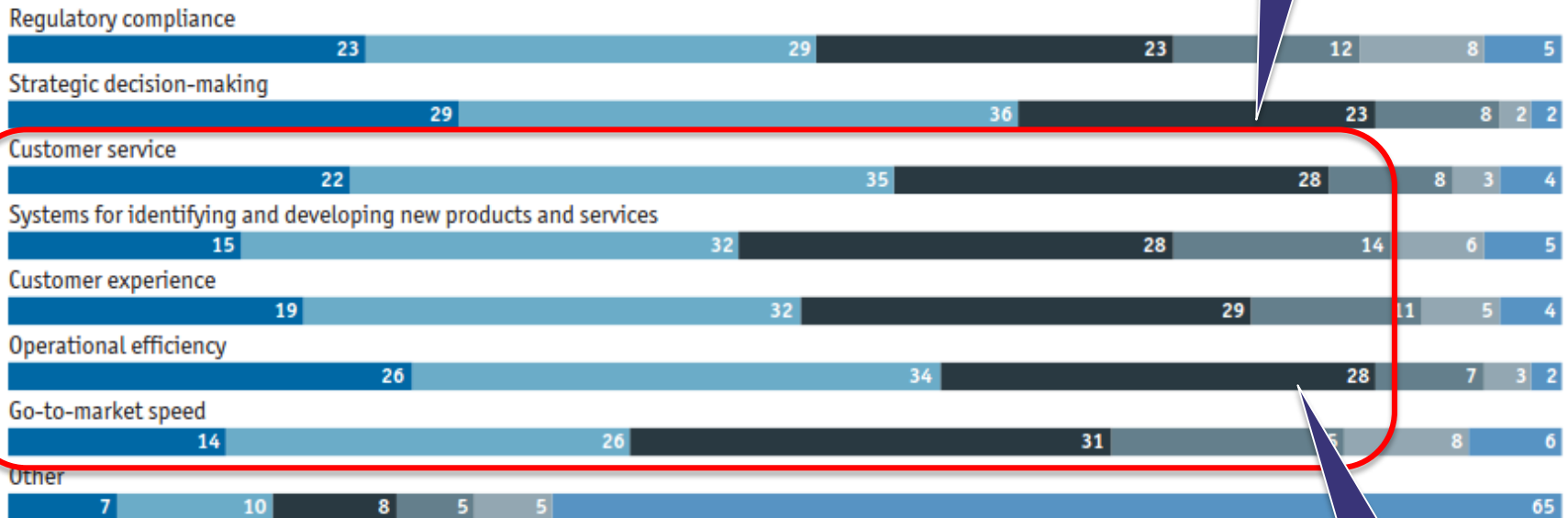
Operations

Please indicate the extent to which data have contributed to your organisation's performance in the following areas.

Rate on a scale of 1 to 5, where 1 = Significant contribution and 5 = No contribution.

(% respondents)

■ 1 Significant contribution
 ■ 2
 ■ 3
 ■ 4
 ■ 5 No contribution
 ■ Don't know/ Not applicable



88%

Source: "Big Data: Lessons from the Leaders," Economist Intelligence Unit Results from global survey of 752 executives and in-depth interviews with senior executives, March 2012

HOW CAN DATA ANALYTICS HELP?

“... analytics is the process of **obtaining an optimal or realistic decision** based on existing data.”

(Wikipedia)

“Analytics leverage data in a particular functional process (or application) to enable context-specific **insight that is actionable.**”

(Gartner, 'Analytics' buzzword needs careful definition, Andreas Bitterer)

“Data analytics is the science of examining raw data with the purpose of drawing conclusions about that information. Data analytics is used in many industries to allow companies and organization to **make better business decisions ...**”

(www.whatis.com)

Data



Insight



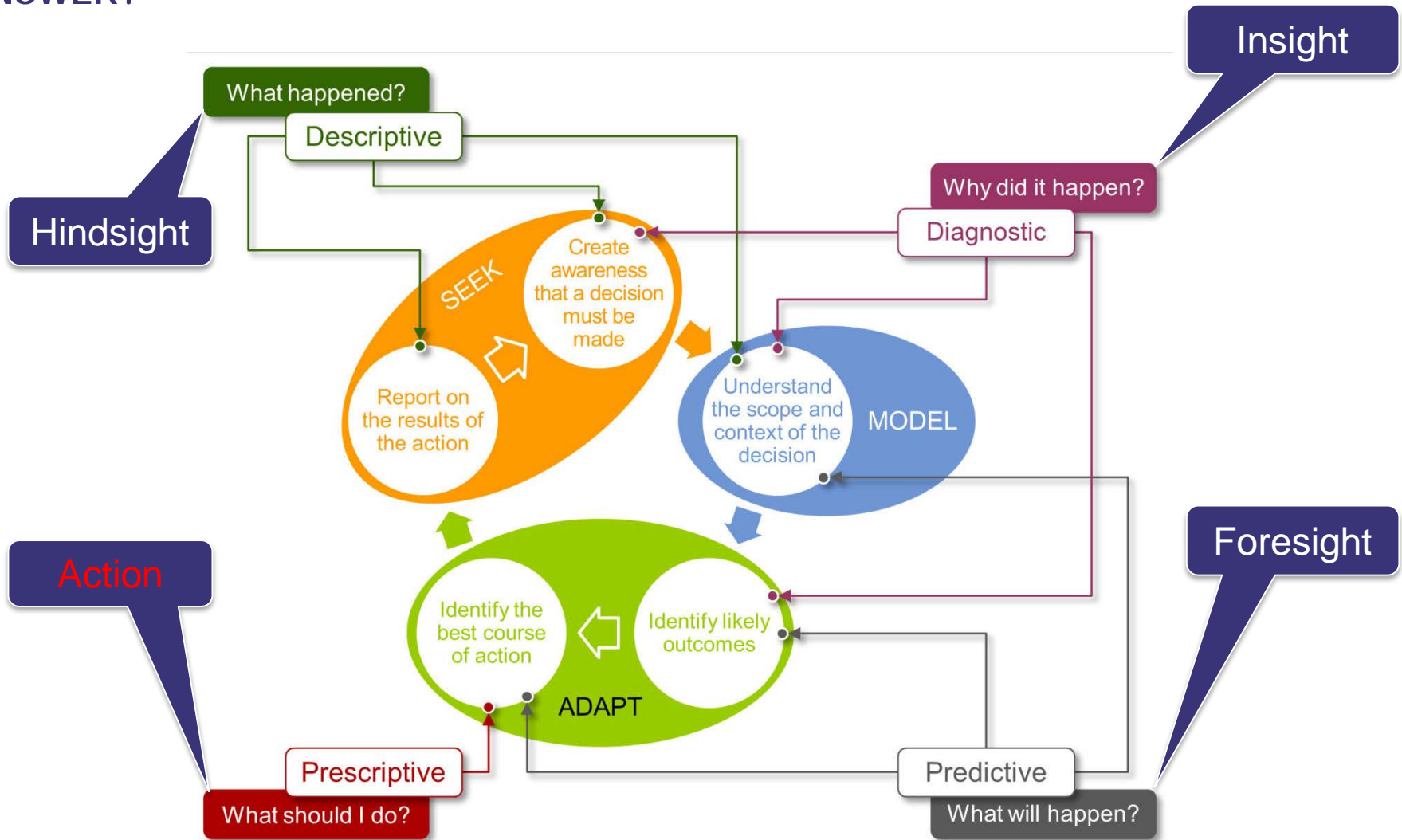
Action

Illuminate Risks & Opportunities

Manage Operations Effectively & Efficiently

Create Value

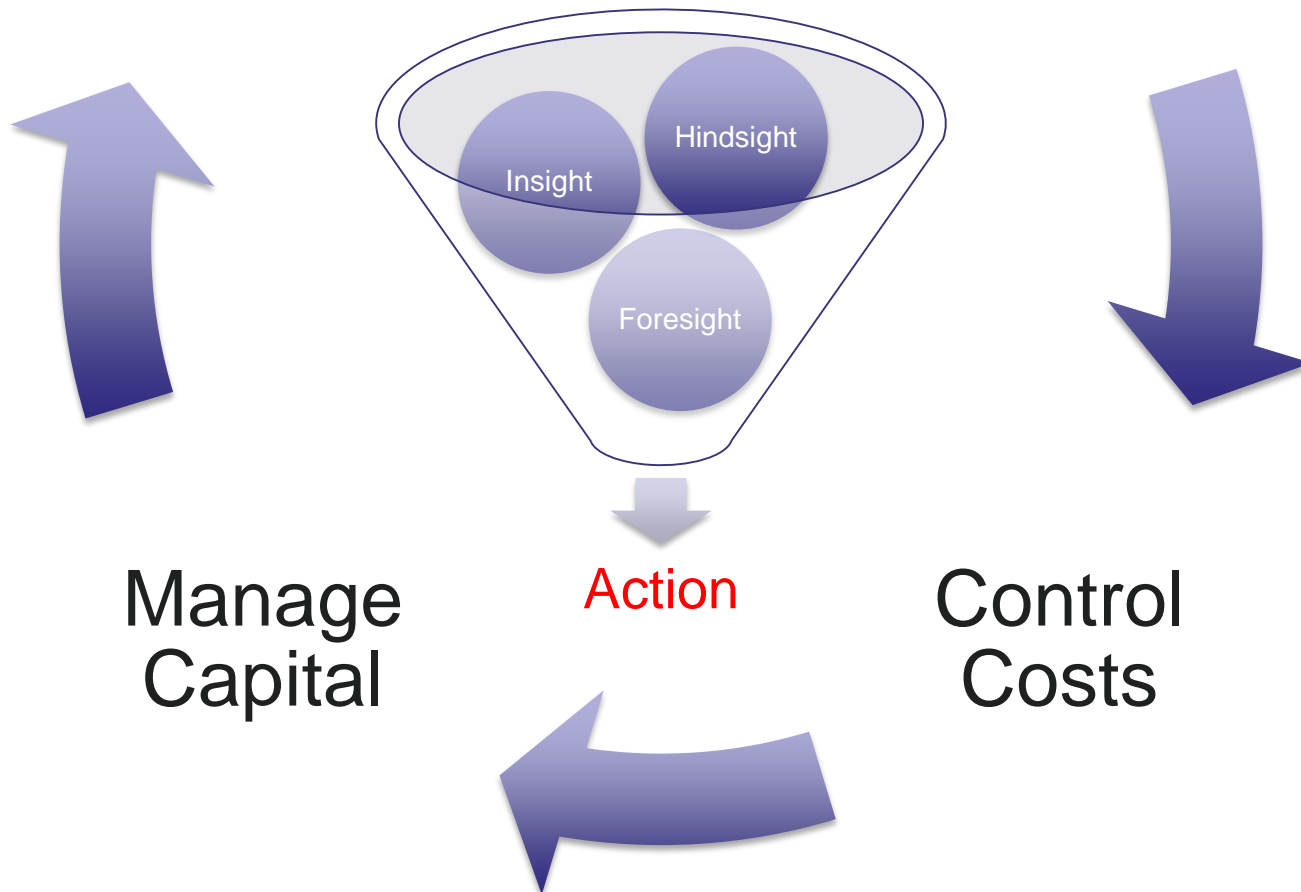
CRITICAL ANALYTICS CAPABILITIES: WHAT ARE THE KEY QUESTIONS TO ANSWER?



Source: Gartner, Neil Chandler, Agenda Overview for Analytics, Business Intelligence and Performance Management (February 2015)

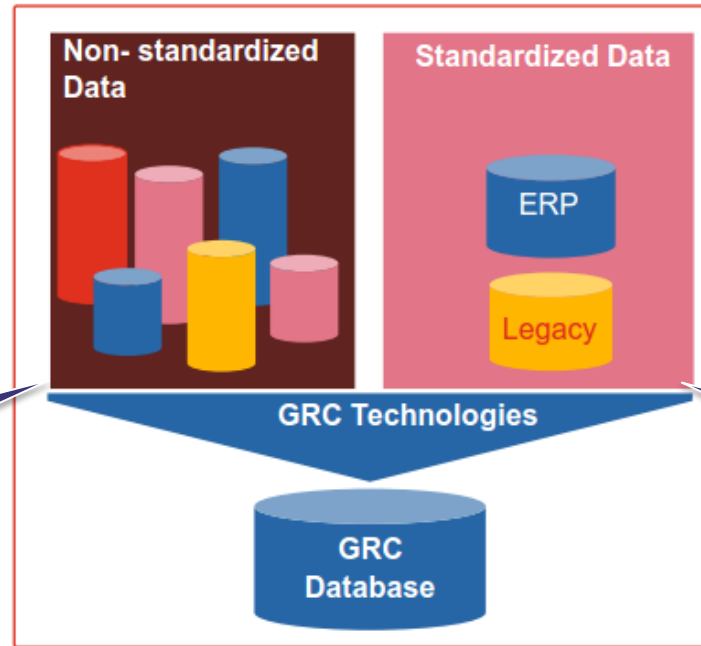
Meet
Expectations

Maximize
Revenue



WHAT KIND OF DATA ARE COMPANIES EXPECTED TO ADDRESS?

- Unstructured data
- Less automated processes
- Often “point” solutions in vertical silos
- Event driven/ often low volume



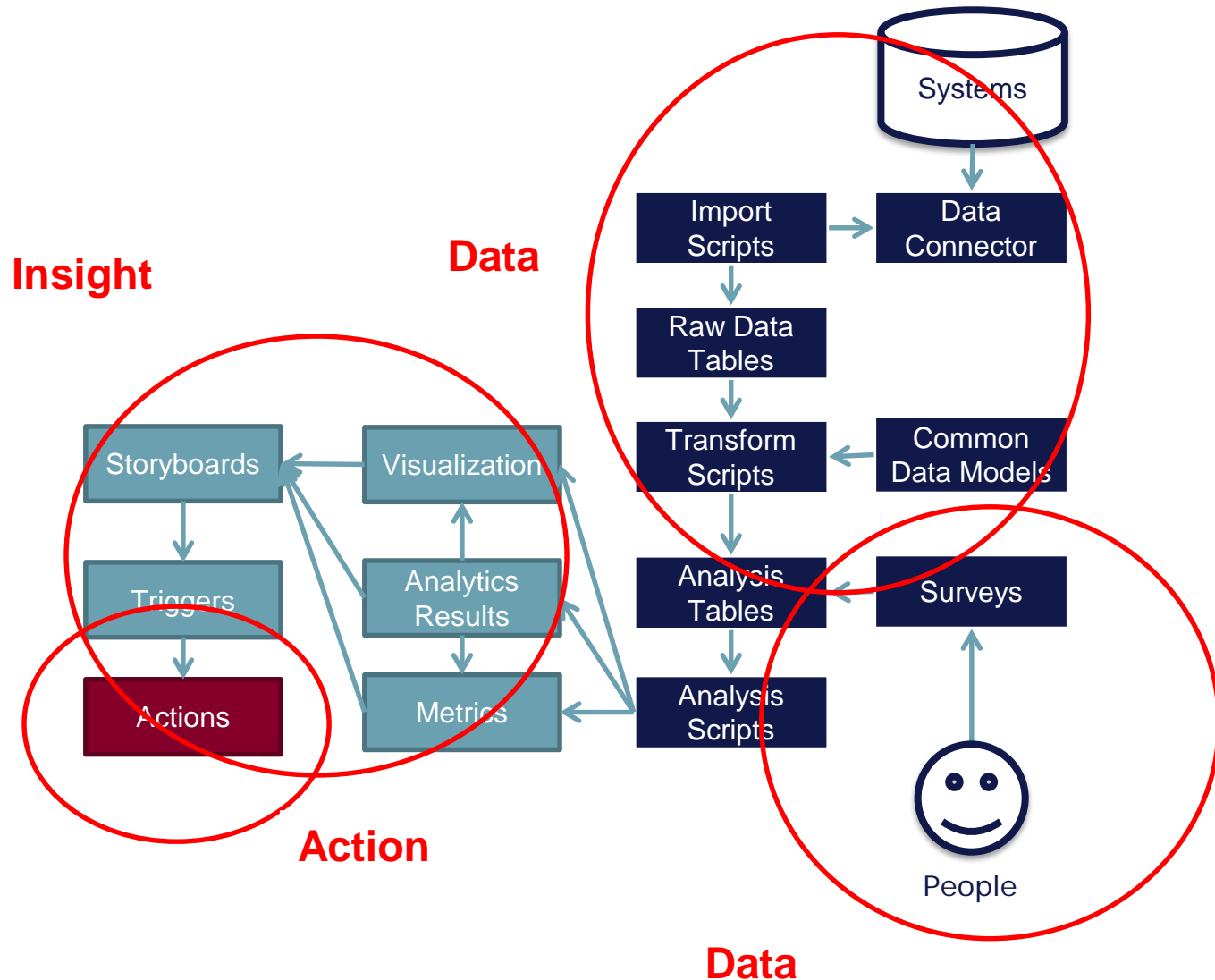
- Highly structured data
- Highly automated processes
- Transactional in nature
- Often high volume

Combination of
Systems and
People

Traditional ERP
Source Data

- A single data repository of standardized and non-standardized data
- Ability to collect, analyze and report data to address a variety of stakeholder needs
- Enables continuous monitoring, KPIs, KRIs, dashboards, etc.

ACL FRAMEWORK FOR ACTION ORIENTED DATA ANALYTICS PROGRAMS



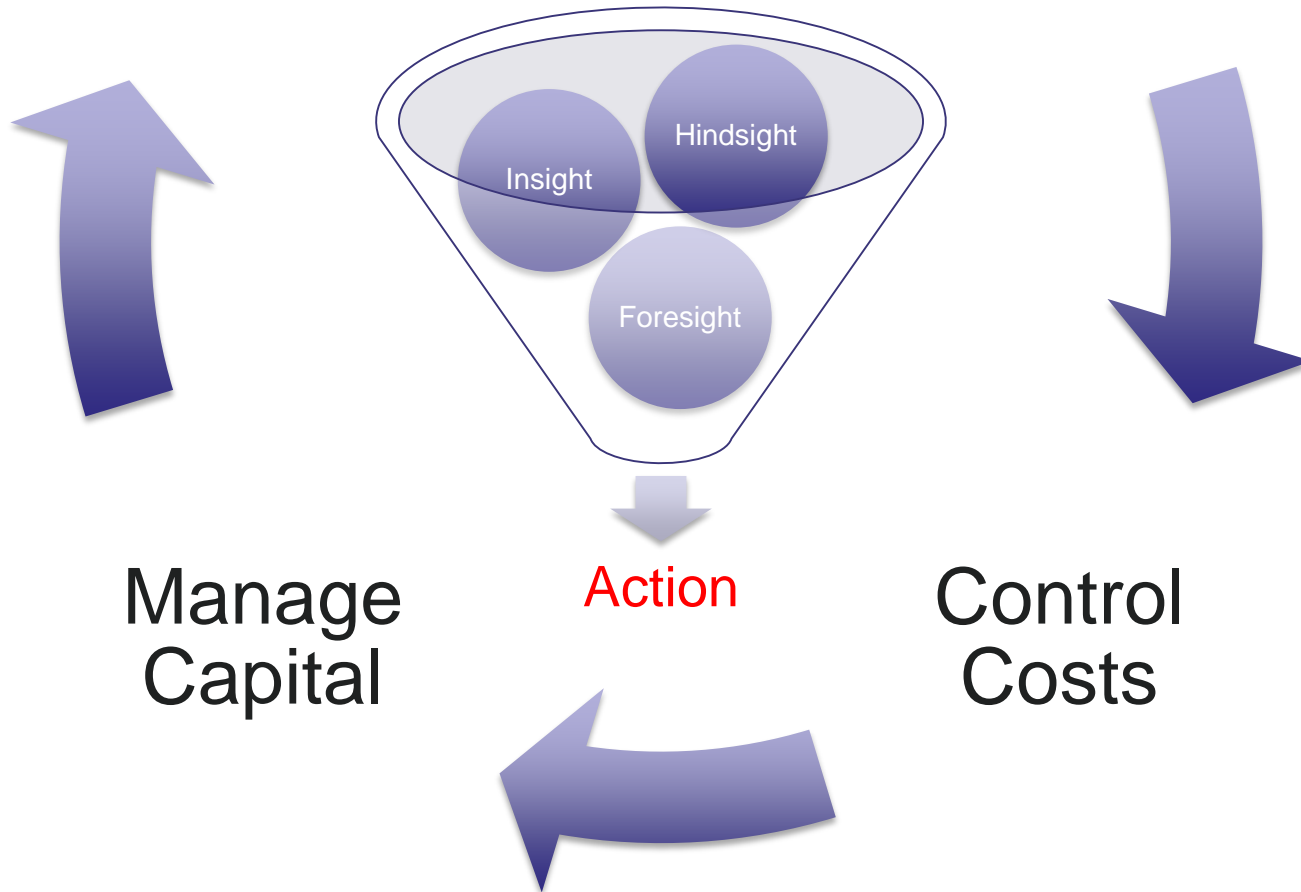
GETTING PRACTICAL

Combining Value Creation with Analytical Capabilities



Meet
Expectations

Generate
Revenue



Manage
Capital

Control
Costs

Action

INSPIRATION HUB – A COLLECTION OF ANALYTIC USE CASES

The screenshot displays the ACL Inspiration Hub website. At the top left is the ACL logo. A navigation bar includes links for Home, Search, About, and ScriptHub. The main heading is "Inspirations", followed by a sub-heading: "Hundreds of analytic ideas built from decades of experience from ACL initiatives worldwide. **Browse, contribute, and comment** to spark inspiration." Below this is a "Browse by Category" section with a note: "Purple categories are broad parent categories. Orange categories are more detailed sub-categories." A filter bar contains buttons for "See All", "General", "Manufacturing", "Financial Services", and "Healthcare". A search bar with the text "Search By Keyword" and a "Search" button is present. A pagination bar shows "Showing 1-10 of 29", "10 per page", "Page 1 of 3", and navigation arrows. The main content area features a grid of six category cards, each with a title and a representative icon:

- Travel and Entertainment (T&E)**: Icon showing a globe and a person.
- Purchase to Payment (P2P)**: Icon showing a dollar sign and a bar chart.
- Order to Cash (O2C)**: Icon showing a dollar sign and a bar chart.
- Fixed Assets (PPE)**: Icon showing a building and a dollar sign.
- Payroll (PAY)**: Icon showing a dollar sign and a bar chart.
- General Ledger (GL)**: Icon showing a book and a dollar sign.

SCRIPTHUB – A COLLECTION OF PRE-WRITTEN SCRIPTS

ScriptHub

A library of ACL tested and approved scripts; ready to use in your ACL Projects.

Find a script for your project by searching or choosing a category.



Import

Bring data and tables into your project



Prepare

Combine, modify, and alter data



Analysis

Unlock the secrets hidden in the data



Snippet

Little pieces of scripts that can be reused

AP Duplicate Invoices - Same Amount Same Date Different Vendor

ScriptHub ID: *AP_DVnd_SmAmt_SmInvDate*

Identifies possible duplicate invoices for the same amount and same date but a different vendor.

Analysis

Updated 134 days ago

[View details](#)

AP Duplicate Invoices - Same Vendor Amount Date Different Vendor Invoice Number Pattern

ScriptHub ID: *AP_DupInv_SVndSDtSAmtDifPttm*

Analysis

Updated 118 days ago

CONTROL COSTS: DISCRETIONARY SPENDING

Answering the question: What happened?

DATA: Discretionary Spend Transactions

Dunder Mifflin TNE.ACL - ACL Analytics

File Edit Data Analyze Sampling Applications Tools Server Window Help

NAVIGATOR

- Dunder Mifflin TNE.ACL
 - Dunder_Mifflin_TNE
 - Scripts
 - A_Import
 - Import_ABAC_Keywords
 - Import_HR_Employee
 - Import_TNE_Trans
 - Import_TNE_Transactions
 - B_Prepare
 - Prepare_HR_Employee
 - Prepare_TNE_Transactions
 - C_Analysis
 - TNE01_KeywordSearch
 - TNE02_HighRiskExpCat
 - TNE03_HighAvgMerch
 - TNE04_Outlier_Exp_Category
 - TNE05_High_Avg_Per_Attend
 - D_Code_Snippets
 - Create_Keyword_File
 - CreateStub
 - Delete_Temp_Tables
 - Delete_Temp_Tables_A00
 - ErrorHandling_Version
 - Keyword_Search_Include
 - SET_End_NA_Exact_Off
 - SET_Start_NA_Exact_Off
 - Tables
 - Results
 - Keyword_Table
 - TNE01_Keyword_Search
 - TNE02_High_Risk_Exp_Cate**
 - TNE03_High_Avg_Merchants
 - TNE04_Outlier_Exp_Category
 - TNE05_High_Avg_Per_Attend
 - Source

COMMAND LINE

TNE02_High_Risk_Exp_Category

TNE_TRANS_DATE TNE_TRANS_MERCHANT_COUNTR TNE_TRANS_EMP_NAME TNE_TRANS_EMP_DEPARTMENT TNE_TRANS_CURRENCY TNE_TRANS_CATEGORY TNE_TRANS_APPROVER NE_TRANS_AMOUNT LC NE_T

TNE_TRANS_DATE	TNE_TRANS_MERCHANT_COUNTR	TNE_TRANS_EMP_NAME	TNE_TRANS_EMP_DEPARTMENT	TNE_TRANS_CURRENCY	TNE_TRANS_CATEGORY	TNE_TRANS_APPROVER	NE_TRANS_AMOUNT	LC	NE_T
1 04/03/2014	USD	Stephanie N. Giles	Sales and Marketing	50.94	MISC	GAR1	0.00		
2 04/05/2014	USD	Stephanie N. Giles	Sales and Marketing	10.00	MISC	GAR1	0.00		
3 03/15/2014	USD	Stephanie N. Giles	Sales and Marketing	91.59	MISC	GAR1	0.00		
4 04/05/2014	USD	Stephanie N. Giles	Sales and Marketing	56.04	MISC	GAR1	0.00		
5 04/07/2014	USD	Stephanie N. Giles	Sales and Marketing	122.74	MISC	GAR1	0.00		
6 04/09/2014	USD	Stephanie N. Giles	Sales and Marketing	48.82	MISC	GAR1	0.00		
7 04/07/2014	USD	Stephanie N. Giles	Sales and Marketing	52.54	MISC	GAR1	0.00		
8 03/17/2014	USD	Stephanie N. Giles	Sales and Marketing	369.21	MISC	GAR1	0.00		
9 04/09/2014	USD	Stephanie N. Giles	Sales and Marketing	94.21	MISC	GAR1	0.00		
10 04/08/2014	USD	Stephanie N. Giles	Sales and Marketing	10.00	MISC	GAR1	0.00		
11 04/09/2014	USD	Stephanie N. Giles	Sales and Marketing	68.93	MISC	GAR1	0.00		
12 04/09/2014	USD	Stephanie N. Giles	Sales and Marketing	744.80	MISC	GAR1	0.00		
13 04/09/2014	USD	Stephanie N. Giles	Sales and Marketing	100.39	MISC	GAR1	0.00		
14 04/13/2014	USD	Stephanie N. Giles	Sales and Marketing	225.28	MISC	GAR1	0.00		
15 04/13/2014	USD	Stephanie N. Giles	Sales and Marketing	309.81	MISC	GAR1	0.00		
16 04/14/2014	USD	Stephanie N. Giles	Sales and Marketing	22.15	MISC	GAR1	0.00		
17 04/16/2014	USD	Stephanie N. Giles	Sales and Marketing	31.65	MISC	GAR1	0.00		
18 03/26/2014	USD	Stephanie N. Giles	Sales and Marketing	5.83	MISC	GAR1	0.00		
19 04/15/2014	USD	Stephanie N. Giles	Sales and Marketing	21.49	MISC	GAR1	0.00		
20 04/17/2014	USD	Stephanie N. Giles	Sales and Marketing	268.06	MISC	GAR1	0.00		
21 04/20/2014	USD	Stephanie N. Giles	Sales and Marketing	479.45	MISC	GAR1	0.00		
22 04/15/2014	USD	Ignacia Blanchard	Sales and Marketing	14.00	MISC	AME1	0.00		
23 03/25/2014	CAD	Ignacia Blanchard	Sales and Marketing	116.13	MISC	AME1	0.00		
24 04/15/2014	USD	Ignacia Blanchard	Sales and Marketing	4.50	MISC	AME1	0.00		
25 04/06/2014	USD	Kimberley K. Davidson	Public Relations	9.00	MISC	RYA1	0.00		
26 04/20/2014	USD	Kimberley K. Davidson	Public Relations	19.85	MISC	RYA1	0.00		
27 03/24/2014	USD	Yael B. Leblanc	Sales and Marketing	9.50	MISC	RUC1	0.00		
28 04/01/2014	USD	Yael B. Leblanc	Sales and Marketing	-4.25	MISC	RUC1	0.00		
29 04/01/2014	USD	Yael B. Leblanc	Sales and Marketing	4.25	MISC	RUC1	0.00		
30 03/30/2014	USD	Yael B. Leblanc	Sales and Marketing	28.80	MISC	RUC1	0.00		
31 03/11/2014	USD	Yael B. Leblanc	Sales and Marketing	11.70	MISC	RUC1	0.00		
32 04/03/2014	USD	Yael B. Leblanc	Sales and Marketing	11.20	MISC	RUC1	0.00		
33 03/21/2014	USD	Yael B. Leblanc	Sales and Marketing	9.04	MISC	RUC1	0.00		
34 03/27/2014	USD	Yael B. Leblanc	Sales and Marketing	9.04	MISC	RUC1	0.00		
35 04/20/2014	USD	Yael B. Leblanc	Sales and Marketing	12.30	MISC	RUC1	0.00		
36 04/19/2014	USD	Yael B. Leblanc	Sales and Marketing	10.58	MISC	RUC1	0.00		
37 03/29/2014	USD	Fuller Daniel	Human Resources	233.60	MISC	IGH1	0.00		

Overview Log Variables Default_View

TNE02_High_Risk_Exp_C Records: 9,245

10:21 AM 10/16/2014

DATA ANALYSIS OBJECTIVE: Continuous Discretionary Expense Monitoring

The screenshot displays the ACL Analytics 11 - Analysis App interface. The main title is "Dunder Mifflin TNE" with a subtitle "Travel and Entertainment Expense Review Sep-2014". The interface is divided into several sections:

- Preparation Scripts:** Contains two scripts with "Run" buttons and last run dates: "Prepare and validate HR Employee" (Last Run Sep 18, 2014 10:55:34 AM) and "Prepare and validate TNE Transactions" (Last Run Sep 18, 2014 10:55:41 AM).
- Analysis Scripts:** Contains two scripts with "Run" buttons and last run dates: "TNE01 Keyword Search" (Last Run Sep 23, 2014 10:33:29 AM) and "TNE02 High Risk Expense Category" (Last Run Oct 9, 2014 9:08:32 AM).
- Results:** A section titled "Results" with a status message: "Last run completed after 1 second, at Oct 9, 2014 9:08:34 AM, with status: Succeeded". It contains a table with the following data:

NAME	TYPE	RECORDS	SIZE	
TNE02_High_Risk_Exp_Category	TABLE	2,143	270.0 KB	Open
TNE02 High Risk Expense Category.log	LOG	-	20.0 KB	Open
- Interpretations:** A sidebar on the right with a "Interpretations" header and two items: "TNE02 Exception Insights" and "TNE03 Exception Trends".

The Windows taskbar at the bottom shows the time as 10:22 AM on 10/16/2014.

RESULTS: Questionable Spend Transactions

ACL Analytics 11 - Analysis App

TNE02 Exception Insights

Filters Table View Departmental Share Approver Share Timeline Outlier Transactions

TNE02_High_Risk_Exp_Category [2,143 Records]

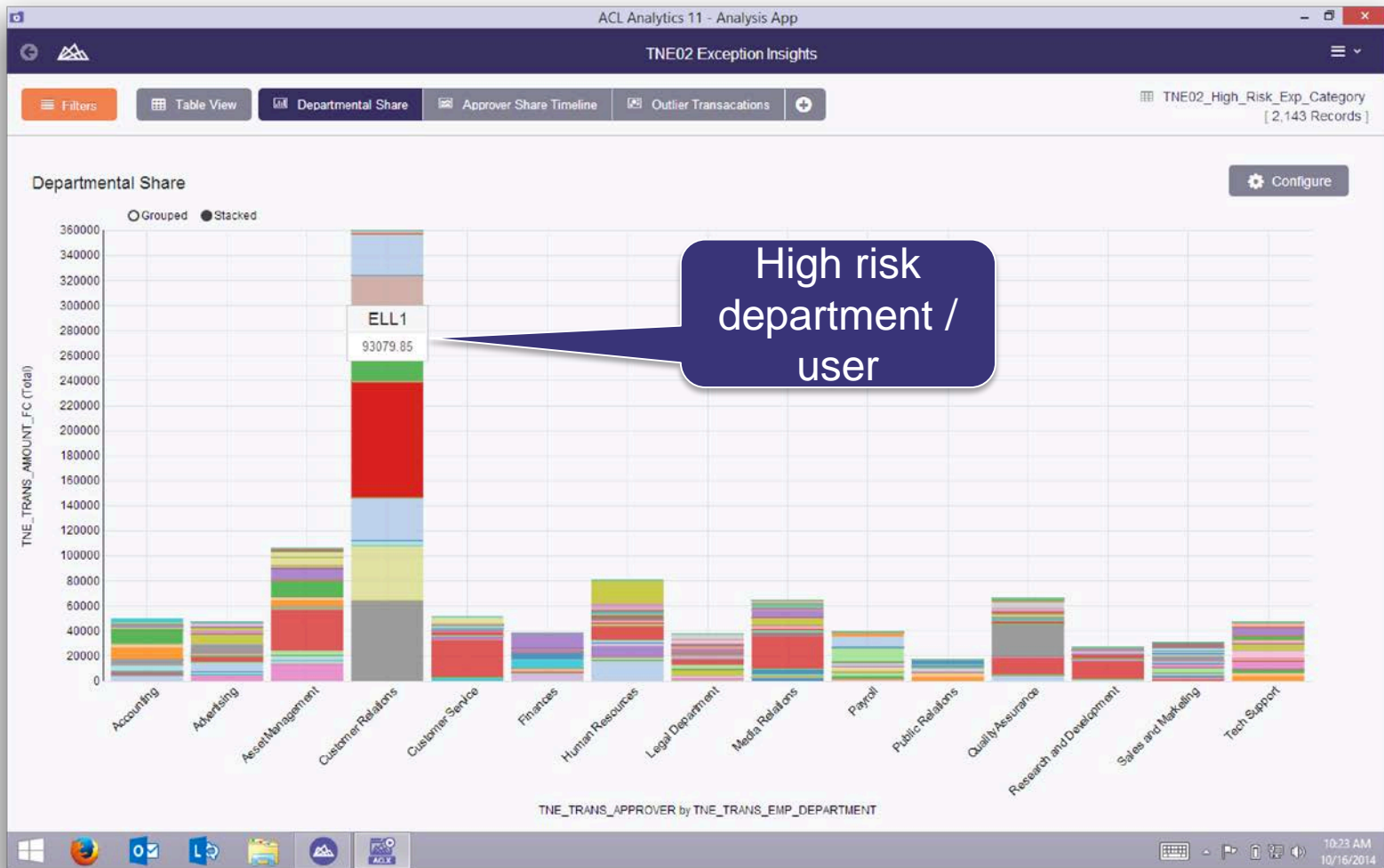
TNE_TRANS_DATE	TN...	TNE_TRANS_EMP_NAME	TNE_TRANS_EMP_DEPARTMENT	TNE_TRANS_CURRENCY	TNE_TRANS_CATEGORY	TNE_TRANS_A
Apr 3, 2014	USD	Stephanie N. Giles	Sales and Marketing	50.94	MISC	GAR1
Apr 5, 2014	USD	Stephanie N. Giles	Sales and Marketing	10	MISC	GAR1
Mar 15, 2014	USD	Stephanie N. Giles	Sales and Marketing	91.59	MISC	GAR1
Apr 5, 2014	USD	Stephanie N. Giles	Sales and Marketing	56.04	MISC	GAR1
Apr 7, 2014	USD	Stephanie N. Giles	Sales and Marketing	122.74	MISC	GAR1
Apr 9, 2014	USD	Stephanie N. Giles	Sales and Marketing	48.82	MISC	GAR1
Apr 7, 2014	USD	Stephanie N. Giles	Sales and Marketing	52.54	MISC	GAR1
Mar 17, 2014	USD	Stephanie N. Giles	Sales and Marketing	369.21	MISC	GAR1
Apr 9, 2014	USD	Stephanie N. Giles	Sales and Marketing	94.21	MISC	GAR1
Apr 8, 2014	USD	Stephanie N. Giles	Sales and Marketing	10	MISC	GAR1
Apr 9, 2014	USD	Stephanie N. Giles	Sales and Marketing	68.93	MISC	GAR1
Apr 9, 2014	USD	Stephanie N. Giles	Sales and Marketing	744.8	MISC	GAR1
Apr 9, 2014	USD	Stephanie N. Giles	Sales and Marketing	100.39	MISC	GAR1
Apr 13, 2014	USD	Stephanie N. Giles	Sales and Marketing	225.28	MISC	GAR1
Apr 13, 2014	USD	Stephanie N. Giles	Sales and Marketing	309.81	MISC	GAR1
Apr 14, 2014	USD	Stephanie N. Giles	Sales and Marketing	22.15	MISC	GAR1
Apr 16, 2014	USD	Stephanie N. Giles	Sales and Marketing	31.65	MISC	GAR1
Mar 26, 2014	USD	Stephanie N. Giles	Sales and Marketing	5.83	MISC	GAR1
Apr 15, 2014	USD	Stephanie N. Giles	Sales and Marketing	21.49	MISC	GAR1
Apr 17, 2014	USD	Stephanie N. Giles	Sales and Marketing	268.06	MISC	GAR1
Apr 20, 2014	USD	Stephanie N. Giles	Sales and Marketing	479.45	MISC	GAR1
Mar 23, 2014	USD	Isadora N. Chan	Tech Support	442	MISC	RUC1

10:22 AM 10/16/2014

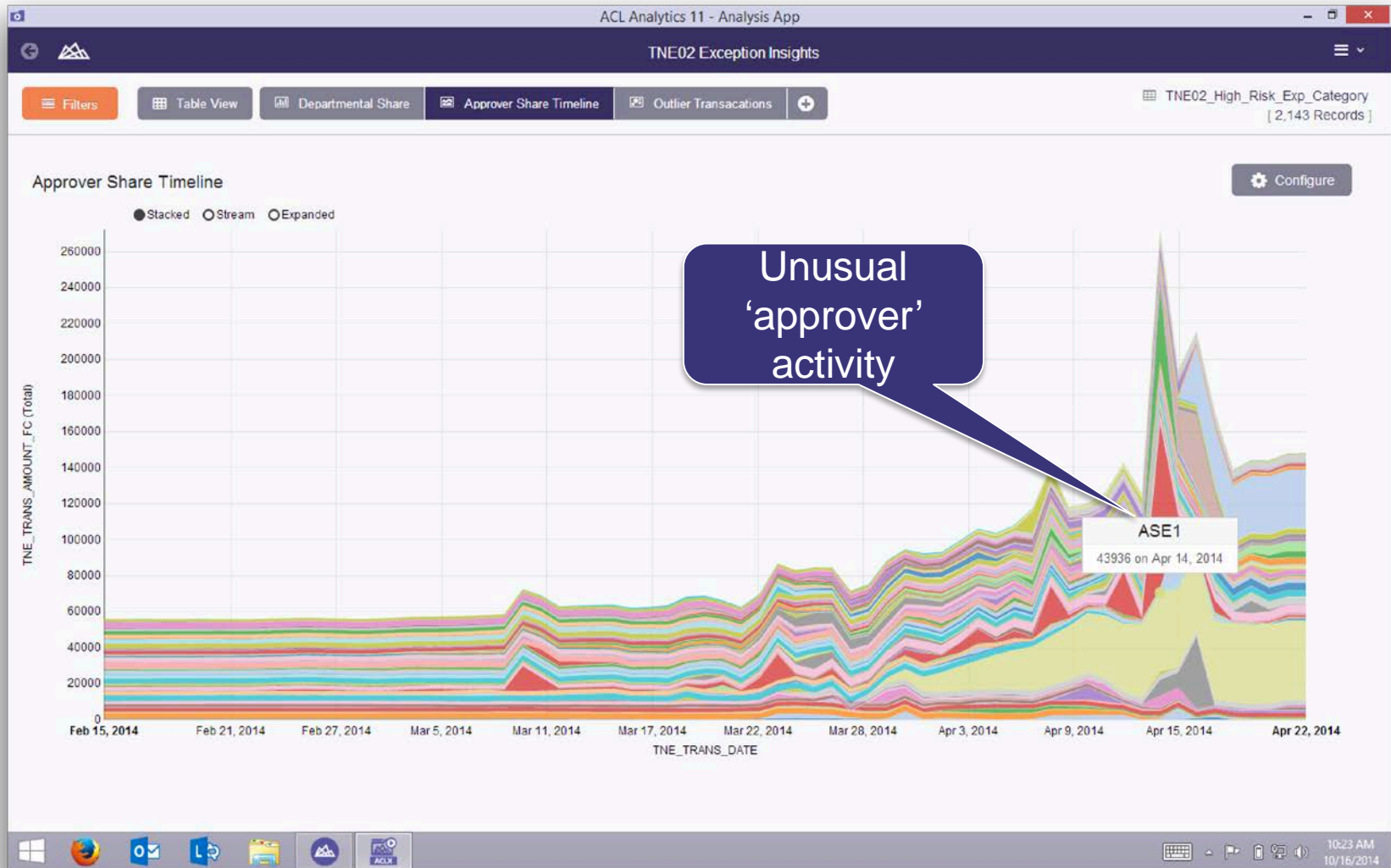
CONTROL COSTS: DISCRETIONARY SPENDING

Answering the question: Why did it happen?

GENERATING: Insights & Data Visualizations



GENERATING: Insights & Data Visualizations

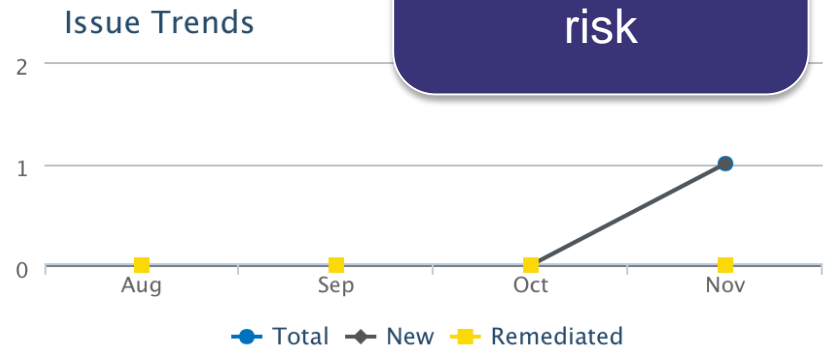
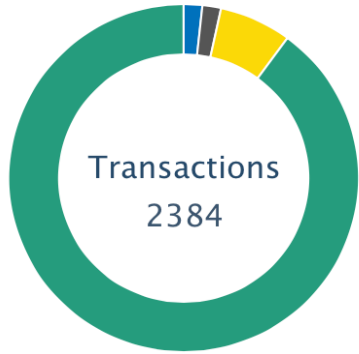
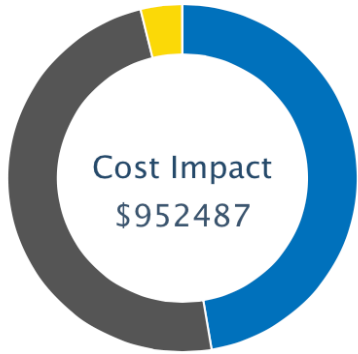


CONTROL COSTS: DISCRETIONARY SPENDING

Answering the question: What will happen?

Uncontrolled Discretionary Spending

Linking results to operational risk



Issues

Medium	Multiple Occurrences of Expense Submission as both P-Card and T&E			⏪
High	Large Expense Transactions Violating Category Maximums			⏩
🎯	Remediation Status Management Remediating	💰 Cost Impact \$464724	📄 Transactions 41	📁 Type Finding
Details Ad quo wisi qualisque, in tota aequae mei, sea ad dicit omnes postea. Ut summo virtute euismod vel, errem alienum fastidii pro ut, an ius quas detracto electram. Illud iriure cu sea. Velit labores petentium sea te, dicit albucius philosophia id est. Ponderum adolescens ea cum, ne elit mazim disputationi ius.		Recommendation Harum veniam munere an duo, eu volumus mandamus vix, summo inermis vix et. Zril nostrum occurreret vix et. No pri rebum debet. Eu sensibus posidonium vel. Eu per ornatus oportere maluisset.		

Strategic objective

Org Heatmap



CONTROL COSTS: DISCRETIONARY SPENDING

Answering the question: What should I do?

TRIGGERING: Actions

Customer Relations Questionable Spend Transactions

If all of the following conditions apply:

New Condition Idle Status Priority

New record is generated

Condition is TNE_TRANS_EMP_DEPARTME equals Customer Relations

Condition is TNE_TRANS_AMOUNT_LC >= 15000

Condition is TNE_TRANS_EMP_NAME equals ELL1

Condition is TNE_TRANS_APPROVER equals ASE1

Then perform the following action(s):

Assign Notify Questionnaire Status Priority

Set priority to Medium

Set status to Under Review

Assign to user David Wallace

Notify user Darryl Philbin

Send Incident Report - Employee Expense Abuse

to user Dan Zitting

Save... Cancel

Human Data Mining

TRIGGERING: Actions

Request for Additional Detail

Vandelay Industries

Instructions

Use this questionnaire to request additional detail from cardholder.

Record Details

Expense Report Number: 5102086898

Transaction Number: 0051314487

Employee Name: WYDERSEN CHRIS

Merchant Name: VIPOND INC

Transaction Amount: 2718.54

Transaction Date: 12/11/2013

Expense Type: CONFERENCE

Expense Description: M

Mcc: 7393

Mcc Description: Protective and Security Services Including Armored Cars and

Expense Justification: -

Supervisor Requested: -

Questionnaire

Can you please provide additional detail around the business purpose behind this expense?

Was this requested by your supervisor?

- Yes
 No

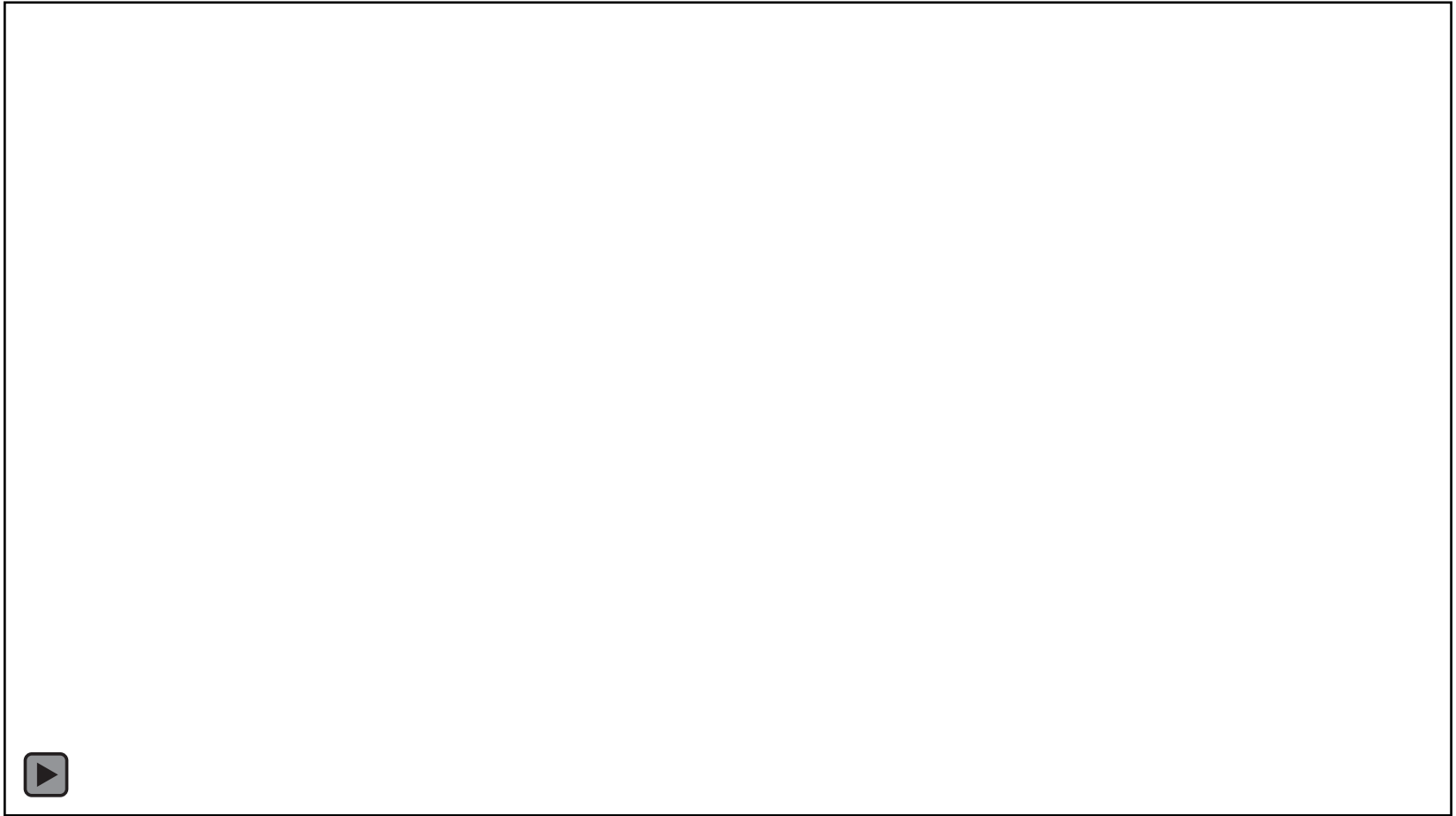
Submit

Save

TURNING ANALYTICS INTO ORM PROGRAMS

Combining the 4 analytic capabilities

MAXIMIZING REVENUE: MONITORING SALES KPI/KRI INDICES



Thank

You!



APPENDIX: ANALYTICS RESOURCES FOR ORM PROGRAMS

Further tools to help you

FURTHER RESOURCES TO SUPPORT YOUR DATA ANALYTICS

Baystate Health Inc. case study (referenced in this APPENDIX)

- [http://www.acl.com/pdfs/Case Study Baystate Health.pdf](http://www.acl.com/pdfs/Case_Study_Baystate_Health.pdf)

Sample ACL data analysis use case library

- <https://accounts.aclgrc.com/inspirations>

Sample ACL data analysis script template library

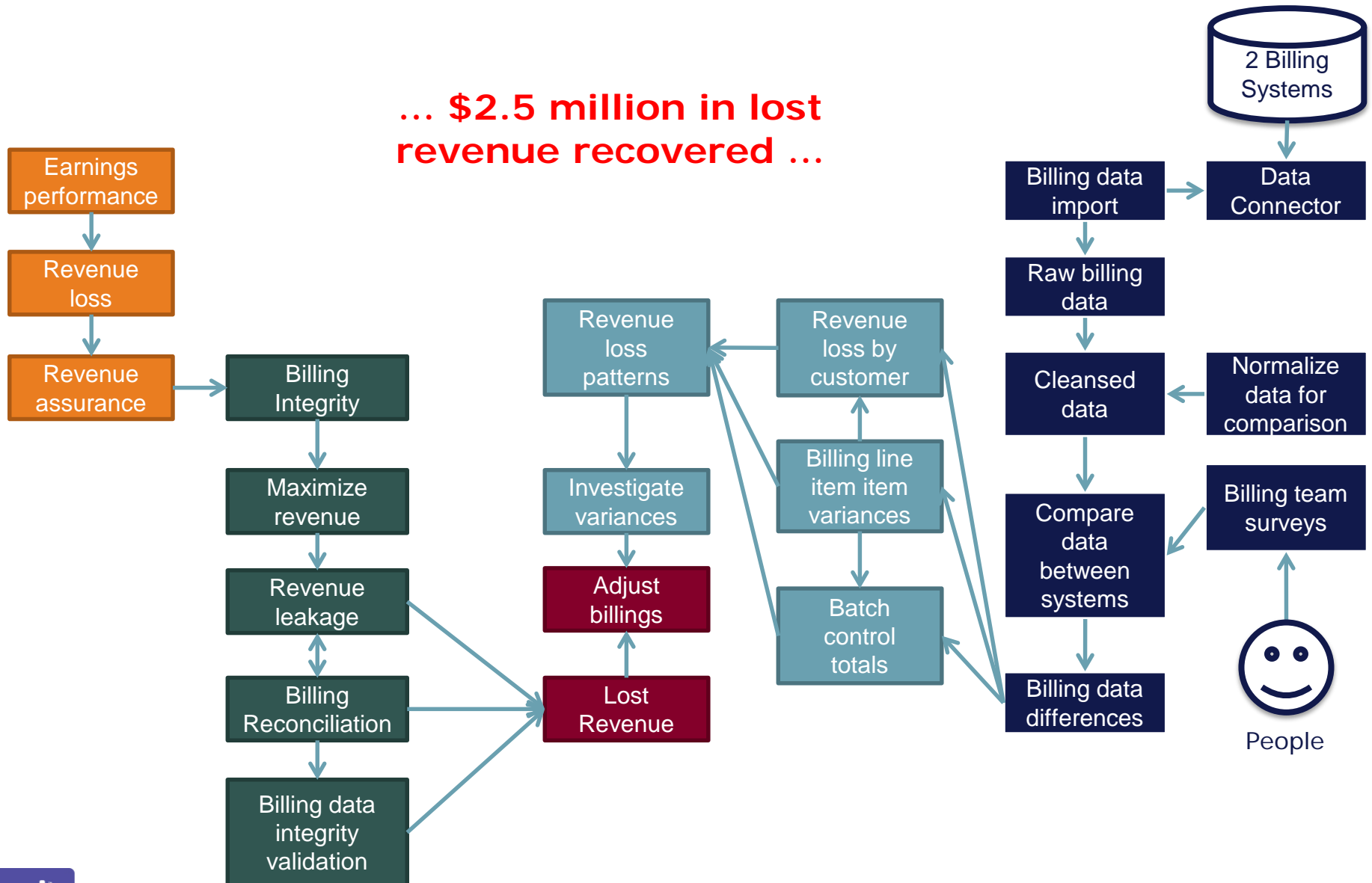
- <http://www.acl.com/2015/02/12/what-is-acl-scripithub/>

Sample data analysis use case applications by industry

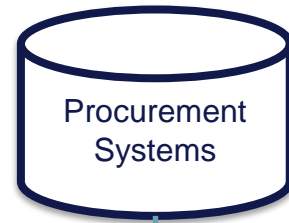
- http://www.acl.com/pdfs/Applications_Education.pdf
- http://www.acl.com/pdfs/Applications_Retail.pdf
- http://www.acl.com/pdfs/Applications_Manufacturing.pdf
- http://www.acl.com/pdfs/Applications_Insurance.pdf
- http://www.acl.com/pdfs/Applications_Healthcare.pdf
- http://www.acl.com/pdfs/Applications_Government.pdf
- http://www.acl.com/pdfs/applications_general.pdf
- http://www.acl.com/pdfs/applications_Banking.pdf

ACTUAL EXAMPLE: Baystate Health Inc. - \$2 Billion Healthcare Customer

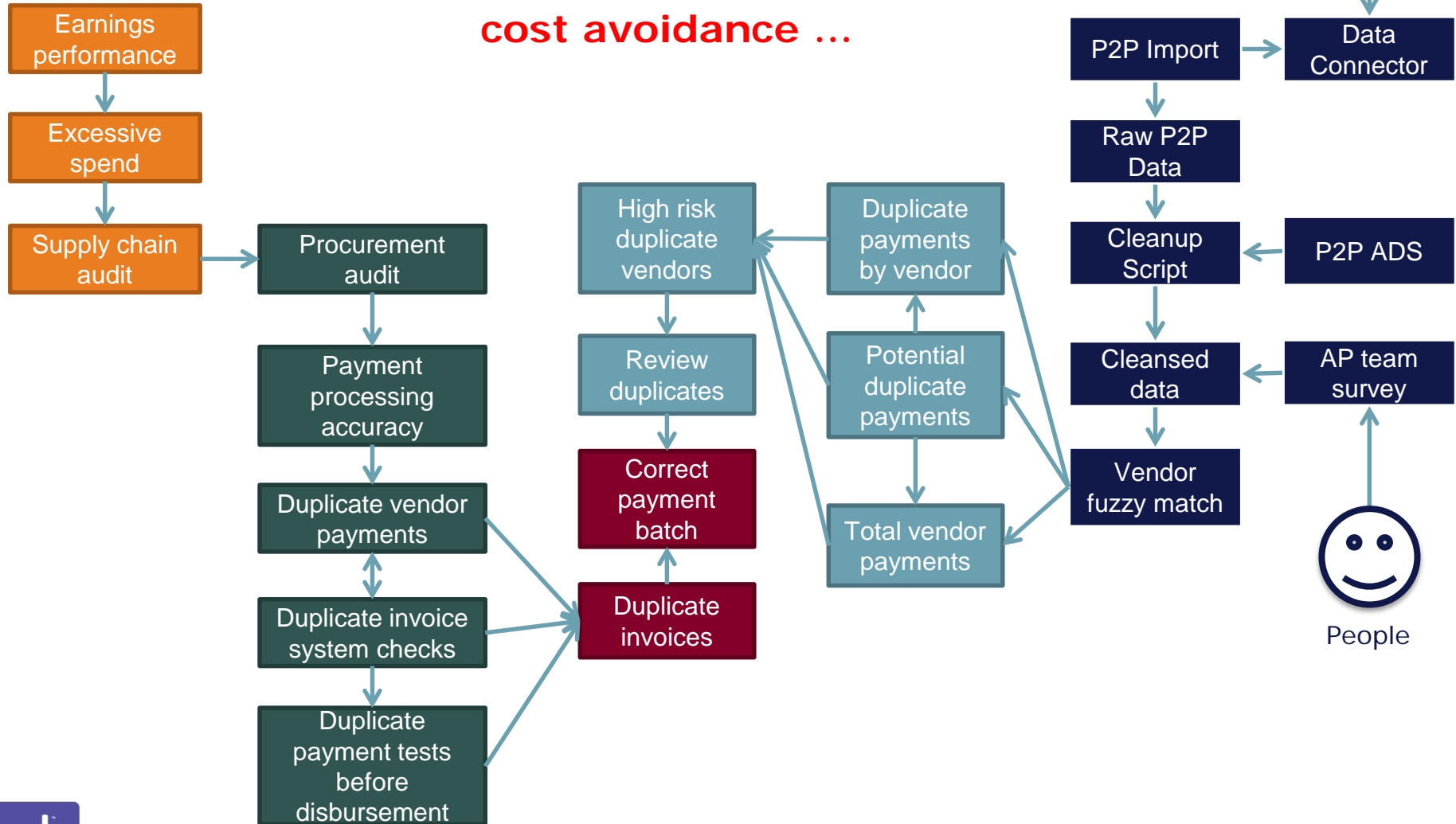
... \$2.5 million in lost revenue recovered ...



ACTUAL EXAMPLE: Baystate Health Inc. - \$2 Billion Healthcare Customer



... \$18.5 million in cost avoidance ...



For more information please contact:

Sergiu Cernautan

Director, GRC Strategy

sergiu_cernautan@acl.com