



The Future of Auditing – changes ahead

World Conference on Continuous Auditing

University of Sao Paulo

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Bill Titera, Ernst & Young,



**Audit technology has not
kept pace with advances in
other industries**

Environmental realities

- ▶ **Data acquisition is a challenge**
 - ▶ No common data standards
 - ▶ Not a repeatable process
 - ▶ Finance & IT live in different worlds

Environmental realities

- ▶ **Data acquisition process is a challenge**
- ▶ **Audit standards evolve slowly**
 - ▶ Regulatory driven, compliance orientation is not conducive to change

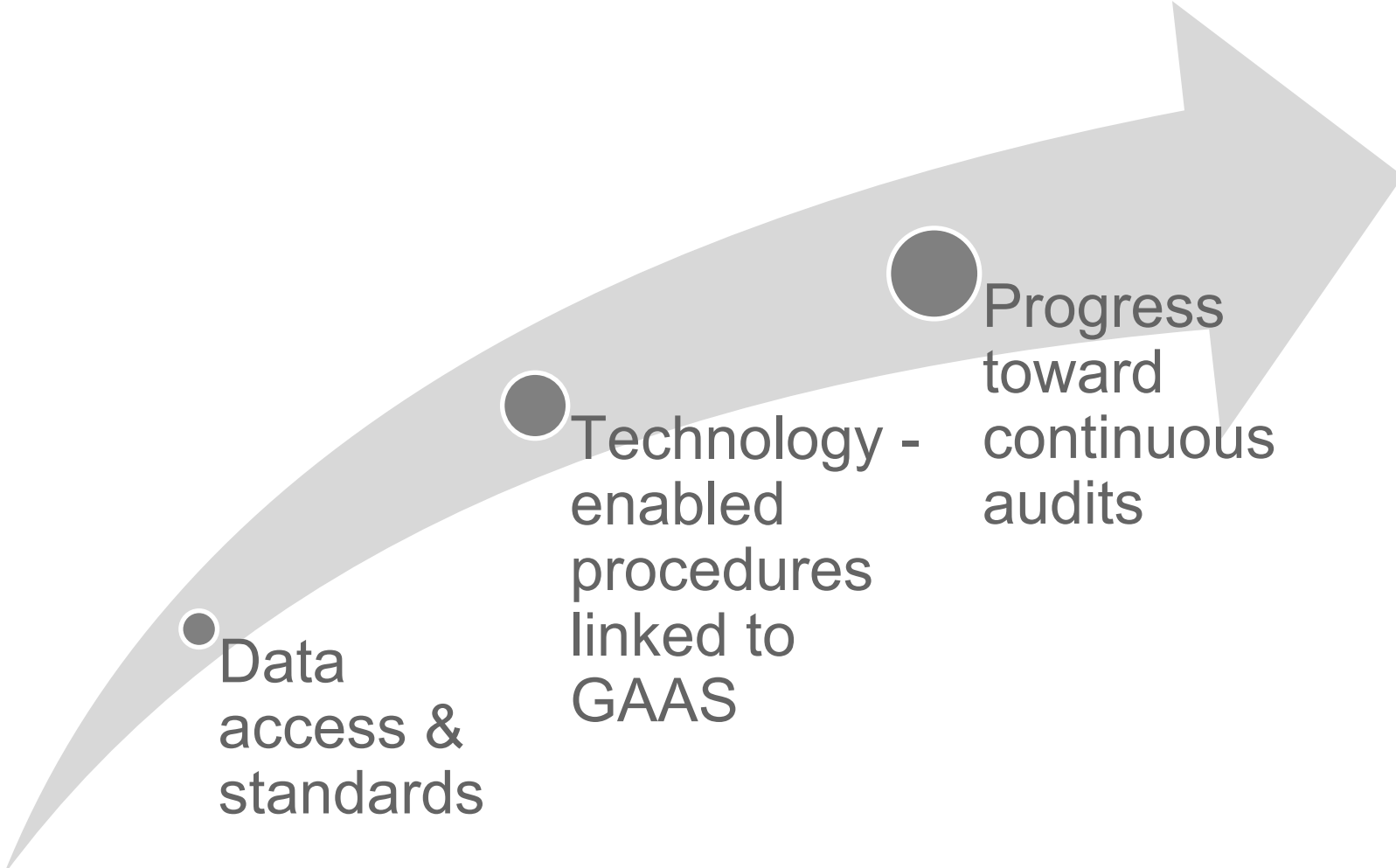
Environmental realities

- ▶ **Data acquisition process is a challenge**
- ▶ **Audit standards evolve slowly**
- ▶ **Tools are immature**
 - ▶ Technology viewed as unproven
 - ▶ Not sufficiently grounded in assertions
 - ▶ Not sensitive to non routine and estimation accounts
 - ▶ Fear of litigation (“smoking gun” in work papers)

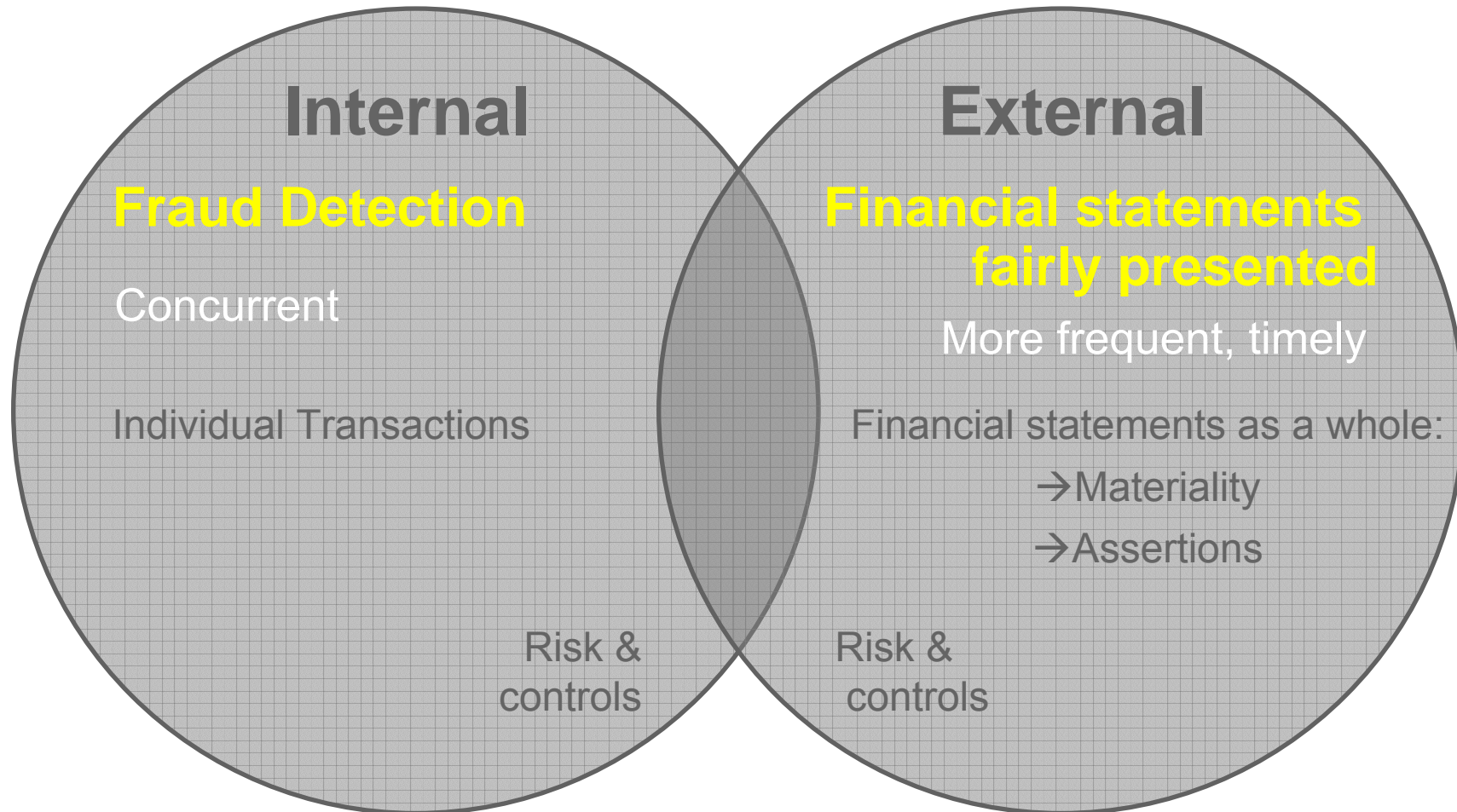
Environmental realities

- ▶ **Data acquisition process is a challenge**
- ▶ **Audit standards evolve slowly**
- ▶ **Tools are immature**
- ▶ **Meaningful change requires**
 - ▶ An investment
 - ▶ Behavior change

Moving forward



“Continuous” auditing: different views



Bridging the gap: Data Analysis



Data Analysis

- ▶ Nature of analysis:
 - ▶ **Trend Analysis:** Do the reported results make sense over time (e.g., monthly, daily)?
 - ▶ **Business Process Analysis:** Is the activity from a business process consistent with that process (e.g., is the activity coming from the sales journal limited to sales & receivables or cash)?
 - ▶ **Correlation Analysis:** Does the activity in one account correlate with that in other related accounts (e.g., do sales correlate as to timing and amount with receivables and cash collections)?
 - ▶ **Peer Comparisons:** Is the activity consistent with that experienced by peers?

Trend Analysis

JE Review examples.xls [Compatibility Mode] - Microsoft Excel

Home Insert Page Layout Formulas Data Review View Audit Tools and Workpapers EY/Sampling Assistant

Clipboard Font Alignment Number Styles Cells Editing

	A	B	C	D	E	F	G	H	I	J	K	L	M
1													
2		January	February	March	April	May	June	July	August	September	October	November	Total
3	ACCUM DEP	(\$731,002)	(\$781,400)	(\$786,818)	(\$792,860)	(\$798,148)	(\$798,537)	(\$532,627)	(\$821,821)	(\$873,745)	(\$905,790)	(\$861,979)	(\$8,684,727)
4	DEPRECIATION	\$731,002	\$781,400	\$786,818	\$792,860	\$798,148	\$798,537	\$532,627	\$821,821	\$873,745	\$905,790	\$861,979	\$8,684,727
5		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
6													
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14													
15													
16													
17													

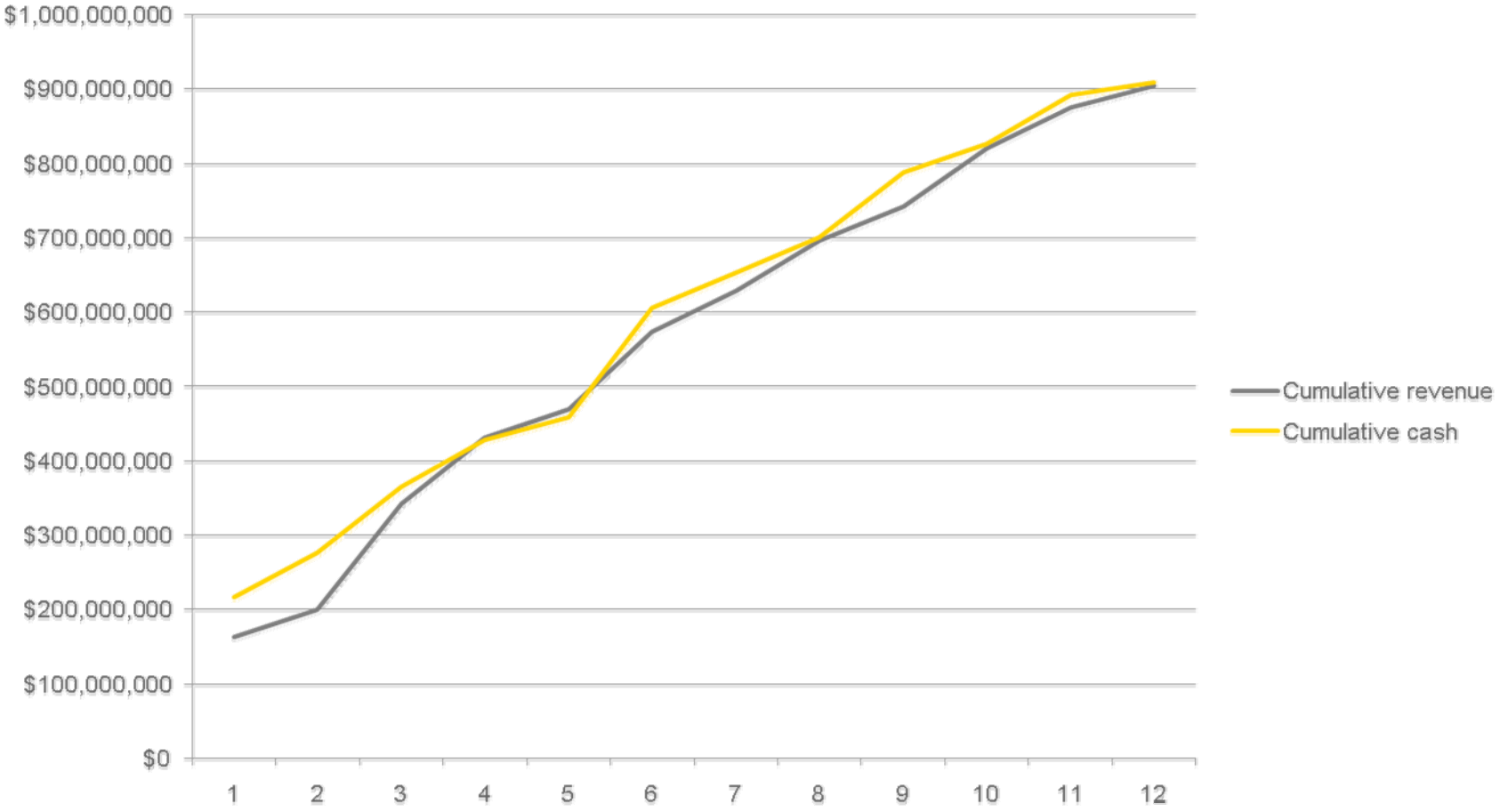
Business process

125 fx

Business Process.xlsx

	A	B	C	D	E	F	G	H
1		Fixed Assets	Purchasing	Inventory	Sales			
2								
3	Cash							
4	Short-term Investments							
5	Accounts Receivable				345,215,748			
6	Inventory		256,321,854	(265,145,874)				
7	Prepaid Expenses							
8	Property, Plant & Equipmer	(1,100,245)						
9	Other Assets							
10	Total Assets							
11								
12	Accounts Payable		(256,321,854)					
13	Accrued Compensation							
14	Current Liabilites				(17,260,787)			
15	Long-term Debt							
16	Other							
17	Total Liabilities							
18								
19	Revenue				(327,954,961)			
20	Cost of Goods Sold			265,145,874				
21	Other Operating Expenses	1,100,245						
22	Total							
23								
24								
25								

Correlation Analysis



Industry comparisons

KPI	Company	Low	High	Median
Discount rate	5%	4%	7%	5.85%
Rate of return on plan on assets	7%	4%	9%	7.4%
Compensation increases	4.5%	3%	6%	4.8%

“Three-legged stool”



Audit data/information standards

- ▶ Develop Audit Data/Information Standards
 - ▶ Common framework
 - ▶ Data files, fields & technical specifications
 - ▶ Meta data (i.e., business rules)
 - ▶ Scalable:
 - ▶ Start with general ledger
 - ▶ Bring on industry sub ledger systems and non-financial data over time (done in parallel with development of APP Library)
 - ▶ include external data (e.g., move from periodic bank confirmations to continuous data streaming)
- ▶ Encourage adoption

Auditor access to data

- ▶ Audit data store

- ▶ Populated with data meeting standard data requirements
- ▶ Internal data updated nightly so it does not have a significant effect on operating system performance
- ▶ Available to auditor on demand
- ▶ Subject to internal controls (e.g., reconciliation) that are verified during the audit
- ▶ Data still behind company's firewall

- ▶ Audit interchange in cloud

- ▶ Secure interchange that is regularly updated
- ▶ Available to auditor on-demand

Audit applications

- ▶ Extensive library of Audit Data Analysis APPs
- ▶ Non-proprietary
 - ▶ Open access to post submissions
 - ▶ Freely downloadable, with standard disclaimers
- ▶ Proprietary
 - ▶ Subject to QA
- ▶ Incorporate into competition (Best App of the Year)

APP Library

	B	C	D	E	F	G	H	I
Application name	AR 101							
Financial Statement caption(s)	Accounts Receivable					Download		
Assertions	existence, completeness, valuation							
Data requirements		File name	Field name	Duration or period				
	Internal:	Sales Detail:	Customer ID	Minimum 3 months				
		Sales Detail:	Invoice ID	Minimum 3 months				
		Sales Detail:	Invoice Date	Minimum 3 months				
		Sales Detail:	Invoice Amt	Minimum 3 months				
		AR Balance Detail	Customer ID	Opening and closing date				
		Sales Detail:	Balance Date	Minimum 3 months				
		Sales Detail:	Balance Amt	Minimum 3 months				
			etc.					
	External:	Deposit Detail	Bank ID	Minimum 3 months				
			Bank Name	Minimum 3 months				
			Company ID	Minimum 3 months				
			Company Name	Minimum 3 months				
			Amount	Minimum 3 months				
			Tran Date	Minimum 3 months				
			Tran Amt	Minimum 3 months				
			Tran Type	Minimum 3 months				
Description	Rolls forward and runs out AR, ages AR & computes changes in Aging, reconciles bank deposits to AR cash receipts, calculates collection % on zero balance AR, estimates NRV on non ZBA AR							
Software requirements	Tableau 3.0					Sample Workpapers		

The audit app marketplace

Apps Overview

Developing Apps

App Community

The Near Future

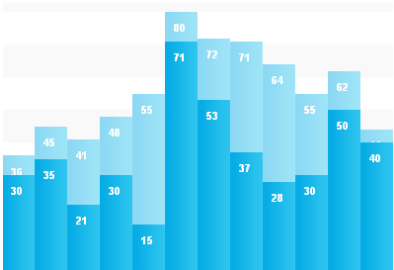
Transaction Volume evaluates the total number of transactions passing through any given module and compares it against prior weeks. Date range and SAP module can be customized.

Timing, Classification

Benford Analysis



Useful and easy to use. The developer has put a lot...
Does what it says. I've used this app for the past 30...



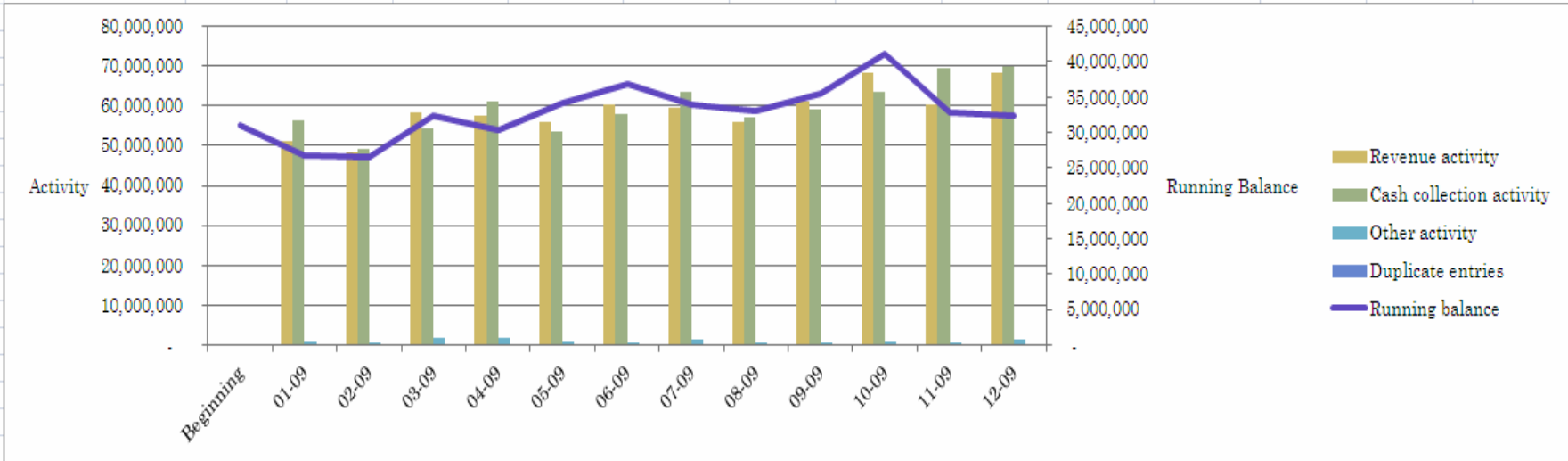
Download Now

Transaction Volume

- Version** 1.2
- Author** Ryan Teeter
Auditco, llc.
- Platform** ACL 9.1, SAP
- Timing** Weekly
- Method** Automatic
- Location** Remote

Microsoft Excel ribbon showing Font, Alignment, Number, Styles, and Cells tabs. The Styles tab is active, showing color-coded cells for 'Normal', 'Bad', 'Good', and 'Neutral'.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	Help														
2	Export	Change in balance													
3		12/31/2008 balance (provided)		26,904,147											
4															
5		Revenue activity		707,089,837											
6		Cash collection activity		(706,826,837)											
7		Other activity		263,000											
8		Back out duplicate entries		-											
9		Unlocated differences		(0)											
10		12/31/2009 balance (provided/calculated)		27,367,108											



Run-off

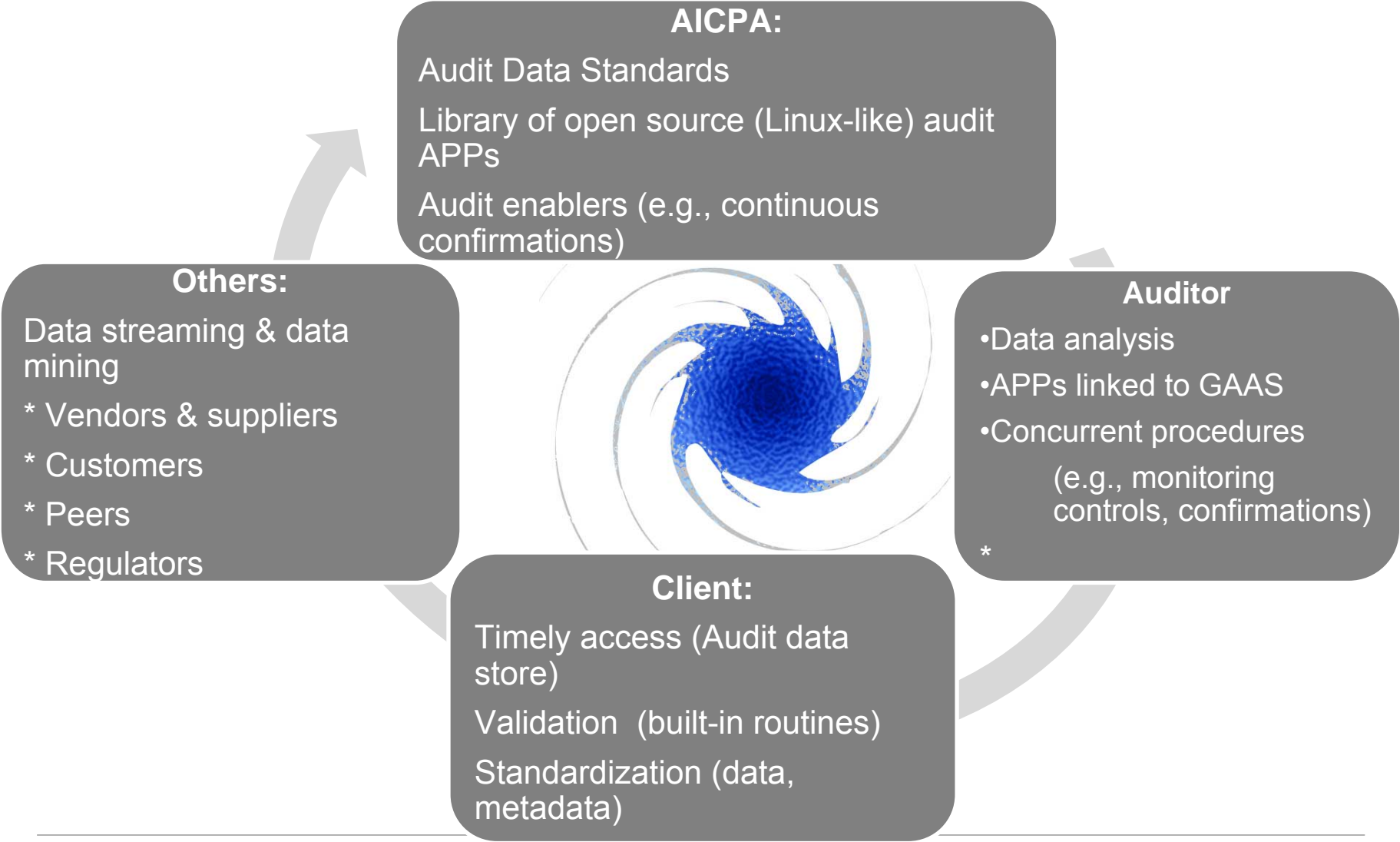
Run-off Sao Paulo.xlsx - Microsoft Excel

	B	C	D	E	F	G	H	I	J	K	L	
	Run-off History				Run-off %							
Date	Accounts Receivable	Cash Receipts	Sales Returns	Bad Debt Write-offs		Cash Receipts	Sales Returns	Bad Debt Write-				
31-Dec-10	32,105,400											
31-Jan-11	15,410,592	16,052,700	642,108	0		50.0%	2.0%	0.0%				
28-Feb-11	7,865,181	7,384,242	160,527	642		73.0%	2.5%	0.0%				
31-Mar-11	5,200,433	2,568,432	0	96,316		81.0%	2.5%	0.3%				
30-Apr-11	3,194,301	1,078,620	0	927,512		84.4%	2.5%	3.2%				
31-May-11	1,055,786	907,253	0	1,231,262		87.2%	2.5%	7.0%				

Accounts receivable valuation

Runoff Sao Paulo.xlsx - Microsoft Excel												
	A	B	C	D	E	F	G	H	I	J	K	L
1												
2												
3												
4	Current Non Zero Balance Account Activity								Run-off %			
5									6 months ZBA	89.0%	2.5%	8.5%
6									Estimated			
7									Date	Accounts Receivable	Sales	Cash Receipts
8												
9	31-May-11	12,354,486	77,570,616	(58,679,865)	(1,689,732)	(4,846,533)	\$ 10,357,983	\$ 249,533	\$ 1,746,969			
10												
11		16%	100%	-76%	-2%	-6%						
12												
13												
14												
15												
16												

Tomorrow's audit



Critical Components for Framework Success

- ▶ Collaborate with others on exploring the feasibility of audit data/information standards
- ▶ Work with Business Intelligence vendors & build infrastructure to facilitate development of audit apps
- ▶ Encourage changes to professional standards
- ▶ Work on longer-term R&D projects

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- **Advanced analytics**
 - **Continuous assurance & control monitoring**