

Compliance & Analytics-A View from the C-Suite

2016 FERF research: **Data Analytics and Financial Compliance:** *How Technology is Changing Audit and Business Systems*

Rutgers University November 2016

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Former CFO, CEO & Director; Audit Com Chair

Senior Fellow Rutgers University CA&R Lab

Senior Advisor and Investor Tech companies

GRC to CEO career progression

- Ernst & Young – CPA (1970-80)
- Phelps Dodge – (1980 -88) CAE;VP;CIO
- **IS Control Journal (87-07)**
- **Speaker/author - Managing the Audit**
- BDO – (1989-92)IT Audit & IA Services
- **Senior Fellow Rutgers U -CA&R Lab**
- Etienne Aigner, Inc. (92 -04)CFO – CEO
- Financial Exec Intl (07-8) CEO
- **FEI Committee on Finance & Tech**

My Focus on CM and Analytics

Senior Advisor and Investor – Analytics
focused Tech Companies

Active with FEI CFIT committee; ISACA;
Rutgers CAR LAB AB

- Research, articles, Keynote's
- My themes – expansion of analytics, CA and CM in business
- Good timing since 2005 – now we are in the
“Golden Age of Analytics!”

I learned: CA-CM is a Process

CM is a process & foundation technology

- Process - it can be manual; or automated
- CM does not have to be continuous
- It is often a tool – like EXCEL; once used you will expand the usage
- It is rapidly evolving IE: WATSON: IOT; Visualization

C-Suite's Point of View - GRC

- Overarching Issue of Corporate Governance, (reason for IC & audit)
 - Capital Formation & Cost of Capital
 - Need to safeguard assets, revenue, profit
- Business managers like- Free Enterprise
 - Have to find and growth Profits & ROI
- Don't like - Overhead IE: any drag on ROI i.e.: Government Regulation

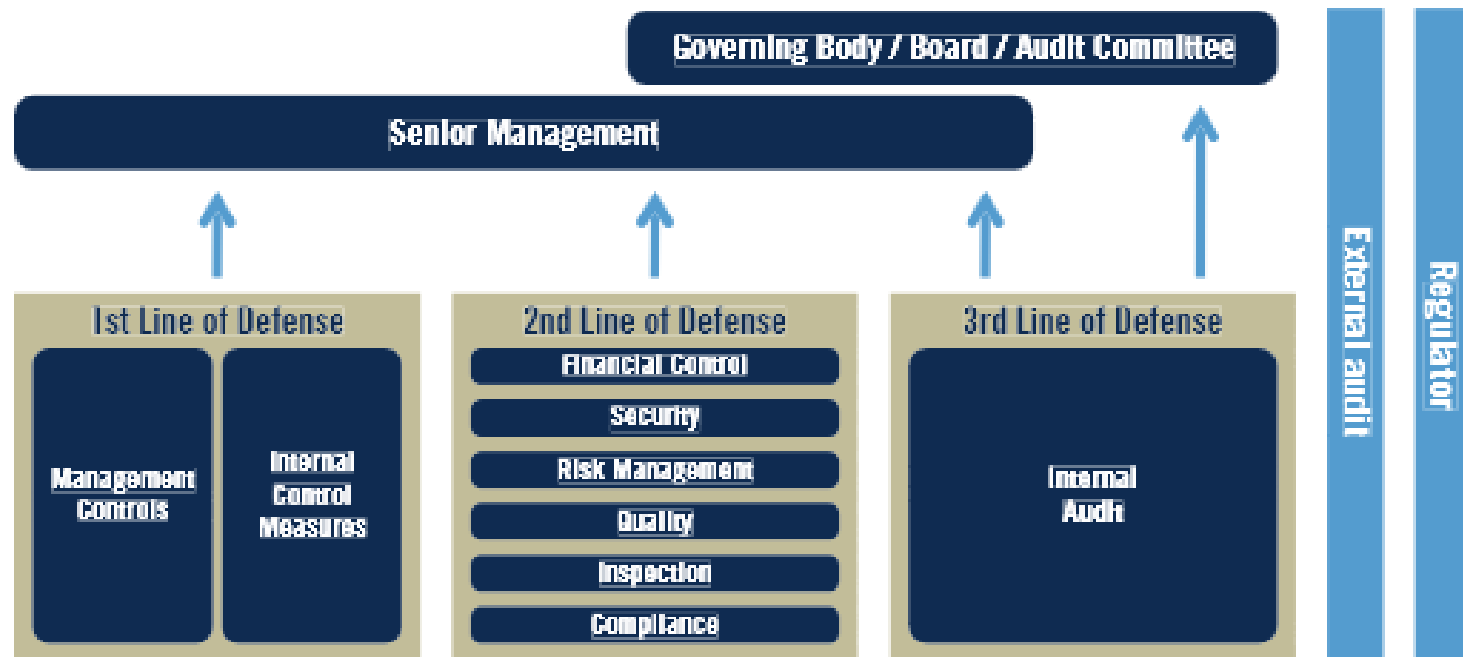
Audit vs Management Conundrum

Many surveys of company management say they want more from internal audit.

- IIA survey data, “8 out of 10 CAEs (Chief Audit Executives) worldwide believe **assurance of internal controls** is one of the top ways to add value.”
- And only 5 out of 10 CAEs say **business improvement** demonstrates internal audit is adding value

The Three Lines of Defense Model

The Three Lines of Defense Model



Adapted from ECIIA/FERMA Guidance on the 8th EU Company Law Directive, article 41

Audit-Management Conundrum

- Internal & External audit are in a good position to not only use tech but also to recommend and be involved with the expanded use of continuous monitoring and analytics by finance and operations
- Alternative – continued subornation of assurance to first and second lines of defense

FERF Research Project - 2016

Financial Compliance: *How Technology is Changing Audit and Business Systems*

reflects the CFO/Controller concerns:

- GRC costs growth and need for coordination of work performed by IA, compliance departments and external audit

FEI Audit Fee Surveys

Median increase in audit fees for all SEC filers 2014 and 2015:

- 3.4% & 3.2%
- If ineffective IC for them the median increase was 6.4% & 5.1%)
 - Top reason for increases: reviews of manual controls from PCAOB Inspections (40%) and other PCAOB issues (46%)
- Total compliance or audit costs pre sox 2002 compared to 2015 – up 100% +

Can Audits be More Effective?

Recent FEI CFIT and CGRC Discussions:

- The cost of compliance is growing and financial executives question the effectiveness of internal control audits
- PCAOB inspections are challenging for PAs
- Audit Firms are exploring/expanding use of “cutting-edge technologies” (WSJ 3-8-16)
 - Auditing standards were written before today’s technologies were invented

PA Interest in Analytics & PCAOB

THE WALL STREET JOURNAL.

Tuesday, March 8, 2016 | B5

WSJ 3/8/2016

CFO JOURNAL.

Auditors Count On Tech for Backup

By MICHAEL RAPOPORT

KPMG LLP will soon have a new assistant to help it examine corporate America's books: Watson.

The auditing firm is forming an alliance with International Business Machines Corp.'s IBM Watson artificial-intelligence unit to develop high-tech tools for auditing and its other businesses. The deal is expected to be announced Tuesday.

Other auditing firms also are enlisting cutting-edge technology to help them review their clients' finances. Deloitte & Touche LLP has its Argus and Optix. And Ernst & Young LLP and PricewaterhouseCoopers LLP have their own smart tools.

The Big Four are pouring hundreds of millions of dollars into new technologies, betting they will make audits more comprehensive, giving investors greater assurance that a company's finances are sound.

The new tools automate critical but rote tasks, letting auditors focus on more substantive issues. The tools can examine all of a client's transactions, instead of just a sample, reducing the chances of missing a problem, the firms say. They also make auditors better able to detect patterns in a client's finances worth investigating for errors or fraud.

Terms of KPMG's deal with IBM aren't being disclosed.



HEATH HINE/CORBIS

develop its technologies, which it began using last year.

Among other benefits, the technology helps automate labor-intensive tasks, such as tallying inventory. Until a few years ago, auditors did that manually, armed with little but calculators and clipboards.

Not only can computers re-

and Optix, a data-analytics engine that sorts a client's data and points auditors toward potential problems.

Deloitte's auditors could use the tool, for example, to chart all of a real-estate company's properties by their performance. A demonstration for a visitor showed Florida with

unit's transactions in less time and helped shave 25% off the audit's cost, Mr. Entricken said. Wolters hopes to expand the software's use next year.

That doesn't mean everything is guaranteed to go smoothly. The new technology will cause disruption, spurring changes in the skills that audi-

2013, prior to widespread use of the new technology.

The PCAOB is "keenly interested" in technology's potential to improve audits, said chairman James Doty. But he warned that auditors would have to ensure it "does not diminish auditor skepticism and independence."

The firms say auditors won't

The Big Number

68.6

SEC's score out of a possible 100 in a survey on workplace satisfaction

The Securities and Exchange Commission is becoming a nicer place to work, according to its employees.

The SEC scored an above-average 68.6 out of 100 in a 2015 ranking of workplace satisfaction at federal agencies, up five points from 2014, when the commission earned a below-average 63.6. Last year's score landed the SEC in 10th place among 24 midsize agencies.

The ranking was prepared by the Partnership for Public Service a nonprofit that seeks to improve government efficiency. It reflects the input of 433,300 civil servants at 391 agencies.

"It's about leadership," said Max Stier, the group's president. "Employees are going to stay engaged with leadership, even if it's a challenging environment."

Though SEC Chairwoman Mary Jo White is engaged with employees, Mr. Stier said, previous agency leaders weren't.

The Federal Deposit Insurance Corp., at 81.1, was the top scorer among midsize agencies. [Former FDIC Chairwoman] Sheila Bair turned around the FDIC in terms of workplace satisfaction, Mr. Stier said. SEC and FDIC repre-

Data Analytics and Financial Compliance: *How Technology is Changing Audit and Business Systems*

- Research objective:
- Are auditors are making effective use of technologies available – including the status of their use of automated monitoring and analytics
- Identify leaders in use of automated monitoring and analytics

Note: This builds on 2011 FERF research report “The Benefits of Continuous Monitoring”

FERF Research -Research Interviews

- Internal Auditors
- External Auditors
- AICPA - Amy
- Call with PCAOB
- Analytics Vendors with focus on GRC

Note: Missing Finance and Operations ie:
second line of Defense however mentioned by
IA and PA (Research Opportunity)

Internal Auditors' Use of Analytics

Research Highlights:

- Audit quality is the primary goal
- Detection of duplicate payments is easy and valuable (same finding since 2011 FERF)
- Analytics can be used to identify risks
- Some internal auditors want to partner with the business; others are concerned with independence
- There are staffing challenges

Shaw Industries - Berkshire Hathaway

- \$ 4 Billion carpet manufacturing
- CAE reports to VP-Finance
- Automated approach – started with Oversight Systems in P2P, added T&E, P card and most recent FCPA
- Solved problems with data formats and learning scripts – Page 8 last paragraph
- ACL for other ad hoc analytics

Shaw Industries Berkshire Hathaway

Partnered with Business

- Analytics process becomes part of the company's system of IC and
- Is seen as delivering value to the business and
- A very efficient cost effective approach
- Only 4 audit staff

Campbell Soup

- Interest by company supply chain group in looking at complex disparate data
- IA worked with them to use Smart Exporter and connect directly to SAP database and analyze large data sets in IDEA
- Used analytics in disbursement – found cash recoveries and frauds

Dow Chemical and Starwoods Hotels

- Dow Chemical- Improving audit quality and confidence in conclusions by doing **full populations**
- Starwood Hotels- transactional analytics to **identify anomalous transactions in full populations** and to identify possible fraud; look for locations with unusual financial matrices; and **created for the business a balance sheet analytics tool**

IA & External Audit Opportunity -- CM

- Further tangential opportunity for IA & EA to recommend even more CM to improve IC systems to Management ,1st line of defense, and compliance departments, 2nd line of defense (Cangemi EDPACS 2010) Tools: i.e.: CaseWare, ACL, Oversight, Microsoft etc.
- Then build independent CA application on top – strengthening the 3rd line of defense.

External Auditors' Use of Analytics

Research Highlights:

- Audit quality is the primary goal
- Delivering business insights is a secondary goal
- Efficiency is a third goal
- Audit firms need to differentiate themselves
and here again ---
- There is a talent shortage

Audit Quality

“We want to deliver a higher-quality audit, and that has been central to our audit transformation program.”

“We think that there is a better way to do it, by using data and analytics more effectively.”

Roshan Ramlukan

Ernst & Young

Business Insights

“You have a greater ability to learn things about your client and their business and how they do their business in a more efficient way.”

Craig Sharples
PwC

Differentiation

“The use of data and analytics are merely enablers to transforming the audit.”

“Technology and innovation are being used by the profession as a key differentiator in delivering audit services.”

Roshan Ramlukan

Ernst & Young

The Talent Shortage

“As we evolve into this data-enabled world, the occupation that we call the **data scientist** today didn't exist five years ago.”

“There is a talent shortage out there, and everybody's trying to hire them and develop them.”

Craig Sharples

PwC

PA Firms issues with expanding use of analytics

AICPA

- There are Issues with data access
 - AICPA Audit Data Standard Project
- Issues with auditing standards – **currently need to follow up on all identified exceptions**
- Many firm **partners fear PCAOB review** – do it the old fashion way!!

PCAOB

- Briefing call not an interview
- They are meeting with firms and monitoring

Analytics Vendors

Many software solutions are available with analytics: some generalized and some with a specific focus: Visualization, BI, Data Mining

FERF interviewed three with GRC focus:

- Oversight Systems: Insights on Demand
- ACL
- CaseWare Analytics

Analytics Vendors

Research Highlights:

- Data Analytics solutions provide a means to replace sampling
- Close the loop- find a problem, make a change, prevent the next incident
- Analytics are part of **a process**, look at the outputs, measure them, appraise them and make corrections and **systemic improvements**

Analytics Vendors

- “We apply analytics to business process as a closed loop control... for many analytical problems you are dealing with gray”

Patrick Taylor- Oversight Systems

- “The most impressive thing we are doing with Analytics is closing the loop” referring to AML software that completes required AML reports

Andrew Simpson - CaseWare

Analytics Vendors

Customer drivers:

- Regulatory compliance – some require review of every transaction
- Monitoring should be done by the business, as well as, internal audit (and compliance departments)
- Analytics customers look for hard-dollar recoveries or savings

80% of SOX compliance can be automated with analytics

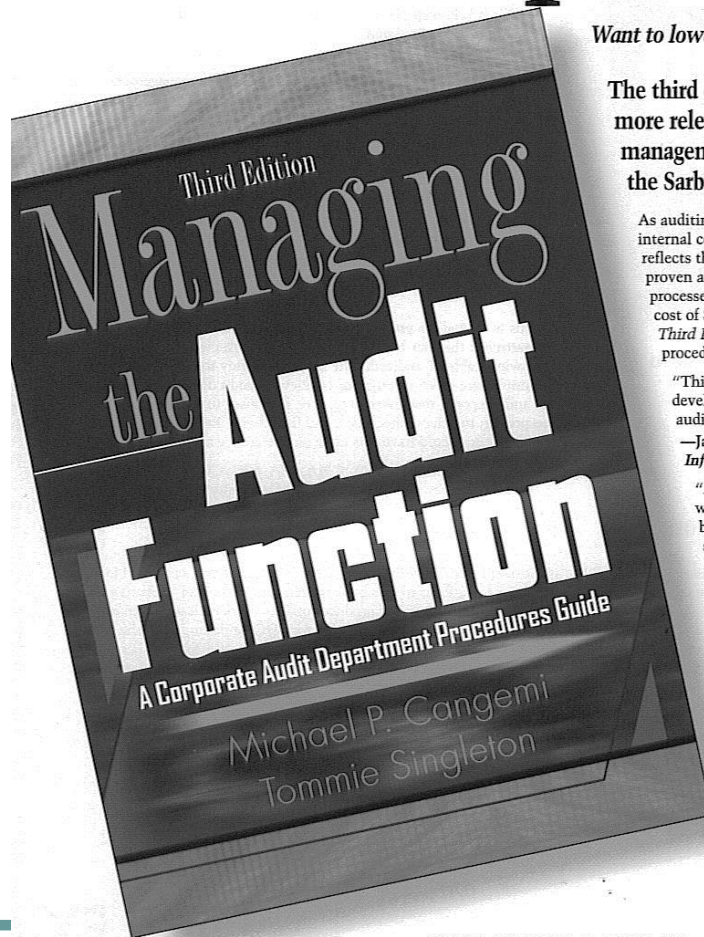
Dan Zitting ACL

Staffing Challenge

Our interviews revealed a number of issues related to staffing for automated audits.

- **Internal & PA audit need people who:**
 - Know how to audit,
 - Understand work processes, and
 - Have expertise in technology or an interest in learning to use new software solutions.

A blueprint for running your internal audit department.



Want to lower the cost of the Sarbanes-Oxley Act of 2002?

The third edition of *Managing the Audit Function* is more relevant than ever! It provides a proven audit management methodology which will help address the Sarbanes-Oxley Act of 2002.

As auditing shifts from an outsourced function to a cornerstone of internal control, audit directors need an updated methodology that reflects the radical changes to the internal audit profession. This proven audit management methodology will establish efficient processes for conducting successful audits and thereby reduce the cost of Sarbanes-Oxley compliance. *Managing the Audit Function, Third Edition*, provides a blueprint for the creation of an effective procedures manual for an internal audit department.

"This procedures manual has taken away the drudgery of developing procedures and produced a method for an internal audit department to remain effective and contemporary."

—Janine McMinn & Martin Simon
Information Systems Control Journal

"Although it's unlikely that any internal audit department will implement every recommendation presented in the book, the wealth of information provided enables readers to select appropriate material to improve the administration and operation of their department."

—Jimmy D. Salvor, AuditWire
Institute of Internal Auditors

"Cangemi and Singleton make a very strong case for the development of a rigorous internal control system, providing useful examples of governing policies that could be tailored to an organization's policy."

—Bill Laib, *New Perspectives* (Winter 2004)

Chinese Edition:

Managing the Audit Function was translated and published in the Chinese language in 2005!

ISBN: 0-471-28119-0, April 2003, 384 pages, \$60.00

Available wherever books are sold.

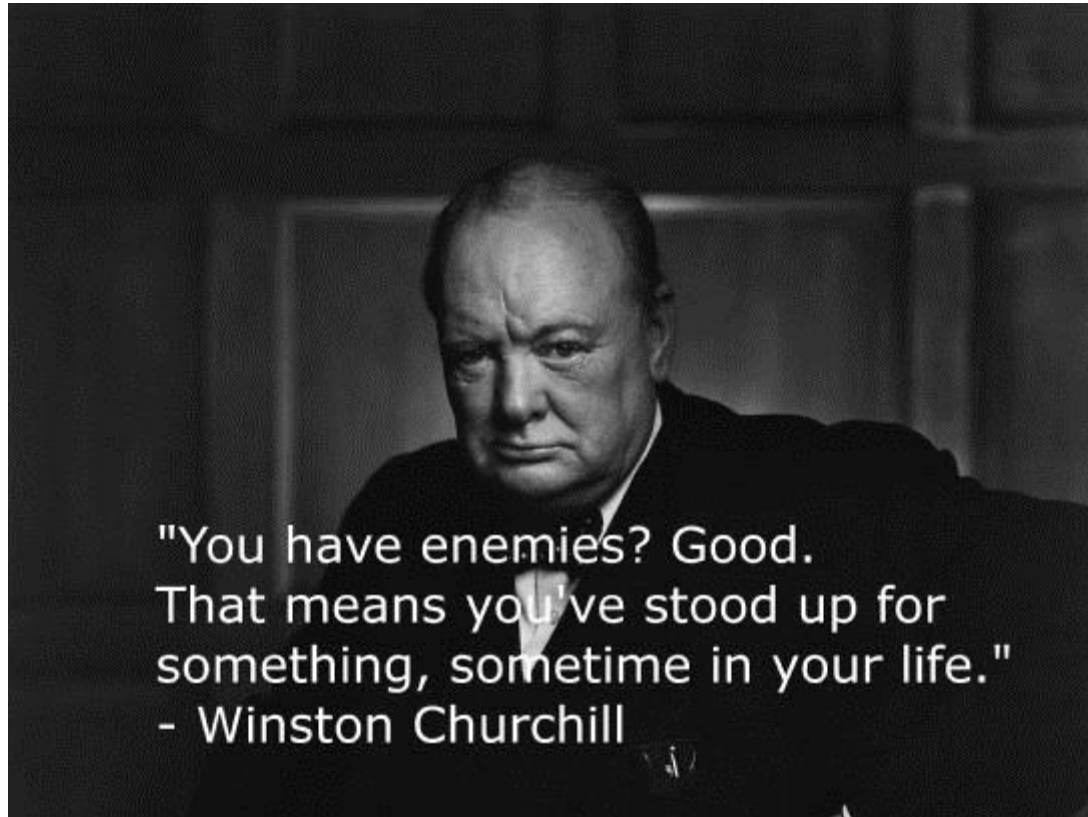
Volume discounts are available when you order 10 or more copies. Please email stesta@wiley.com for more information.

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Challenges to expanding the use of Tech by IA

- IA foundation skills are in accounting and auditing – need more tech focus
- Capital to invest – **you need to fight for it**
- Other priorities – time restrictions.
- **Need for creativity skills and vision.**
- Need to take risks - IT implementations do not always work out
- **Need to add value to the business**

Leadership -- Risk taking



The Future of Analytics

Research Highlights:

- Audits of the future will look very different
 - For PA firms audit standards and PCAOB must evolve
- Machine learning and artificial intelligence will eliminate manual work
- Robotic Process Automation will be used for routine audit work
- Benchmarking with industry data – Shaw Ind & Oversight

The old audit model will evolve

- Technology and real time data will force a change
 - Confirmation.com
 - SEC Robo-COP
 - Real time multi company audit
 - Rutgers Univ –Coney presentation
 - Video & Contextual Analytics – Solink
 - Real time verification - Blockchain

Digital Money and Auditing

- Bitcoin operates on the Blockchain ledgers
 - Blocks are ledgers
 - Chains- unique secure hash algorithms
 - Globally Distributed Network -secured
- Peer to Peer transactions with real time verification – 2015 still not tested
- 2016 main stream of business tests
 - JP Morgan, NASDAQ, State of Delaware

Recent Article & Keynote's

Summary of what I learned & suggest:

- **Tech Trends and Analytics Keynotes:**
 - May 2015 AICPA,
 - Nov 2015 UK ACE Conf, London;
 - May 2016 IDEA User Conference
- **Views on Internal Audit, Internal Controls, and Internal Audit's Use of Technology"**
by Michael Cangemi published in EDPACS
January 2016

Barriers to automation



Questions – Thank you for listening !!



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