KPMG

cutting through complexity

Using data analytics and continuous auditing for effective risk management

April 2014

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Agenda

- Current trends
- Common terminology of Data Analytics and CA/CM
- KPMG approach & observations
- How KPMG can help

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Current trends

Technology, data analytics and continuous auditing

- Convergence of Business Intelligence; IT-Governance, Risk & Compliance; and CA/CM tools and techniques.
- Increased interest in CA/CM techniques by financial services, healthcare/life sciences, and public sector due to expanding regulations.
- Enhancing risk assessment activities with quantitative information.
- Internal audit focus on building “repeatable and sustainable” analysis for meaningful reporting; not long lists of anomalies (using data analytics – ETL)
- Trend toward leveraging BI tools:
  - As part of monitoring of KPIs/KRIs;
  - For continuous risk assessment for audit planning purposes;
  - For profiling of populations to focus transaction analysis and testing.

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Common terminology

Definitions and characteristics of CA/CM & DA

Activity	Definition	Characteristics
Continuous Auditing (CA)	Collection of audit evidence and indicators by an auditor on information technology (IT) systems, processes, transactions, and controls on a frequent or continuous basis, throughout a given period.	▪ Third Line of Defense (i.e. assurance providers) ▪ Wide variety of organizational Data ▪ Not intended to become part of the internal control environment ▪ Process can also be used for Continuous Risk Assessment for dynamic audit planning purposes
Continuous Monitoring (CM)	Feedback mechanism (monitoring method) used by management to ensure that controls operate as designed and transactions process as prescribed.	▪ First and second lines of defense (i.e. business owners and standard setters respectively) ▪ Dynamic reporting with actionable output ▪ Responsibility of management ▪ Important component of the internal control structure ▪ Can provide automated controls and processes
Data Analytics	A process by which insights are extracted from operational, financial and other forms of electronic data internal or external to the organization.	These insights can be: historical, real-time or predictive and can also be risk-focused (e.g., controls effectiveness, fraud, waste, abuse, policy/regulatory non- compliance) or performance- focused (e.g., increased sales, decreased costs, improved profitability, etc.) and frequently provide the how? and why? answers to the initial "what?" questions often found in the information initially extracted from the data.

Definitions taken from KPMG LLP's *Continuous Auditing and Continuous Monitoring: Transforming Internal Audit and Management Monitoring to Create Value*, 2008

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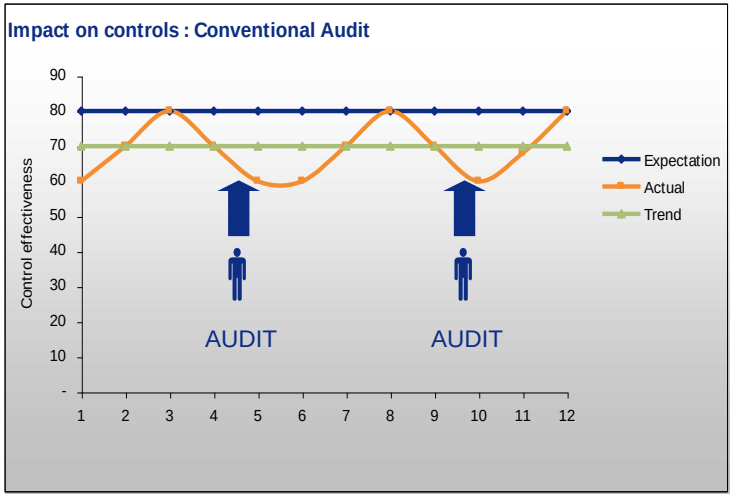
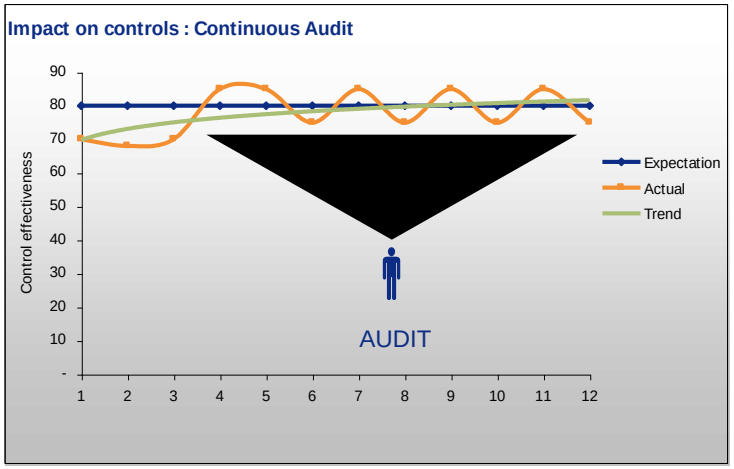
A change from the 'Conventional' audit approach

The potential benefits of a continuous audit can be illustrated by comparing it to conventional audit methods:



- Cyclical-based auditions, manual identification of control objectives
- Control effectiveness can improve after audit visits (when recommendations for improvements are performed)
- Sampling small percentage of population to measure control effectiveness and operational performance
- Time consuming data gathering may occur



- Testing is frequent and focused-controls and transactions are audited as they happen
- Control failures are detected immediately-Effectiveness of controls is maintained and monitored
- Improved alignment with the businesses
- Conventional audits can be planned using improved data quality
- With data analytics, organizations have the ability to review every transaction-not just a sampling-which enables a more efficient analysis on a greater scale

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Implementation Model

KPMG's CA/CM Implementation Model

- Understanding the organization's risk profile is fundamental to implement CA/CM. By assessing the risks, we are able to prioritize and direct resources to those areas that are most important to the business.
- CA/CM is not only about technology. We also consider the role of people (e.g., CA/CM resources, skills and knowledge, executive support for CA/CM, etc.), and existing processes (e.g., CA/CM strategies, training processes, reporting processes, etc.).
- Supporting a CA/CM implementation is our industry and functional knowledge. We leverage our understanding of industry specific risks and control weaknesses, as well as our understanding of the systems and processes of the organization to achieve an effective and efficient implementation.

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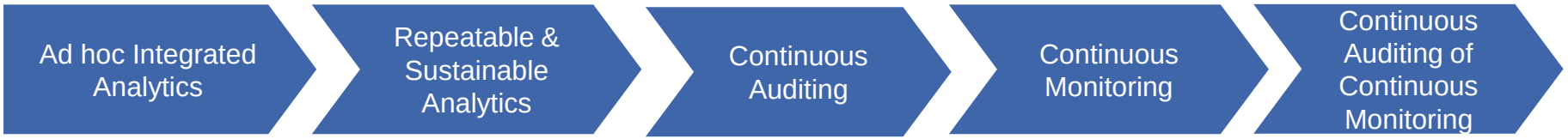
KPMG approach

Continuous auditing/monitoring maturity evolution



Common applications of data analytics in an internal audit environment

Less mature state		More mature state	
Audit moves toward "repeatable and sustainable" or expanded scopes	Audit leverages management's systems and tools to analyze data and to perform continuous risk assessment for “dynamic” audit planning purposes	Internal Audit department serves as the pilot for continuous monitoring systems on behalf of management	Tactical or “burning platform” issues drive also a CM initiative. Implementation of CM by management, frequently with the assistance of Internal Audit

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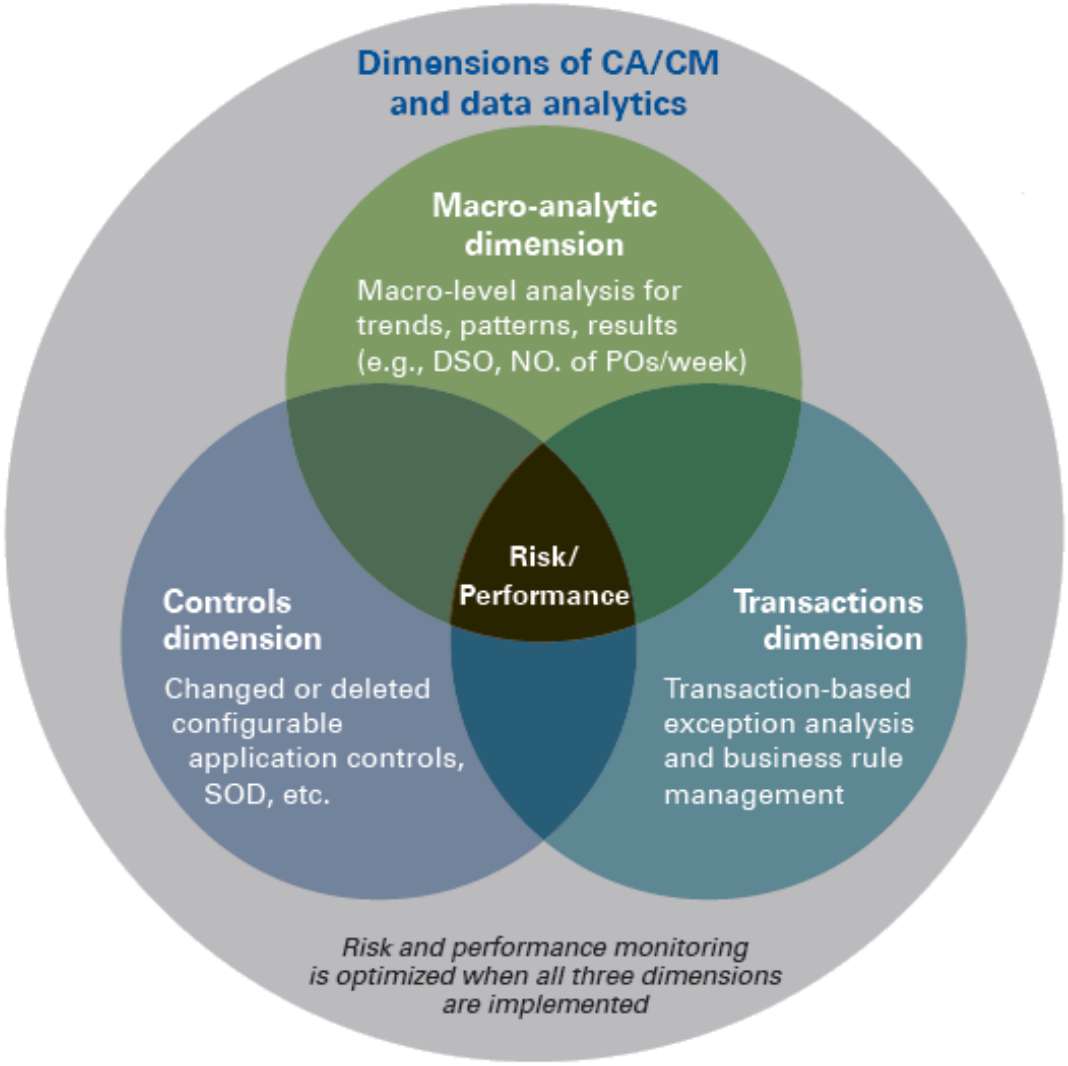
KPMG approach

Dimensions of continuous auditing and continuous monitoring



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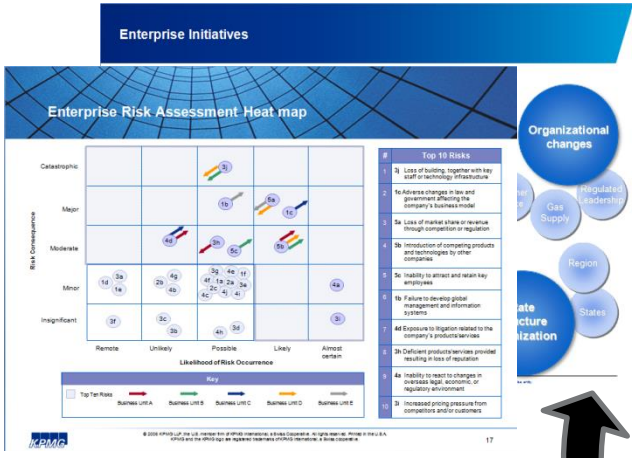
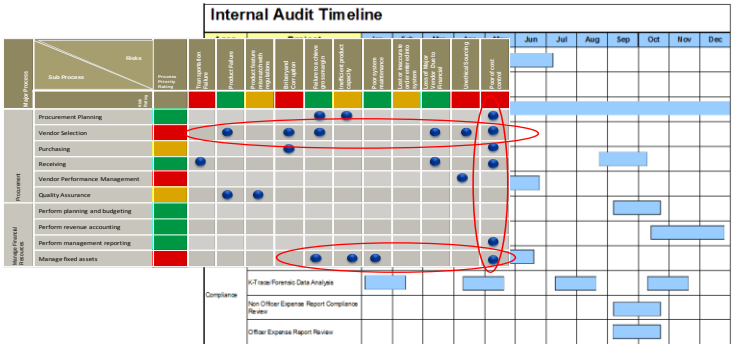
KPMG approach

Risk Assessment to verification of Risk Management

1. Continuous Risk Assessment



2. Dynamic Audit Planning

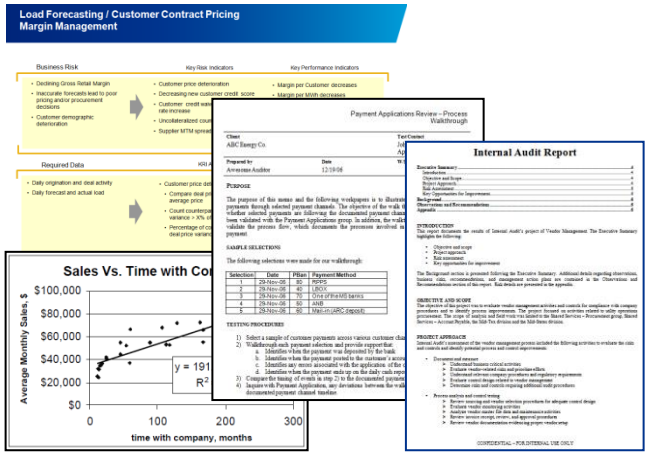


PLAN

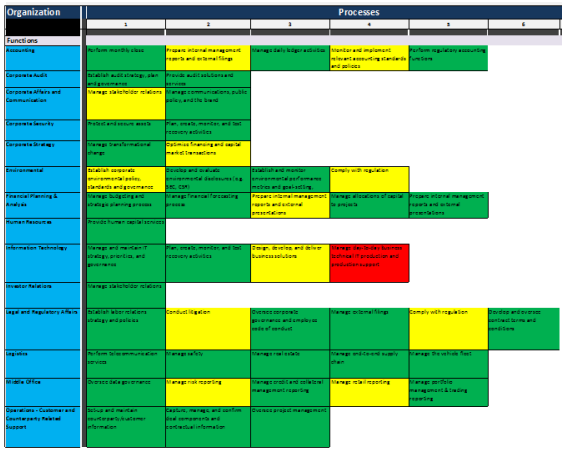
DO

CHECK

3. Audit Execution



4. Verification of Risk Management



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KPMG observations

Implementation challenges

General

- Establishing consensus on objectives and success criteria
- Measuring and demonstrating success
- Limited resources (technology and human know-how)

Data Analytics

- Definition of “exception;” addressing “false positives” and “false negatives”
- Workflow around exception resolution; managing volumes of exceptions

Data Availability and Quality

- Lack of access to data
- Variety of disparate information systems with different data formats
- Incomplete data sets, inconsistent data quality

Change Management

- Managing impact of CA/DA processes on auditors and other business processes

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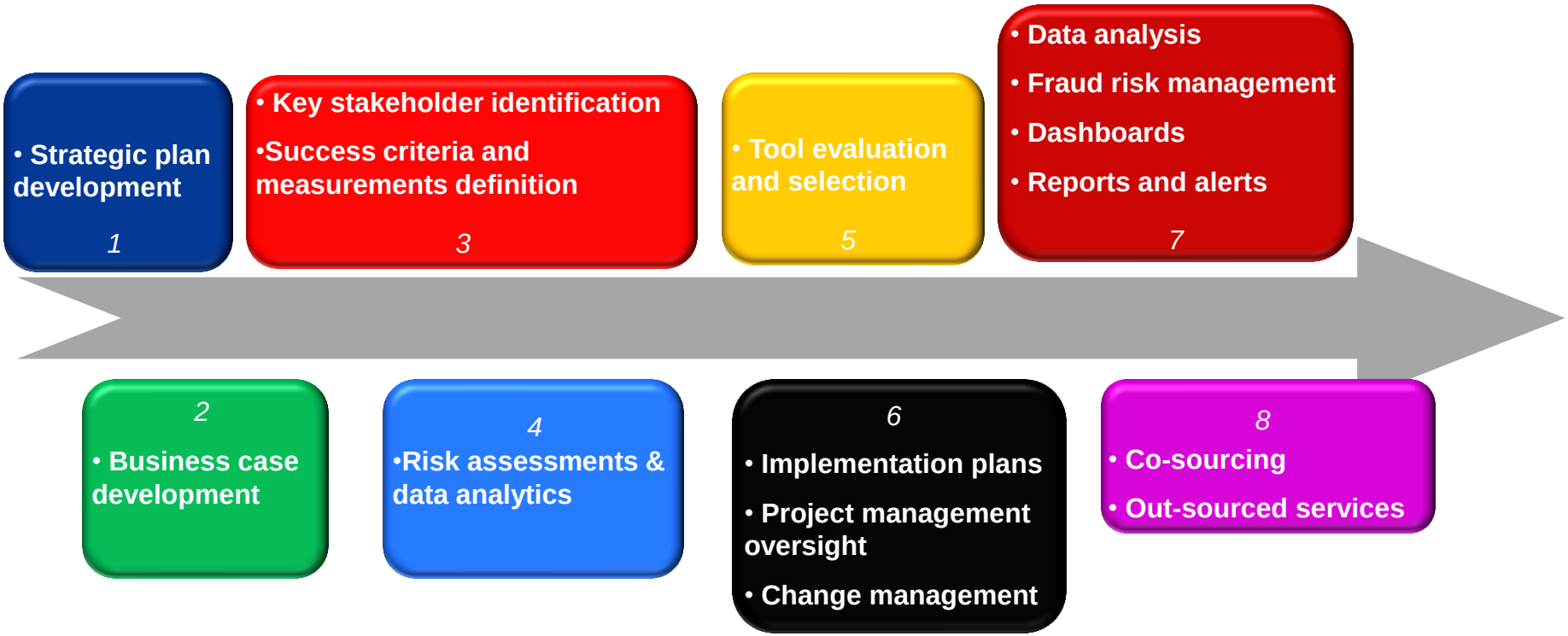
How KPMG can help

Implementation assistance



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Implementation assistance

- **Develop a Strategic Plan**
  - **Define the objectives you are trying to achieve**
    - Leverage CA to Enhance the Audit Planning Risk Assessment Process
    - Increase Efficiency and Effectiveness in the Audit Process (e.g. use CA to focus on traditional areas of risk (e.g., Journal Entries; Order-to-Cash; P2P; Payroll; etc.)
  - **Identify key stakeholders and define the success criteria and related measurements**
    - Consider stakeholder needs for business performance and risks
    - Agree on measures to define continuous auditing success (e.g. Quantitative factors like hours, number of audits and qualitative factors like enhanced governance and auditee satisfaction)
  - **Build an effective business case**
    - Identify risks not adequately covered
    - Align with business objectives for initial wins and momentum
    - Potential of continuous auditing and monitoring for the business

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Implementation assistance

- **Develop Tactical Plans**
  - **Design governance and reporting structure for continuous auditing activities**
    - Define owners and responsibilities for internal audit, IT and business
    - Establish communication plans and schedules
    - Determine Audit Committee reporting, as appropriate
  - **Evaluate data analytic skills and competencies**
    - Compare existing skills with necessary skills
    - Evaluate short-term and long-term required skills
  - **Integrate data analysis into IA methodology and processes**
    - Consider opportunities to replace traditional procedures
    - Assess the impact of changes on audit delivery and personnel
  - **Evaluate and select technology tools**
    - Identify and evaluate tools that will meet department requirements
    - Assist with understanding pricing and licensing scenarios

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Implementation assistance

- **Design and Execute Implementation Plans**
  - Manage organizational change (internal to Internal Audit and business-facing change
  - Design and deliver trainings
  - Indentify focus areas for implementation of CA to satisfy strategic objectives
  - Design and establish data connection/ extract, analysis, and reporting mechanisms including risk and performance-based analytics, dashboards, scorecards, reports and alerts, etc.

- **Evaluation of Existing Continuous Auditing Processes**

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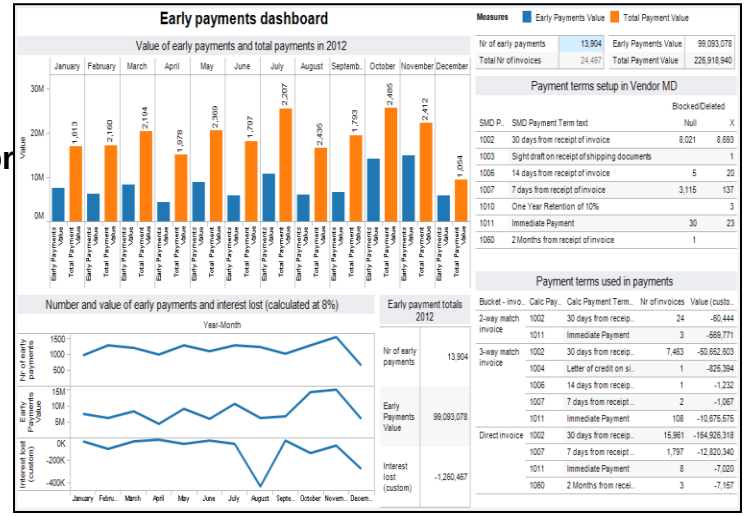
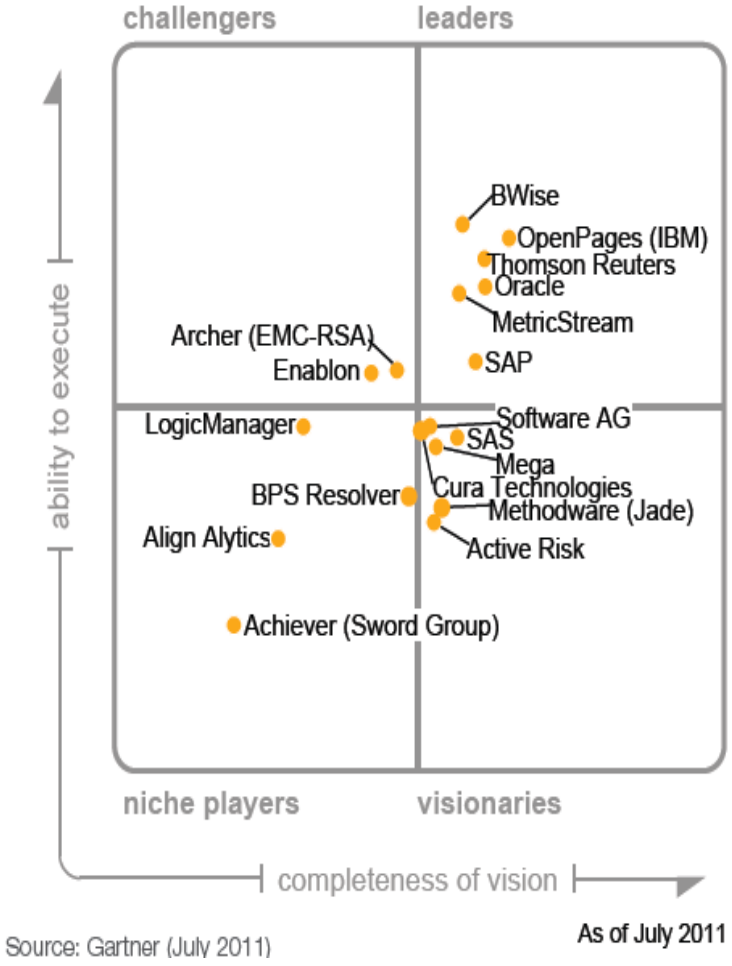
KPMG's technology tools and services

- F2V
- K-Proctor
- K-Dat
- K-SoD



Commercial Products



Source: Gartner (July 2011)

As of July 2011

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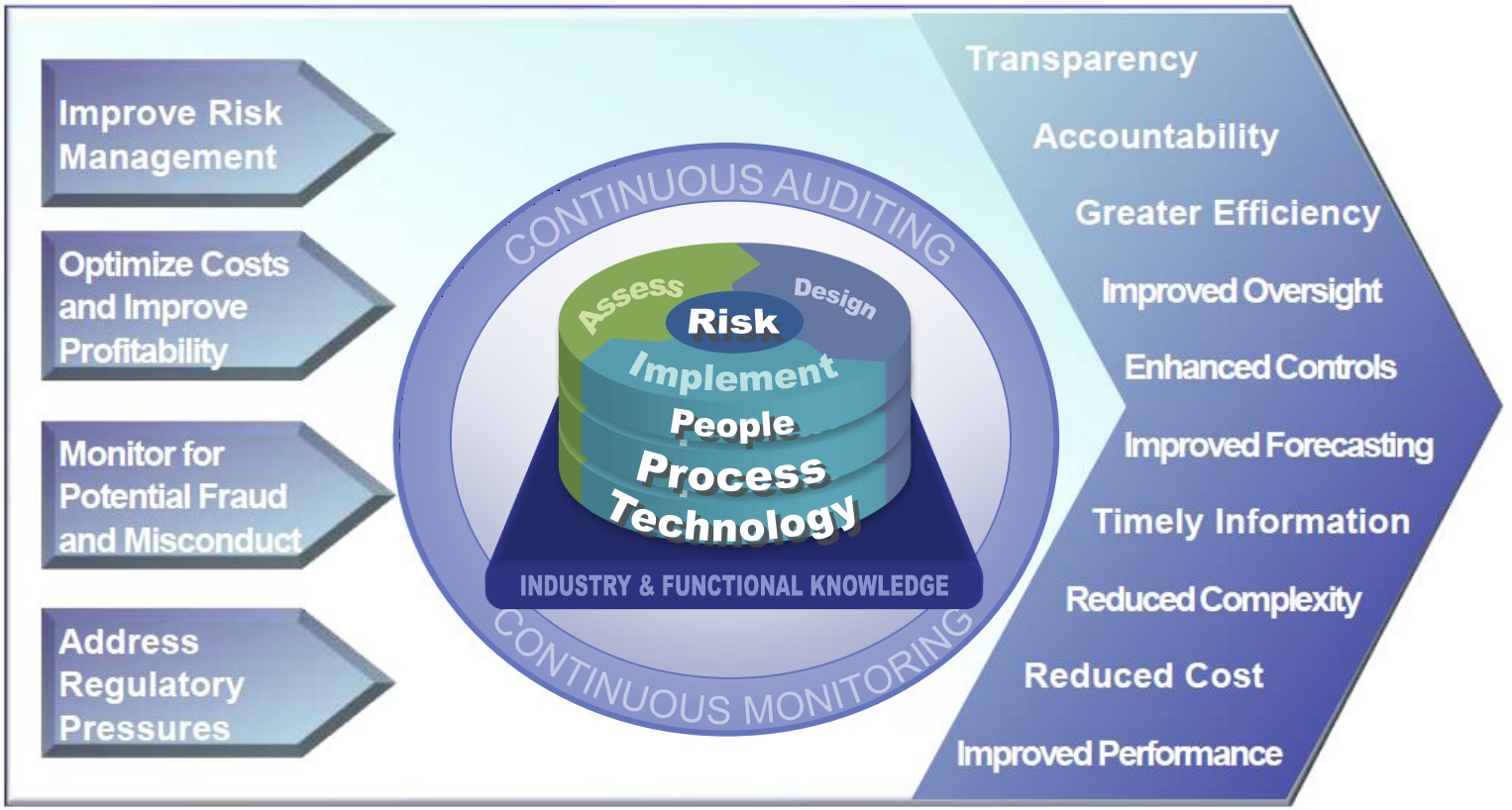
Closing remarks

Using DA & CA/CM for effective risk management



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Thank you

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