



The Leading Global Provider of Audit Analytics Software

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Tendencias en Análisis de Datos: Retos y Soluciones

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Casa de Campo



Agenda

- Retos organizacionales
- Evolución y futuro del análisis de datos
- Maximizando el valor del análisis – area claves a considerar
- Implementación de las mejores prácticas
- Retos Persistentes en Auditoria hoy
- Enfoque en Tecnologia para Areas de Auditoria y Control
- Introduciendo ACL AuditExchange 2009
- Demostración del Producto

¿Qué es lo que mantiene sin dormir a los Líderes de Control y Negocios?

- Productividad del Equipo – “Como hacer mas con los mismos recursos”
- Datos – “Como asegurar un acceso directo y a tiempo a las diversas fuentes de datos”
- Personas – “Como lograr el maximo potencial de los miembros del equipo de trabajo”

Ultimos estudios de Investigación



PwC Report 2007

Auditoria Interna 2012: Un estudio examina el futuro de auditoria y el potencial declive de los controles centrales



Protiviti Report

Las prioridades claves en el ambiente de Auditoria Interna



The Institute of Internal Audit

La comunidad en el conocimiento profesional del marco de referencia de mejores practicas



Ernst & Young

Desde el Cumplimiento hacia la parte competitiva –
Nuevo Pensamiento en los controles Internos!

The Future of Internal Audit and Control: What is Changing for these areas?

- Traditional controls assurance role no longer based on cyclical or routine audits but on focused audits in response to assessment of risk
- Shift towards continuous monitoring
- Increasing responsibility for antifraud measures
- Increasing responsibility for providing assurance on the effectiveness of ERM
- Working closely with management to provide them insight on risks and efficiency issues
- Technologies for data analysis, continuous auditing and monitoring are key to the future of internal audit

The Future of Audit & Control: The Role of Technology and Analytics

- Analytics as an integral core component of the business
- Continuous testing of transactions through all process areas – financial, operational, IT
- Dashboards highlighting areas of risk and control concern – used by internal audit, external audit, audit committee, business management
- Immediate alerts to senior management for high risk occurrences
- Focus scarce skilled audit resources on high risk areas
- Audit analytics closely integrated into audit methodology / programs and working papers software

Evolution of Data Analytics

- The last 20 years

Analytical
review

Controls
testing

Substantive
testing

Fraud
detection

General
analysis and
reporting

► Advancement of applications

Interactive

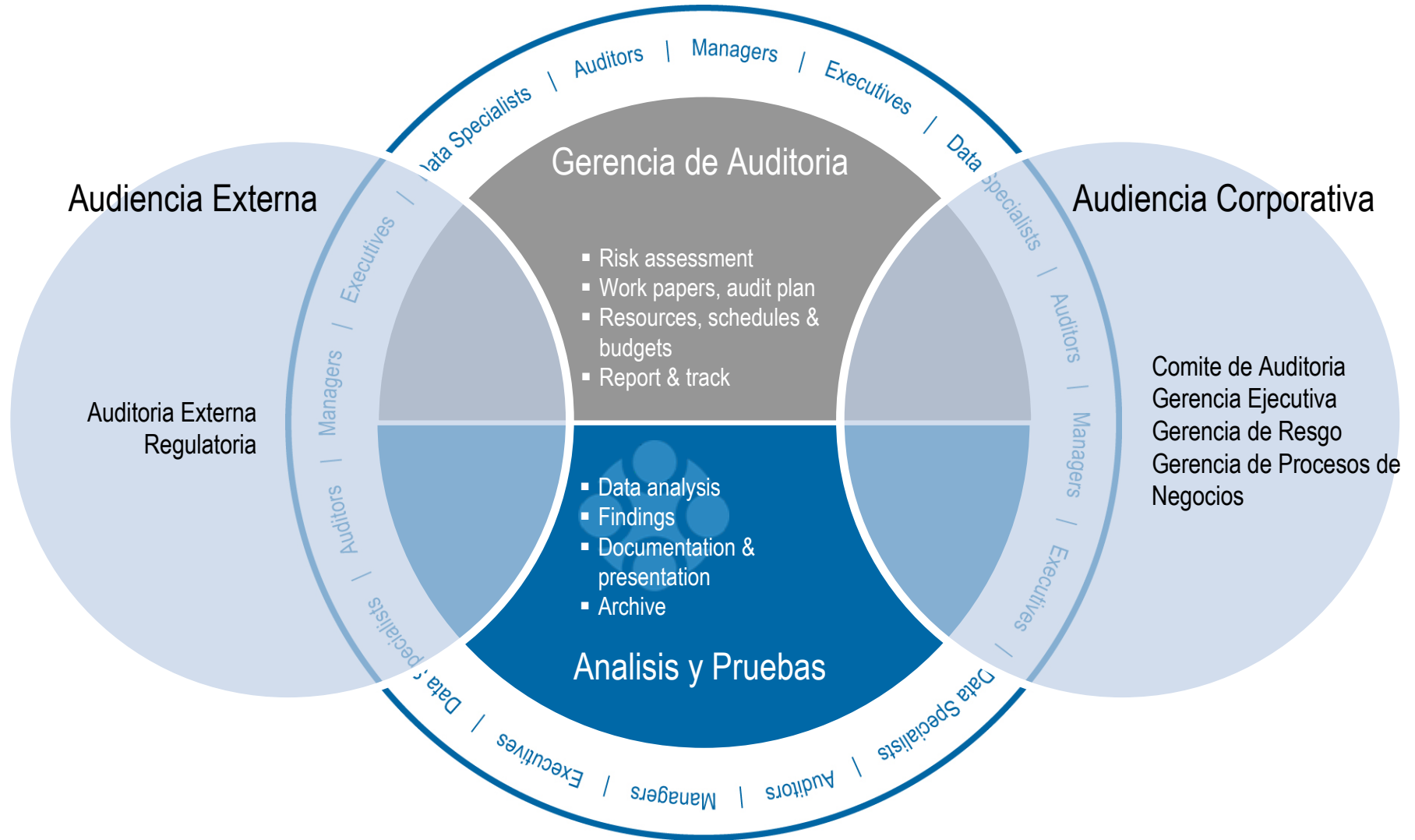
Standard
tests

Continuous
Auditing

Continuous
Monitoring of
Transactions
and Controls



Un enfoque para Auditoria y Control



El Espectro Analítico para Areas de Control



- Orientacion de usuario unico
- Naturaleza Explorativa e investigativa – con frecuencia variada
- Buscando recomendaciones y conclusiones



- Orientacion hacia el grupo de trabajo
- Analisis Periodico de procesos desde multiple fuentes de datos y grandes volumenes
- Busqueda de mejoras en la eficiencia, consistencia y calidad de las auditorias



- Orientacion Corporativa
- Enfoque en monitoreo de procesos criticos
- Seeking timely notification of trends, patterns & exceptions supporting risk assessment & enabling organizational efficiency

A la medida

Repetitiva

Continua

Specific analytic queries – performed at a point in time – for the purpose of generating audit report findings

Managed analytics – created by specialists – and deployed from a centralized, secure environment, accessible to all appropriate staff

Continual execution of automated audit tests to identify errors, anomalies, patterns and exceptions as they occur

Analytic Processes: Maximizing Value – Issues to Address

- Data access and management
- Quality and control
- Productivity of teams
- Reporting and sharing of results

Data: Issues

- Accessing and understanding data
- Data security and control
- Managing large volumes of data

Decentralized Analytics Environment



Unsecured Environment with Heavy Traffic and Duplicate Data

Manager

- Difficult to review results and ensure consistency

Auditors

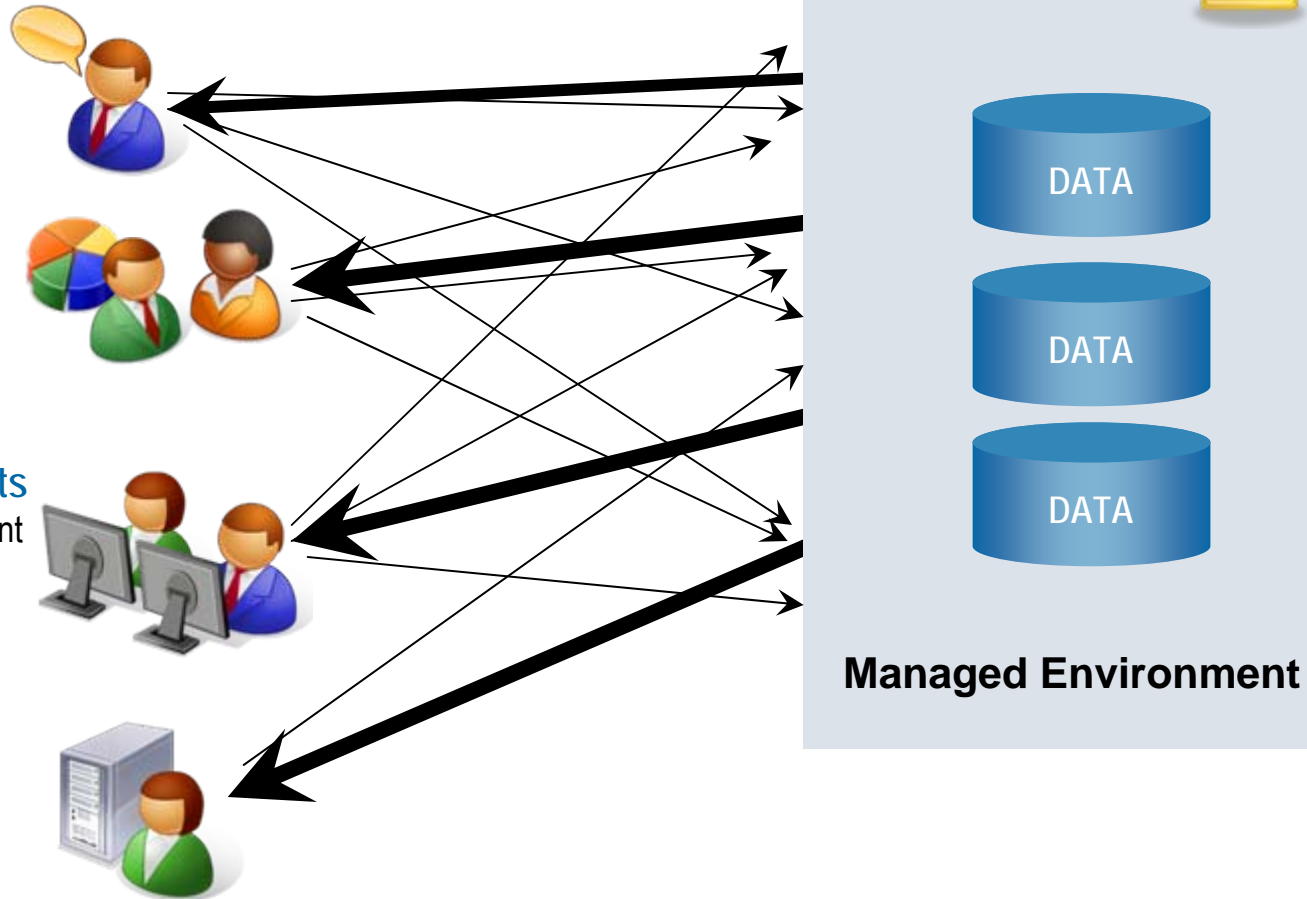
- Ad Hoc Analysis
- Decentralized Testing
- Lack of standardization

IT Auditors & Data Specialists

- Challenging technical environment

IT

- Burdened with ad hoc requests for data
- Security concerns



Data: Best Practices

Accessing & understanding data

- Audit repository

Sub-sets of
enterprise data

Physical or
virtual

Regularly
refreshed

- ▶ Intelligent data descriptions

Critical data
elements for
audit tests

Structured by
audit area

Data: Best Practices (cont'd)

Data security and control

Adhere to enterprise security standards & protocol	Minimize extracts to local PCs
Secure server environments	Centralized repository control totals and reconciliations

Large Volumes of data

Processing on server environment	Only results returned to user
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Quality and Control: Issues

- Management, quality assurance & consistency of Analytic process
- Reliability of Analytic processes
- Documentation of audit steps & procedures

Quality and Control: Best Practices

Management and QA of the AA processes

Centralize
repository of AA
resources

Standardize
procedures
and tests

Enable insight into
overall quality &
consistency
of audits

Reliability of Analytic processes

- Leverage skill sets on the team to:

Establish data
access protocols

Create & review
test logic

Maintain security
over test access &
changes

Quality and Control: Best Practices (cont'd)

Documentation & Logging

Ensure audit steps
are documented

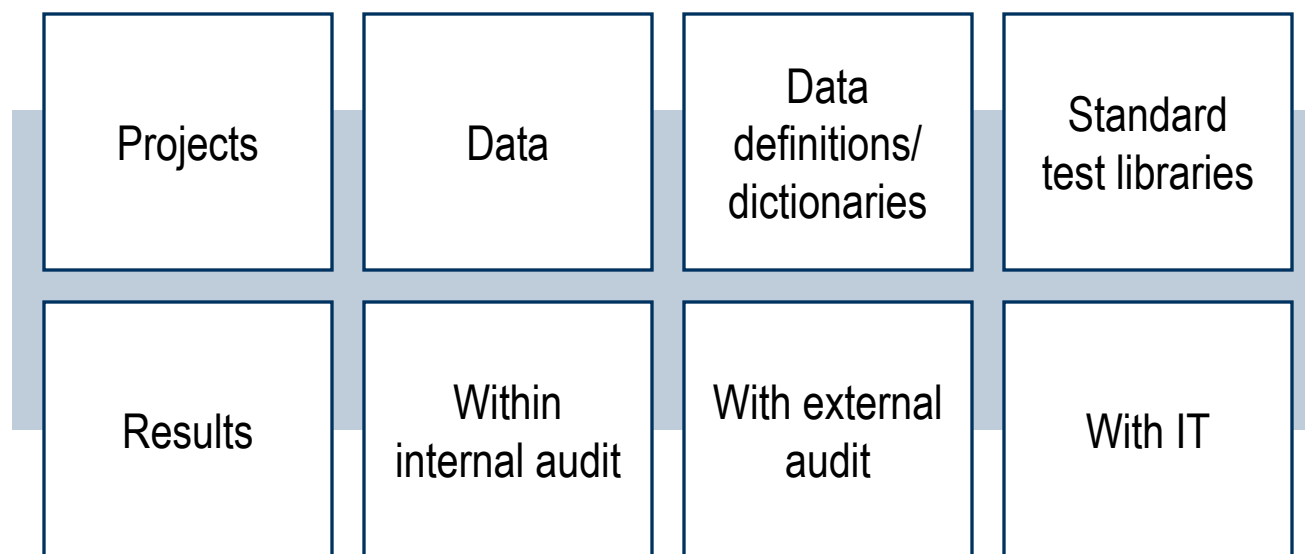
Use technology that
automatically
maintains an audit
trail/activity logs

Productivity of Audit Teams: Issues

- Sharing analytics knowledge and work
- Efficient and repeatable processes
- Effective use of resources and maximizing ROI

Productivity of Control & Audit Teams: Best Practices

Share knowledge & work:



Productivity of Control & Audit Teams: Best Practices (cont'd)

Efficiency & Repeatability:

- Optimized analytic processes

Standardized test
& procedures

Automate audit
tests wherever
possible

- Leverage technology

Servers

Data
accessibility

Large
volumes of
data

Productivity of control & Audit Teams: Best Practices (cont'd)

Optimize roles and resources:

Utilize skills of
every team
member

Minimize impact
of staff turnover

Ongoing
professional
development

Integrate and link:

Audit
working
papers

GRC
systems



A Well-Managed Analytics Environment

Collaborative and Efficient Environment

Manager

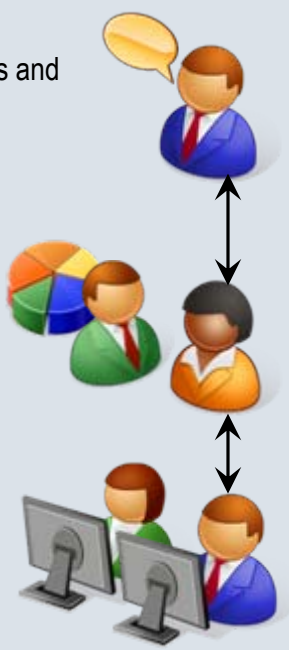
- Efficiently manages, oversees and reviews audit results

Auditors

- Ad Hoc Analysis
- Collaboration
- Task automation
- Standardized approach

IT Auditors & Data Specialists

- Establishes data access protocols
- Creates/distributes standard audit tests

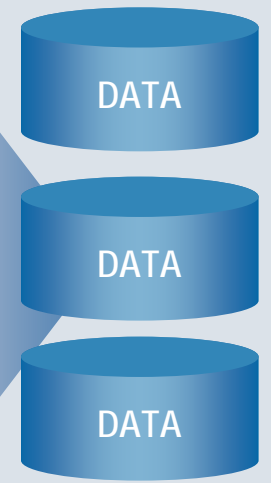


Secure IT Environment

Audit Analytic Server



- Data Definitions
- Standard Tests
- Analytical Results & Activity Logs



IT

- Unburdened by excessive data requests
- Confident in data integrity and security



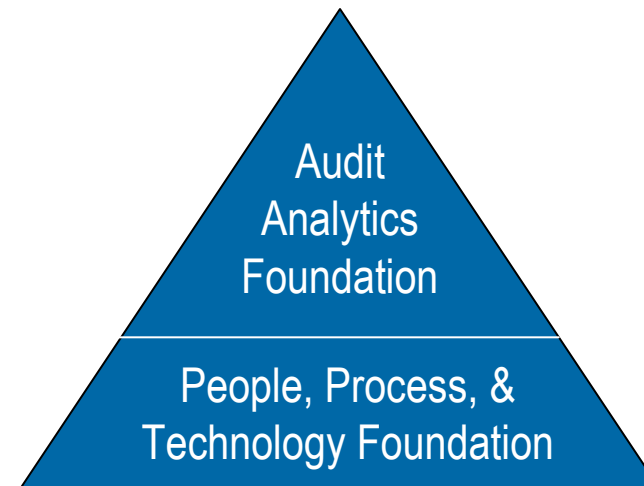
How Solid is your Control & Audit Analytics Foundation?

- How frequently does management cite compelling value?
- How dependent are you on a limited group of people?
- How many of your analytics have remained substantially unchanged since their development?
- What rate do you integrate analytics into new processes?
- What percentage of your auditors are effective at brainstorming where analytics can fit into their audits?
- What percentage of your senior management team would describe your analytics program as invaluable?

Foundation for Sustainable Analytics Process

- Create a Plan/Strategy
“Kick Start your AP Strategy:

- Benefits:
 - Quicker success (and ROI)
 - Enhanced sustainability
 - Longer-term self-sufficiency
 - Predictable quality
 - Greater value





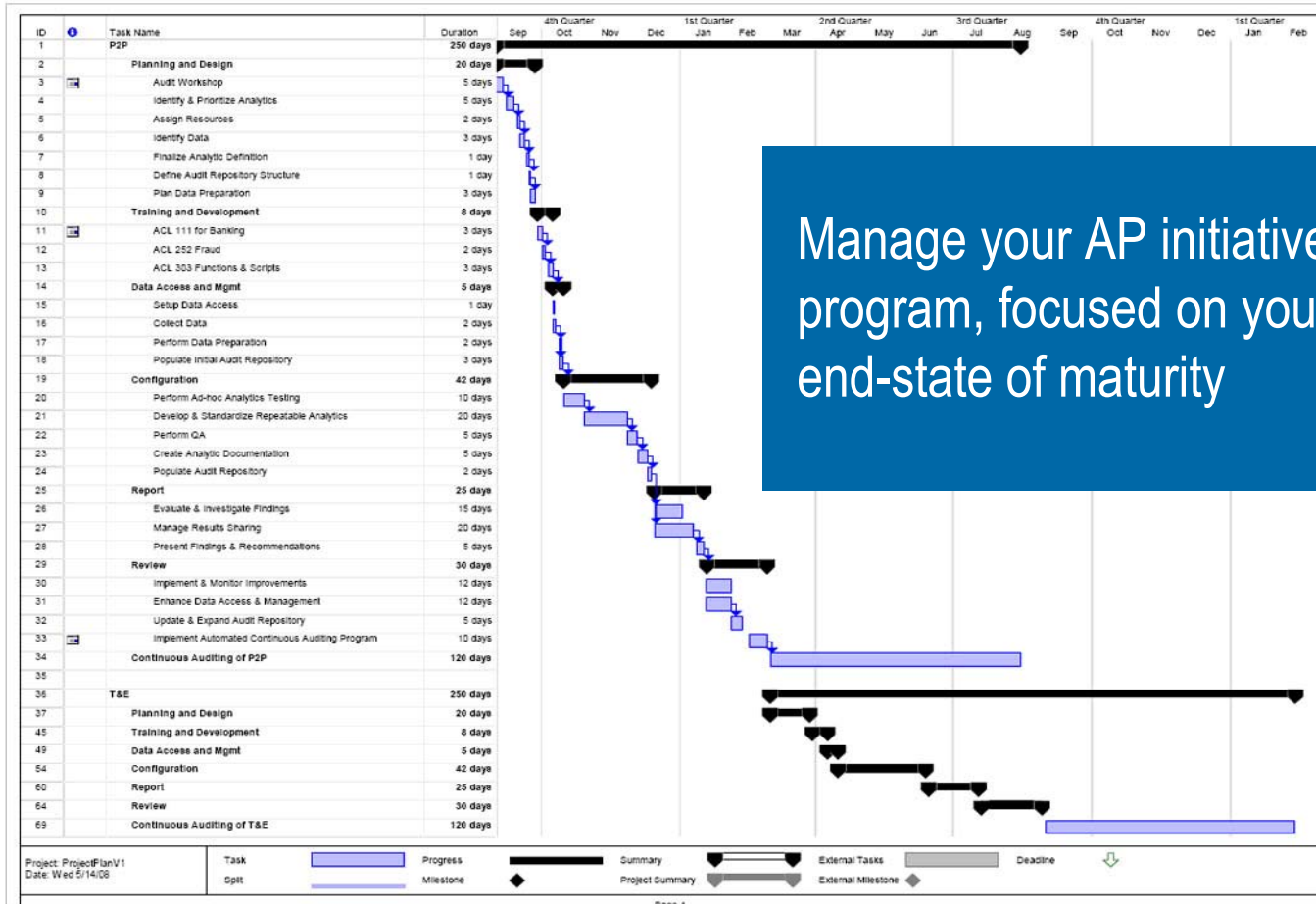
7 Steps to Analytics Best Practices

- Alignment
- Program Management
- Standards
- Roles and Responsibilities
- Repository
- Development
- Optimization and Evolution

Step 1: Alignment

- Align your overall analytics strategy with your goals.
- For example, during a recession:
 - Recover money
 - Stop revenue leakage
 - Identify waste, error, and abuse
 - Maximize resources

Step 2: Program Management



Step 3: Develop Standards

- Develop a uniform set of analytic practices and procedures across assessment functions
 - Data in repository confirmed as reconciled to source
 - Approved scripts within repository
 - Review and approval standards to confirm dependability of analysis results

Step 4: Assign Roles and Responsibilities

Assign responsibility for data management, quality assurance, and other key roles

**Audit Team
Manager**

**Chief Audit
Executive**

**Technical
Audit Specialist**

**Internal
Auditor**



Step 5: Department Repository

Management & Automation

- User access & rights
- Scheduling
- Search
- Administration
- Security

Audit Repository

Data

- General purpose data sets for multiple use
- Defined data sets for specific audit objectives
- Data dictionaries
- Data management & refresh
- Data access

Analytics

- Script Library
- Script documentation
- Test analytics/ scripts
- “Best Practices” documentation

Findings & Results

- File & artifact management
- Specific findings
- Logs & other documentation

Step 6: Continued Development

Treat training as a continuous process, measured by ongoing growth and continuous development of capabilities

Even the best of the best need a coach.



Aim for constant improvement through leveraged use of technology...as analytics evolve over time

A hand holding a black marker is drawing a jagged line that trends upwards from left to right. The line starts at a low point, rises to a peak, falls to a trough, rises to a higher peak, falls to a lower trough, and finally rises to a high peak with an arrowhead pointing towards the top right. The background is a blurred image of a person wearing glasses and a white shirt.

Step 7: Optimization and Evolution

Additional Thoughts

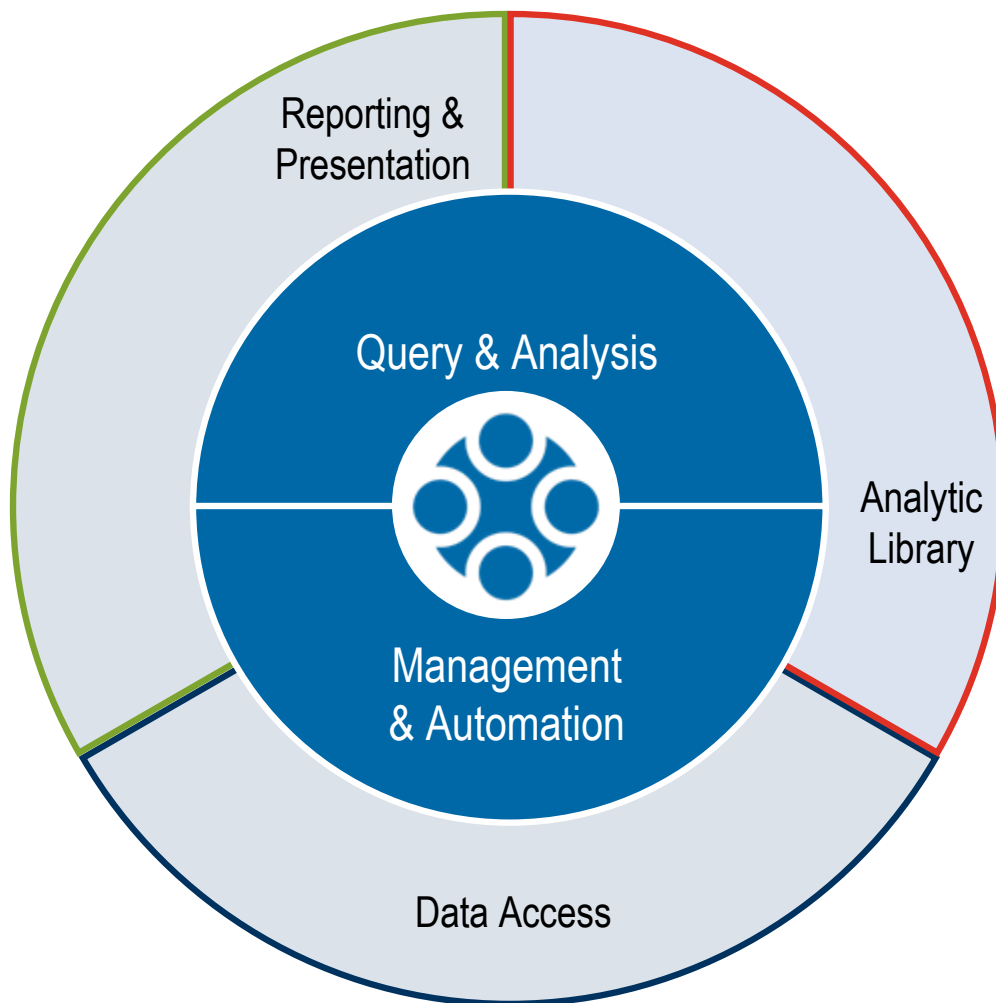
- Expect analytics to evolve over time

Knowledge gained from initial efforts will increase the effectiveness of future tests

As processes improve and findings become less prevalent, it's time to audit more creatively

- Quick, visible success garners management support (and additional resources)

Our Solution: ACL AuditExchange 2009



- **Query & Analysis**
 - In-depth analysis
 - Audit-specific commands
 - Logging
 - Scripting
- **Management & Automation**
 - Audit repository
 - User access & rights
 - Data security
 - Centralized processing & scripting
 - Continuous auditing & monitoring management
 - Configuration & management
- **Data Access**
 - Access, extract, transform, load
 - Specialized data connectors
- **Reporting & Presentation**
 - Audit findings in graphs or tables highlighting errors, anomalies, patterns and exceptions
- **Analytic Library**
 - Proven audit tests to address key business processes or specific audit objectives

Audit Repository – An Overview

Management & Automation

- User access & rights
- Scheduling
- Search
- Administration
- Security

Audit Repository

Data

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Analytics

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Findings & Results

- File & artifact management
- Specific findings
- Logs & other documentation

AuditExchange delivers:



Challenge

Solution

Productivity of the Audit Team
How to do more with the same resources?

- ✓ Complete more value-add audit tasks with the same staff
 - Audit tests, results and findings and other analytic information across the team can be stored, shared and re-used in the audit repository
- ✓ Develop a more productive team by automating critical analytic tasks

Data
How to secure direct and timely access to diverse data sources?

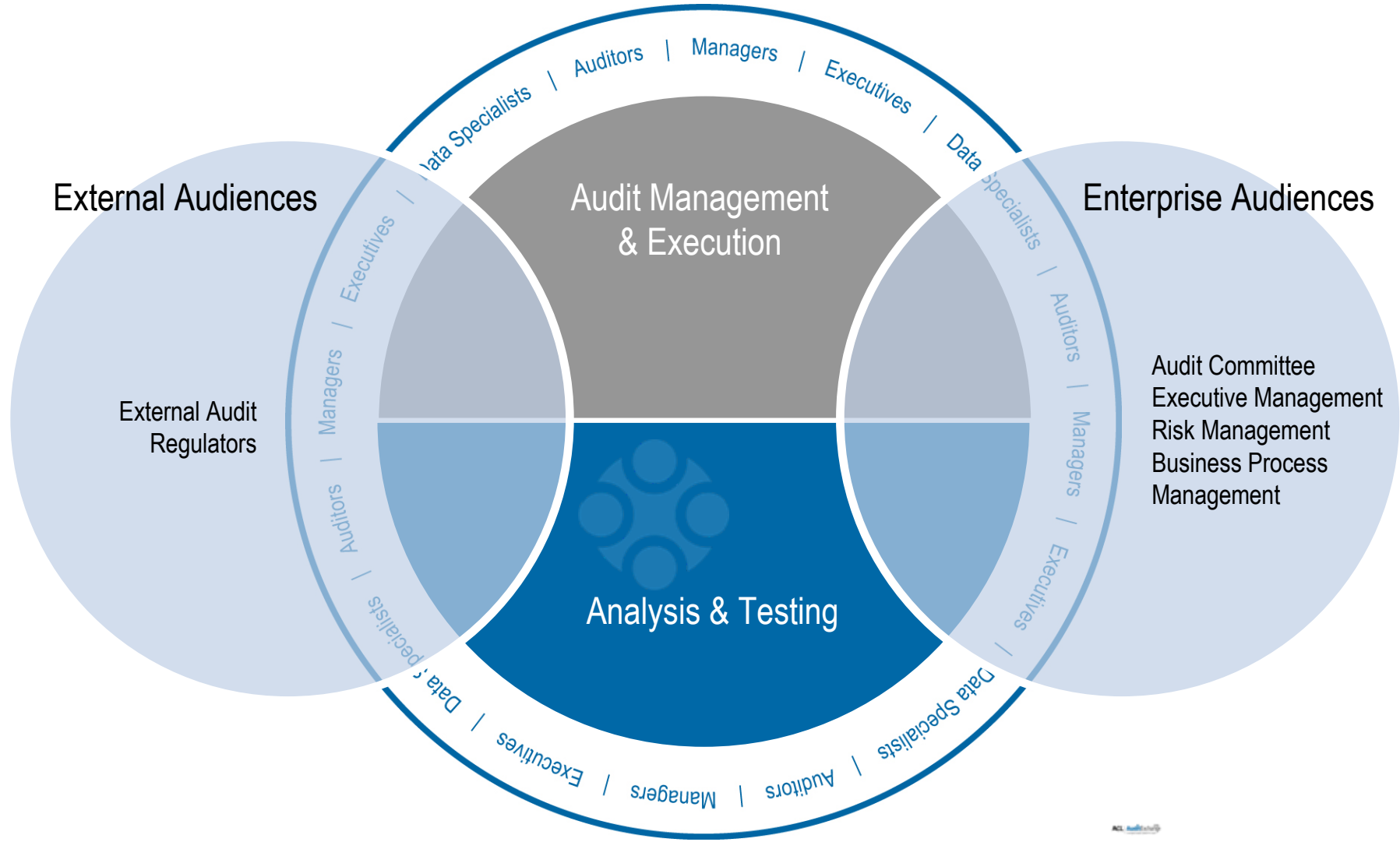
- ✓ Reach all data sources in the enterprise with market- leading ETL technology for deeper audit coverage
 - Extract, Transform and Load (ETL) technology allows you to bring data from a multitude of sources into the audit repository
 - From simple desktop data to ERP data to complex data sources

People and skills
How to realize the full potential of my team members?

- ✓ Capitalize on your team's strengths for consistent and quality audits
 - A desktop license for the entire audit team
 - Relevant capabilities for each team member
- ✓ Retain and capture your team's expertise and results even in the event of departmental change



Assurance & Insight for the Enterprise





- Preguntas y Respuestas



ACL[™] | **Audit**Exchange²⁰⁰⁹
a managed analytics platform for audit