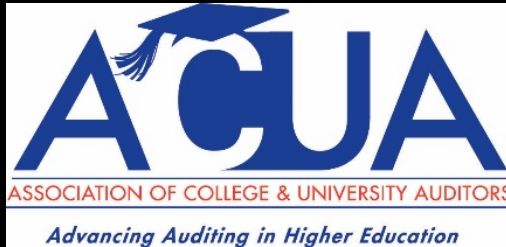


**SPONSORED
RESEARCH:
USING THE DATA
TO DETECT, DETER
AND PREVENT
FRAUD**

WEBINAR MODERATOR



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TRADITIONAL AUDIT APPROACHES



- External Audits – Cognizant Audit Agency
- Financial Statement Audits – CPA Firm/Internal Audits/State Audit Agency
 - Random Sampling - Request Supporting Documents
 - Determine Reasonable/Allowable/Allocable
 - Report Audit Findings

DATA BASED AUDIT APPROACH



- All Transactions from Accounting System over Time
- Perform Data Analytics on Transactions
- Identify Patterns, Outliers and Red Flags
- Request Support for % of Transactions
- Question Related Transactions
- Identify Like Transactions

POLLING QUESTION #1



How often are you currently using data analytics in audits?

- a) Used on most audits
- b) Used occasionally on some audits
- c) Not at all
- d) What's data analytics?

NATIONAL SCIENCE FOUNDATION (NSF) AUDIT APPROACH



- Institute Provides ALL Transactions for NSF Projects For 3 years
- NSF Identifies 250 “Questionable” Transactions
- 50 Questioned Required Additional Documentation
- Additional Documentation Provided by Institute
- Discussions With Auditors Regarding Questioned Costs
- Respond to Draft Report
- Final Audit Resolution
 - TOTAL TIME = 2 YEARS

RED FLAGS



- Cost Transfers/Correction Ratios
- Spend Patterns
- Purchase Methods/Mechanism – Electronic Purchasing, PO's, Pcards
- Comparison of Budget to Actuals
- Pre-award/Post-award Expenses
- Late Term Charges/Last 90 days
- High Risk Vendors
 - Are Expenses Reasonable/Allowable/Allocable?

EXAMPLES OF QUESTIONABLE PURCHASES



- Materials & Supplies Purchases for Personal Use - Electronics/Equipment
- PayPal Purchases for Services by Related Parties
- Computer Purchases at University Book Store
- Purchases for Materials and Supplies Not Budgeted
- Purchases of Scientific Equipment for Outside Consulting Business
- Purchases for Services – External Activities

A SPECIAL REVIEW APPROACH



- Understand the Unit Structure and Project Accounting
- Identify All Funding Sources and Projects
- Perform Testing on Accounts
- Identify Questionable Purchases
- Verify Legitimacy of Purchases
- Determine if Purchases are Reasonable, Allowable, and Accountable

Risk Assessment Designed for Multiple Units

- Risk Level Structure – High Risk (5) Moderate (3) Low (1)

Factors of Risk Assessment

- Volume of Funding
- % of M&S Expenditures
- % of Consulting
- % of Subcontracts

Previous Purchasing Issues

POLLING QUESTION #2



How often are you using some form of data analytics in risk assessments?

- a) Used frequently
- b) Used occasionally
- c) Not at all
- d) We don't do risk assessments

EXAMPLE LAB RISK ASSESSMENT



Lab Risk Assessment		Lab 1	Lab 2	Lab 3	Lab 4	Lab 5	Lab 6	Lab 7
1	Volume of Funded awards - >\$200M - High(5), \$100-199M - Moderate (3), and >\$100M - Low (1)	5	5	3	3	3	1	1
2	% of expenditures (Materials & Supplies) - High risk - top 2-(5), Moderate risk - middle 3 -(3), Low risk - Bottom 2 - (1)	3	1	5	3	3	5	1
3	% of expenditures (Volume of Subcontract awards) - High risk - top 2-(5), Moderate risk - middle 3 -(3), Low risk - Bottom 2 - (1)	3	1	3	3	5	5	1
4	% of expenditures (Volume of consulting awards) - High risk - top 2-(5), Moderate risk - middle 3 -(3), Low risk - Bottom 2 - (1)	1	3	1	3	5	3	5
5	Identified as risk by CFO for assessment - High risk - top 2-(5), Moderate risk - middle 3 -(3), Low risk - Bottom 2 - (1)	5	3	1	3	5	3	1
6	Previously identified Purchasing Issues - Multiple - High risk -(5) - At least one - Moderate risk (3), If none - Low risk (1)	5	1	1	3	5	1	3
Subtotal Financial Indicators		22	14	14	18	26	18	12

	High Risk
	Moderate Risk
	Low Risk

VARIABLE RISK ASSESSMENT FACTOR



Other Factors May Include:

- Climate Survey Results – Low (3) Middle (2) High (1)
- Business Process/Transparency/Compliance/Leadership
- Volume of Previous Complaints
- Employee Turnover

SURVEY RESULTS – RISK ASSESSMENT



	Survey Results	Lab 1	Lab 2	Lab 3	Lab 4	Lab 5	Lab 6	Lab 7
7	Average scores relative to Business Process rating from Strategic Consulting's summary - Lowest results (3), Moderate (2), Highest (1)	2	2	3	3	1	2	1
8	Average scores relative to Transparency rating from Strategic Consulting's summary - Lowest results (3), Moderate (2), Highest (1)	2	1	3	3	2	2	1
9	Average scores relative to Ethics/Compliance rating from Strategic Consulting's summary - Lowest results(3), Moderate (2), Highest (1)	1	1	3	3	2	2	2
10	Average scores relative to Leadership rating from Strategic Consulting's summary -Lowest results (3), Moderate (2), Highest (1)	1	1	3	3	2	2	2
	Subtotal Survey Indicators	6	5	12	12	7	8	6
	Lab Risk Assessment Totals	28	19	26	30	33	26	18

	High Risk
	Moderate Risk
	Low Risk

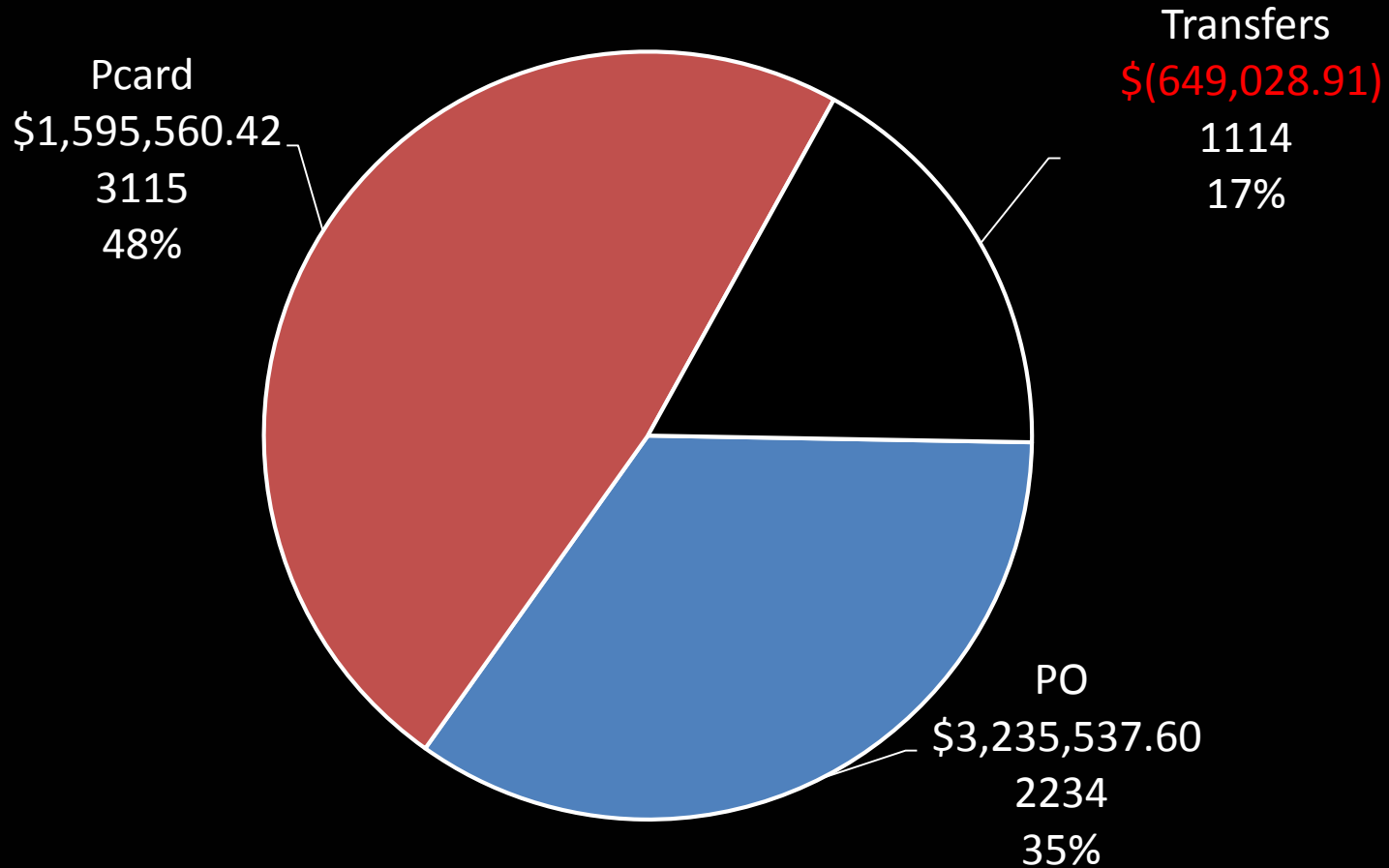


ANALYZE THE EXPENDITURES



- Download Account Summaries for Identified Projects
 - Separate by:
 - Expenditure Type
 - Materials & Supplies (M&S)
 - Travel
 - Salary
 - Other
- Sort M&S Purchases by Vendor/Dates/Amounts
- Analyze Expenditures to Identify Patterns and Outliers

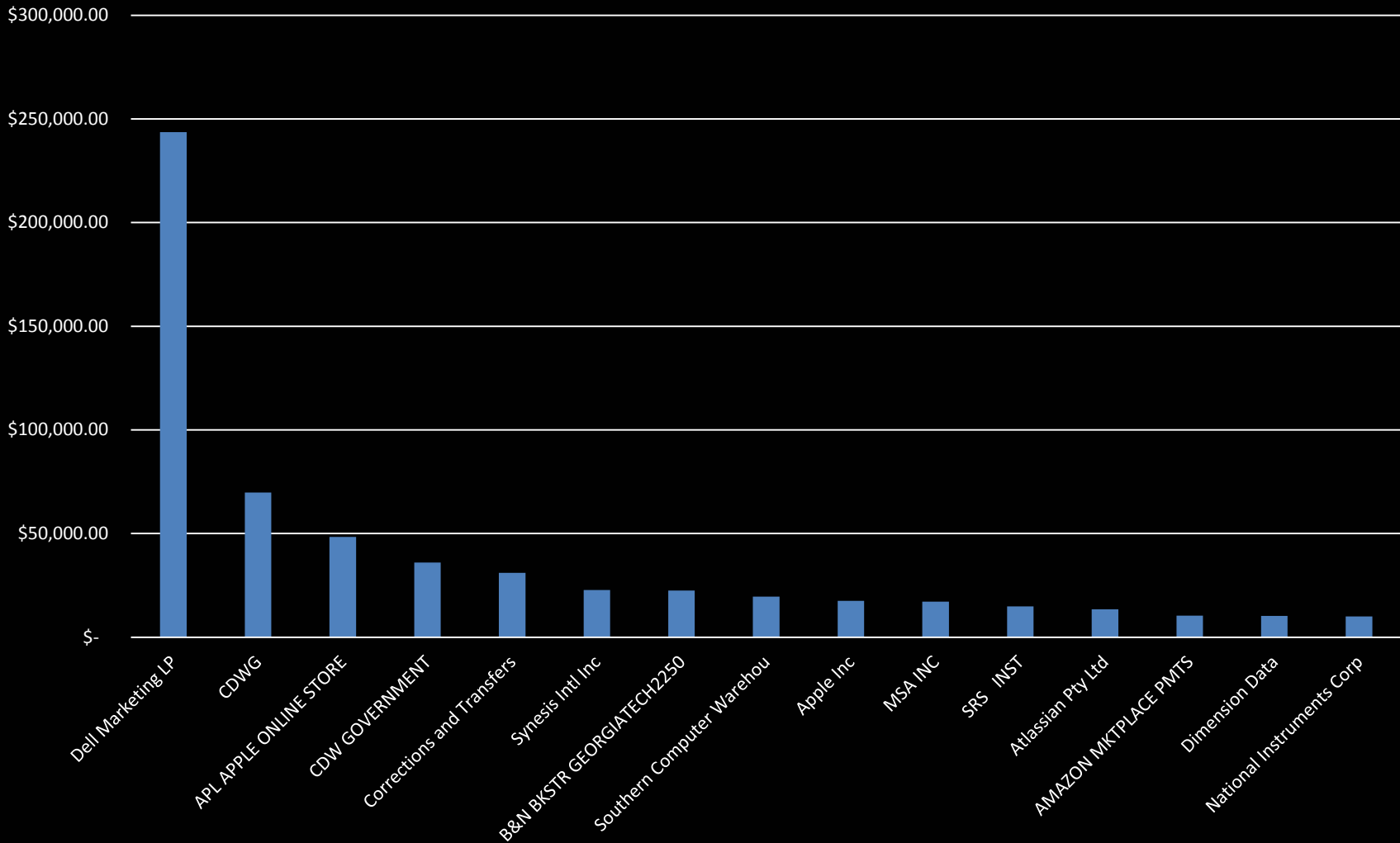
Transaction Breakdown



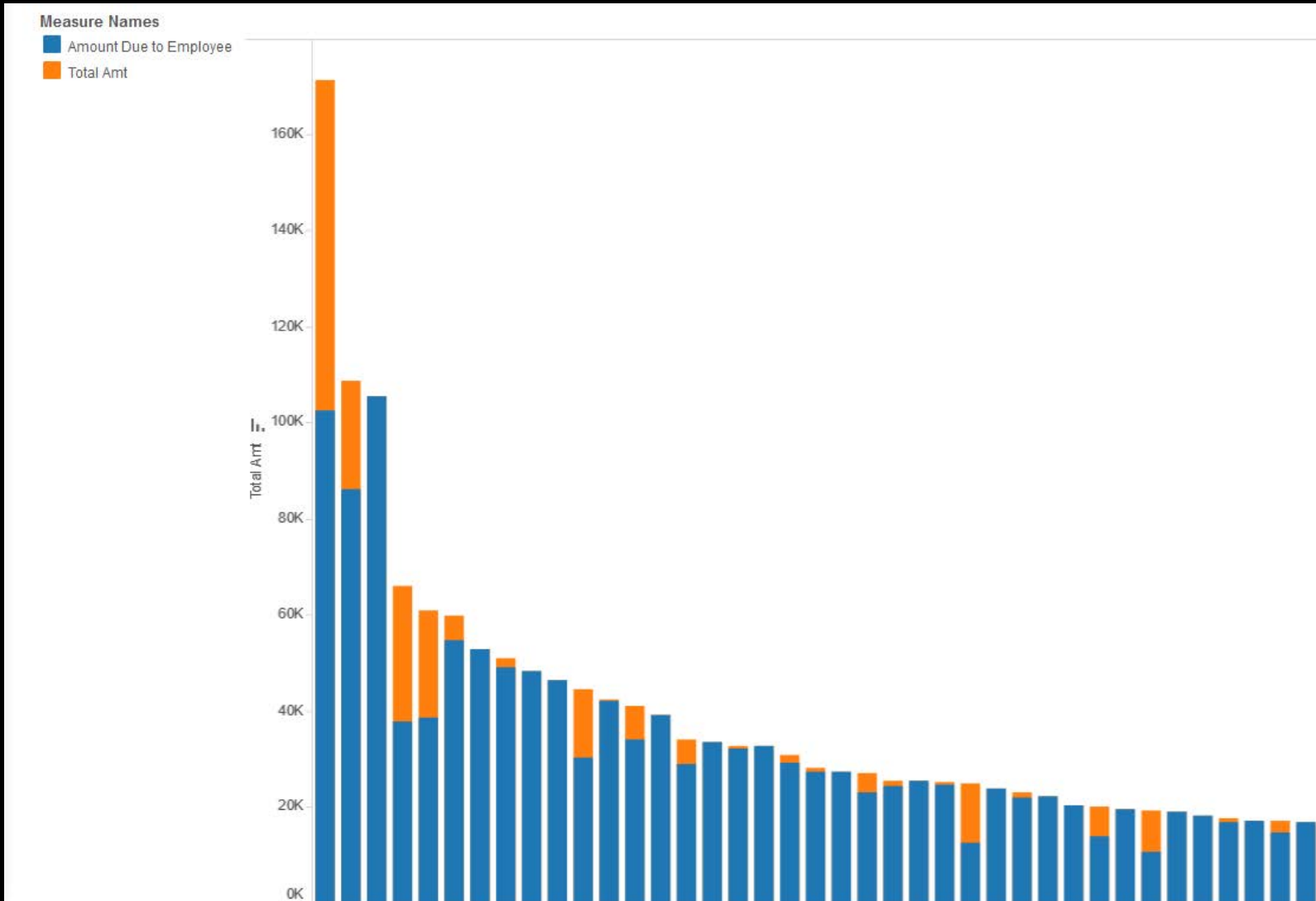
SURVEY RESULTS – EXCEL GRAPH



Top 15 Vendors M&S



TRAVEL ANALYSIS



Select Transactions Based on Findings:

- Dates in Question
- Travel Location
- Vendor Type and Location
- Purchase Type

POLLING QUESTION #3



My office is using _____ for data analytics.

- a) Specialized software (Idea, ACL, Tableau, Teammate)
- b) Standard Microsoft software (Access and/or Excel)
- c) We don't have computers (green bar paper only)
- d) Unsure

HIGH RISK VENDOR ANALYSIS AMAZON MARKETPLACE



Acct ! M&S - Unsupported Charges			
Vendor	Transaction Date	Expenditure	
AMAZON MKTPLACE PMTS	03/28/2011	\$203.00	SanDisk 2 GB SD Memory Card [20], SanDisk 4GB SD Memory Card [10] \$105.00 shipping charge
AMAZON MKTPLACE PMTS	06/01/2011	\$579.47	BoxWave mini Capacitive iPad stylus [2], Apple iPod Touch 64 GB, Acase 2nd generation iPad capacitive stylus [2], Kodak Easyshare Mir
AMAZON MKTPLACE PMTS	07/27/2011	\$1,359.74	Midland XTC150VP2 Standard [2], Panasonic Lumix DMC-GF2 12MP Digital Camera, Panasonic Lumix DMC-TS3 12MP Digital Camera, P
AMAZON MKTPLACE PMTS	08/01/2011	\$150.26	Transcend 16Gb Memory Card [4], Wasabi Power battery and charger for camera (camera model not listed on invoice)
AMAZON MKTPLACE PMTS	09/07/2011	\$121.74	Mini Micro Pinhole Hidden Video Camcorder Pen
AMAZON MKTPLACE PMTS	10/31/2011	\$649.69	New Trent iDual-Port Pack USB External Battery Pack [2], Bad Elf GPS for iPod, iPad, etc [2], Stitchway UltraPower 1900 mAh Backup B
AMAZON MKTPLACE PMTS	11/15/2011	\$1,703.44	Apple iPad 2 [2]
AMAZON MKTPLACE PMTS	11/15/2011	\$323.90	Bose OE2 audio headphones - Black [2]
AMAZON MKTPLACE PMTS	08/06/2012	\$379.15	Transcend 16 GB Memory Card [15], Canon PowerShot ELPH digital camera
AMAZON MKTPLACE PMTS	08/09/2012	\$719.97	Day 6 Plotwatcher Pro HD Game Surveillance System [3]
AMAZON MKTPLACE PMTS	08/31/2012	\$107.75	CradlePoint CTR35 Wireless Router

HIGH RISK VENDOR ANALYSIS AMAZON.COM



Acct ! M&S - Unsupported Charges			
Vendor	Transaction Date	Expenditure	
Amazon.com	03/17/2011	\$470.97	Sony VAIO VGP-CKZ1 Case with Smart Protection for Z Series (Black), Apple iPod touch 64 GB Black (4th Generation), Sonix Snap
Amazon.com	04/13/2011	\$115.73	Finite Element Analysis of ...
Amazon.com	04/26/2011	\$95.00	Kodak EasyShare Mini M200
Amazon.com	04/27/2011	\$95.00	Kodak EasyShare Mini M200
Amazon.com	04/27/2011	\$95.25	Kodak EasyShare Mini M200
Amazon.com	06/01/2011	\$97.19	Optical Metamaterials: Fundamentals and Applications
Amazon.com	06/13/2011	\$350.04	Polar RS300X G1 Heart Rate Monitor Watch [2]
Amazon.com	07/26/2011	\$956.60	Maximalpower DB CAN NB7L R [3], Transcend 16 GB Memory Card [10], Canon SX30IS 14.1 MP Digital Camera, Canon PowerShot
Amazon.com	08/01/2011	\$26.18	Lenmar DLC4L Digital Camera Replacement Battery [2]
Amazon.com	08/18/2011	\$561.95	Transcend 16 Gb Memory Card [10], Canon FS400 Flash Memory Camcorder
Amazon.com	08/18/2011	\$242.27	Day 6 Plotwatcher Pro HD Game Surveillance System
Amazon.com	11/07/2011	\$153.94	Bose OE2 audio headphones - Black
Amazon.com	11/07/2011	\$153.94	Bose OE2 audio headphones - white
Amazon.com	11/18/2011	\$327.00	Kindle [3]
Amazon.com	11/23/2011	\$199.00	Kindle Fire
Amazon.com	12/06/2011	\$149.00	Kindle Touch 3G
Amazon.com	07/16/2013	\$1,299.95	Fujifilm X100S 16 MP Digital Camera with 2.8-Inch LCD (Silver)



HIGH RISK VENDOR ANALYSIS UNIVERSITY BOOKSTORE



Acct ! M&S - Unsupported Charges			
Vendor	Transaction Date	Expenditure	
B&N BKSTR GEORGIA	TECH225 04/18/2011	\$3,592.00	iPad 2 Wifi + 3G 64GB [4], iPad 2 Leather Smart cover [4]
B&N BKSTR GEORGIA	TECH225 04/28/2011	\$186.00	iPad Smart Cover [3], iPad Leather Smart Cover
B&N BKSTR GEORGIA	TECH225 05/06/2011	\$829.00	iPad 2 Wifi + 3G 64GB (Verizon) [2]
B&N BKSTR GEORGIA	TECH225 08/23/2011	\$294.94	MacBook Pro, Lacie 1Tb Hard Drive [2], GT Case
B&N BKSTR GEORGIA	TECH225 11/23/2011	\$4,865.00	MacBook Air, iPad 2 Wifi + 3G [2], Apple MacBook Air SuperDrive, MacBook Pro 13 inch
B&N BKSTR GEORGIA	TECH225 12/19/2012	\$2,351.96	Apple Tv, OtterBox Defender for iPad Mini, iPad mini 64Gb + 3G [2], iPad 3rd gen 64GB wifi, A
B&N BKSTR GEORGIA	TECH225 02/07/2013	\$1,456.94	EarPods, OtterBoxMini [2], iPad Mini 64gb[2], Skullcandy Navigator Headphones
B&N BKSTR GEORGIA	TECH225 02/13/2013	\$199.98	Jawbone Jambox (bluetooth speaker)
B&N BKSTR GEORGIA	TECH225 02/14/2013	\$2,215.82	iPad 64 GB [2], iPad keyboard [3], MatLab [2], Pens [4]
B&N BKSTR GEORGIA	TECH225 03/20/2013	\$1,524.96	Thunderbolt display, Wired Keyboard, Trackpad, EarPods [2], Jawbone speaker [2]



EXAMPLES UNALLOWABLE M&S COSTS



- \$131,934 to Vendor No-one Else Used on Campus - Improper & Duplicate Billings
- \$118,465 PayPal Purchases - Invoices Created by Project PI
- \$89,381 Book Store Purchases - Tablets/speakers/headphones
- \$44,898 Amazon Purchases - Kindles/cameras/gifts
- \$40,356 Other Electronics - Mobile Phones/Computer Equipment
- \$55,832 – Unallowable General Lab M&S Purchases, not budgeted, not for the project

NEXT STEPS



- Identify Project Personnel based on Salary Transactions
- Pull Supporting Detail for Interview Preparation
- Select Project Personnel to Assist in Determining Allowability
- Document Interviews
- Draft Report

POTENTIAL ACTIONS



- Return of Funds to Sponsor
- Additional Audits Identified
- Human Resource Actions
- Possible Prosecution
- Control Recommendations – Lessons Learned

Operational Effectiveness and Compliance

- Finance/Security/Ethics & COI Oversight & Reporting

Sponsored Research Activities

- Training/Certifications/Data Analytics/Budget to Actual

Purchasing Procedures

- Excessive PCard Use/Use of Automated Purchasing System
/High Risk Vendors/IT Purchases/Expedited Fees

RESULTS FROM SPECIAL REVIEW



- All Control Recommendations Implemented by Management
- New Reporting Structure
- All PIs Attend Project Director's Training
- PIs Sign Monthly Certifications for Project Expenditures
- Quarterly Financial Lab Reports based on Data Analytics
- PCard Purchases Declined by 75 Percent
- Internal Audit Program for Sponsored Programs

POLLING QUESTION #4



I now have new thoughts about how to incorporate data analytics into my sponsored research audits.

- a) Yes
- b) No
- c) Maybe???

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UPCOMING ACUA EVENTS



November 15, 2017

- Penetration Testing – What is it Good For? (Eric Randle – Creative Breakthroughs Inc.)

December 13, 2017

- Auditing Social Media and Reputational Risk (Felicia Best – TeamMate)

January 17, 2017

- Improving Your Data Analysis Program (Ali Subhani & Ray Kahn – UT-Dallas)