

# Establishing a Data-Driven Culture for Finance and Audit

Discussion outline

01

## Successes to Date

What's working at NC State?  
What is different about us?

02

## People, Process, Tools? What's new?

Why is NC State succeeding relative to its peers?

04

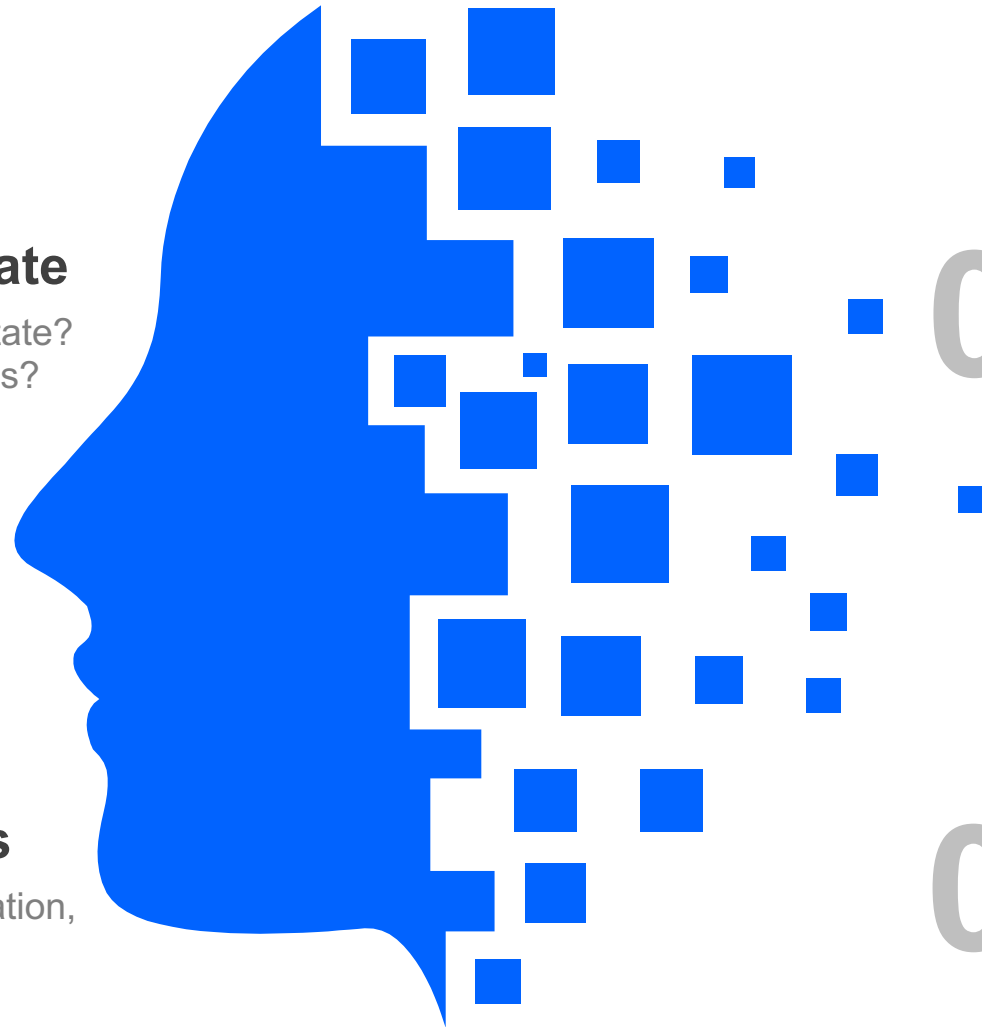
## More Resources

If you want more information, where should you go?

03

## Tips and Techniques

What should you consider doing differently? Why?



November 9, 2019

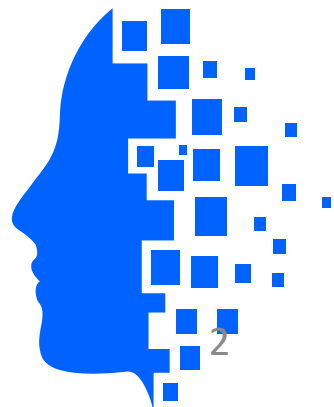


# 01. Successes to date – good balance of needed skills

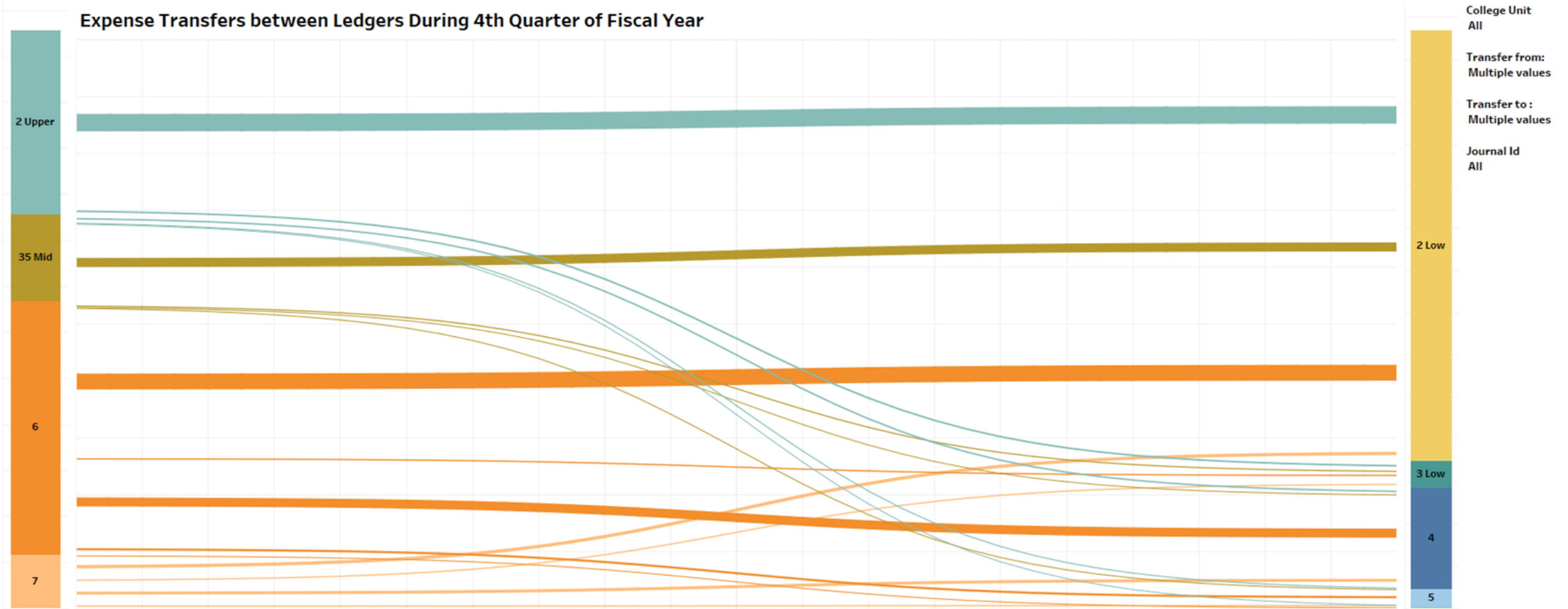
01. Body of Knowledge helps frame the requisite skills for data analytics

- Project Management
- Data Acquisition and Manipulation
- Statistical Techniques
- Visual Reporting Techniques
- Communication
- (Finance and Audit) Domain Expertise
- Change Management / Strategic Thinking

While these job domains represent an inventory of skills needed for audit data analytics, a more complete list would also feature interpersonal skills, including: relationship building, curiosity, and a culture of collaboration



# NCSU Internal Audit Division - Sankey Diagram Showing Cost Transfers



## Ledger Detail for Research

Transfer fr..	Transfer to:	Journal ID (..	Credit Amt	
Ledger 2	Ledger 2		\$7,460,216.72	Abc
Upper Level	Lower Level		\$6,533,727.36	Abc
			\$2,772,859.20	Abc
			\$2,120,067.60	Abc
			\$1,834,681.80	Abc

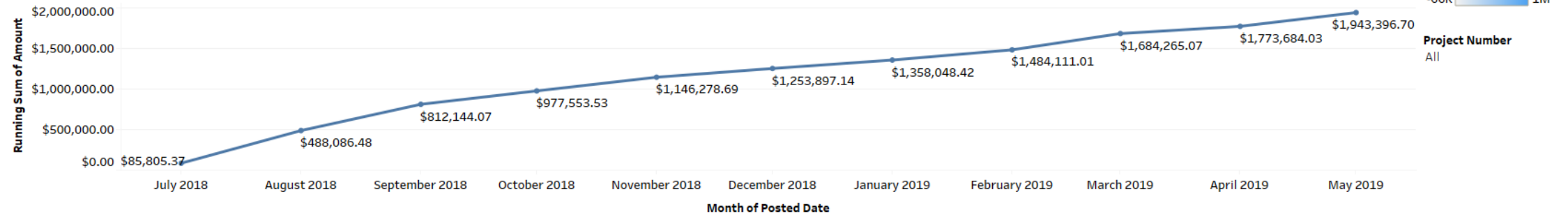
## Journal Entry Details

Journal Id	Ledger Number	Long Descr	Debit/Credit	Amount	
		Yearend Expense Reclass	Credit	(\$41,543.86)	Abc
			Debit	\$9.80	Abc

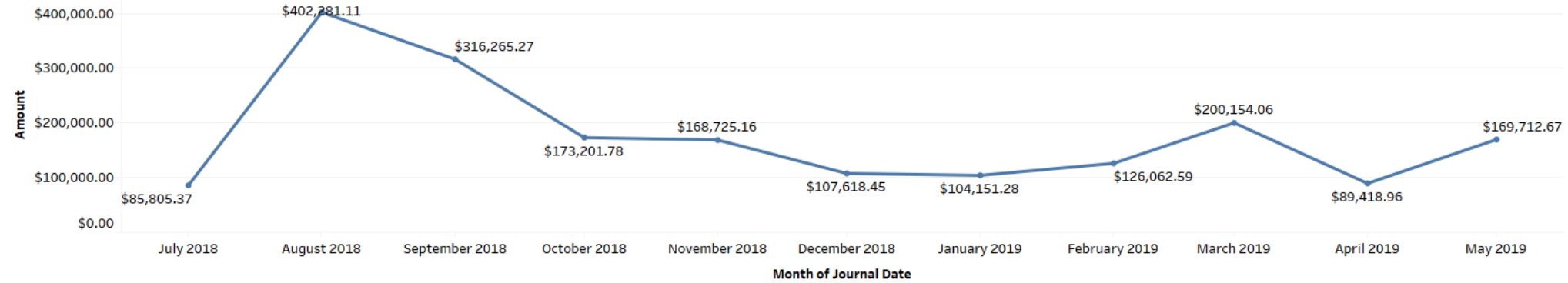
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## NCSU Internal Audit Division - Project Analysis Template

Accumulated Spending



Spend by Month



Type of Expenditures

52310 Sales and Services 65% \$1,257,743.30	52300 Educational Supply 5% \$100,030.20	52400 Repair Supplies. 4% \$84,282.15	51990 Other Contr Services
	53310 Electricity 5% \$89,145.17	53510 Repairs Bldg/gnds 4% \$72,060.46	53394 Propane Gas
			55320
			52510

Transaction Details

We use the project analysis slide for risk analysis.

- We can see total spending by the filters – account description and project number
- Monthly spending will show any higher than normal spending – which we can drill into for details
- The tree map shows us what percentage of spending on a specific account description
- I also have another worksheet that is dependent upon the dashboard which contains the details of all transactions. When I select anything on the dashboard, I can see the details related to that selection.

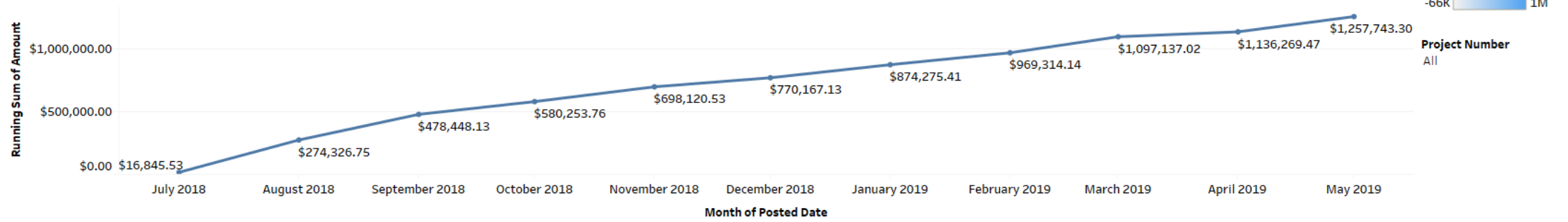
For example:

- In my risk analysis, I see that 65% of the expenditures on all projects are charged to Sales and Services
- In the tree map, I can select that rectangle and look at the detail worksheet I created that captures only those transactions.
- By looking at the details for items that may not relate to Sales and Services, I can reduce the number of transactions reviewed.

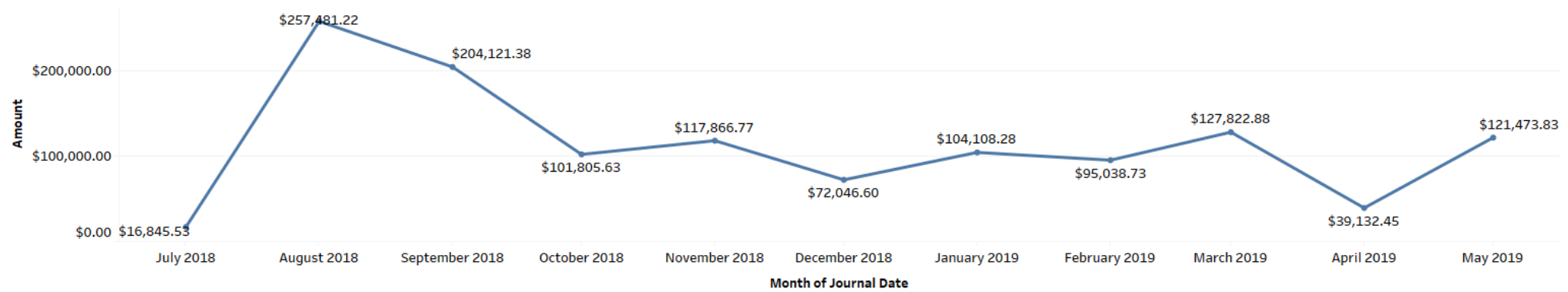
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	53310 Electricity 5%	53510 Repairs Bldg/gnds 4%	55320
	\$89,145.17	\$72,060.46	52510

Transaction Details

## Transaction Details

Journal ID	Journal Date	Account Description	Amount
	10/4/2018	Sales and Services	(\$3,487.78)
	4/5/2019	Sales and Services	(\$4,074.80)
	5/15/2019	Sales and Services	\$3,240.51
	5/15/2019	Sales and Services	\$2,135.79
	7/2/2018	Sales and Services	\$1,336.89
	7/3/2018	Sales and Services	\$6,243.44
	7/10/2018	Sales and Services	\$2,800.00
	7/13/2018	Sales and Services	\$2,424.50
	7/27/2018	Sales and Services	\$1,184.69
	8/2/2018	Sales and Services	\$2,711.53
	8/6/2018	Sales and Services	\$1,113.60
	8/7/2018	Sales and Services	\$0.00
	8/10/2018	Sales and Services	\$137,585.64
	8/13/2018	Sales and Services	\$22,821.71
	8/16/2018	Sales and Services	\$21,962.91
	8/17/2018	Sales and Services	\$487.68
	8/22/2018	Sales and Services	\$50,390.22
	8/23/2018	Sales and Services	\$2,792.00
	8/24/2018	Sales and Services	\$3,442.00
	8/30/2018	Sales and Services	\$1,893.71
	8/31/2018	Sales and Services	\$4,997.31
	9/4/2018	Sales and Services	\$4,445.13
	9/5/2018	Sales and Services	\$87,077.29
	9/6/2018	Sales and Services	\$14,621.56
	9/7/2018	Sales and Services	\$16,232.45
	9/11/2018	Sales and Services	\$16,468.20
	9/12/2018	Sales and Services	\$2,080.50
	9/18/2018	Sales and Services	\$2,120.00
	9/19/2018	Sales and Services	\$5,036.77

This information was created for this display only and does not represent a real grant

## NCSU Internal Audit Division - Grant Analysis Template

Grant start [February 1, 2016](#) - Grant End [July 31, 2018](#)

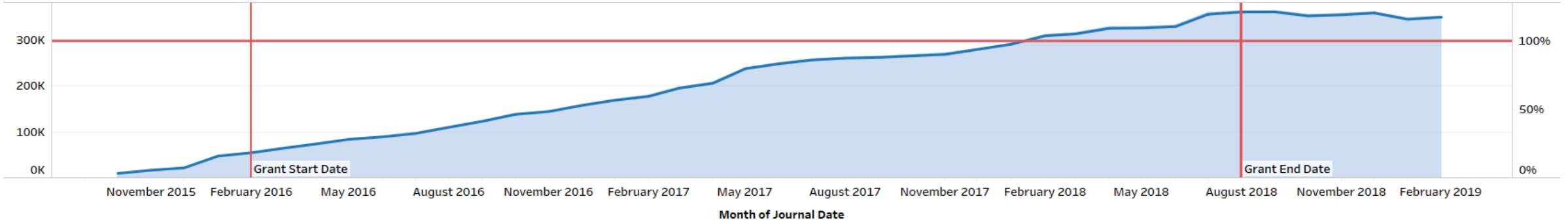
Award Amount [\\$300,000](#)

[123.3%](#) of the schedule time has passed.

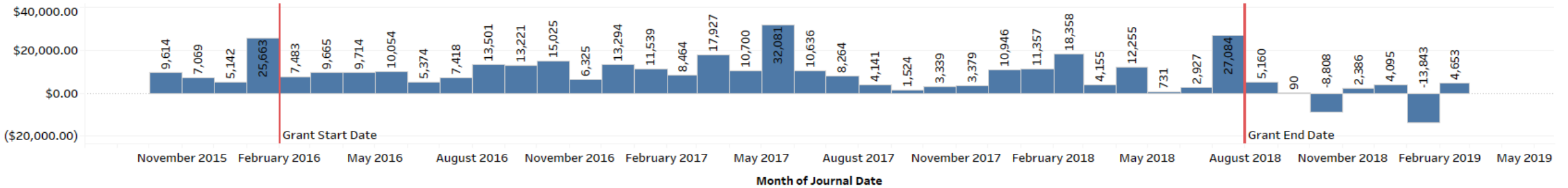
[117.37%](#) of the awarded amount for a total of [\\$352,101](#) has been expended.

Available budget remaining: **(\$52,101)**

Accumulated Spending



### Spend by Month



### Type of Expenditures

58960 Indirect Ovhd Costs \$103,151.45 29% Percent of Total Expenditures	52300 Educational Supply \$94,772.06 27% Percent of Total Expenditures	51112 Grad. Res. Asst. \$43,107.84 12% Percent of Total Expenditures	53923 Svs Agree-lab Svs \$33,984.74 10% Percent of Total Expenditures	55320 Educ	56961 Tuit & Fees (ed Svs Agr) \$13,247.42 4% Percent of			
					51116 EHRA Reg			

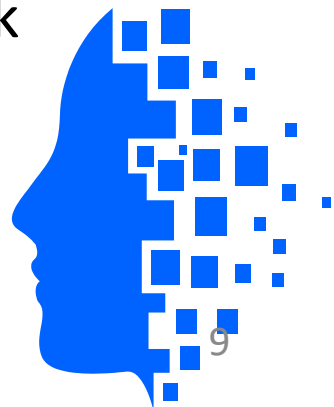
### Grant Details



# 02. People, Process, Tools? What's new or different?

## 02. What can others learn from NC State's experience

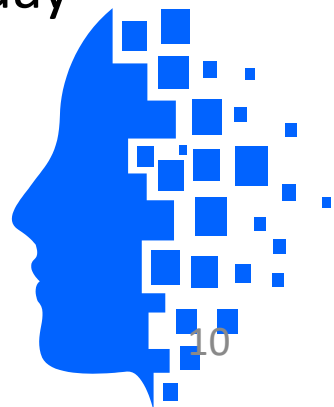
- Less about tools and more about relationships
- Data analytics is seen as a repeatable process
- Personal curiosity and a strong support network overcomes formal training
- Understanding systems, processes, and people on campus is key
- Vulnerability is an asset. It's Ok to ask for help
- Modest investments to work with an experienced guide has been valuable
- Data analytics as part of "IT audit" is less effective than you might think



# 03. Tips and Techniques

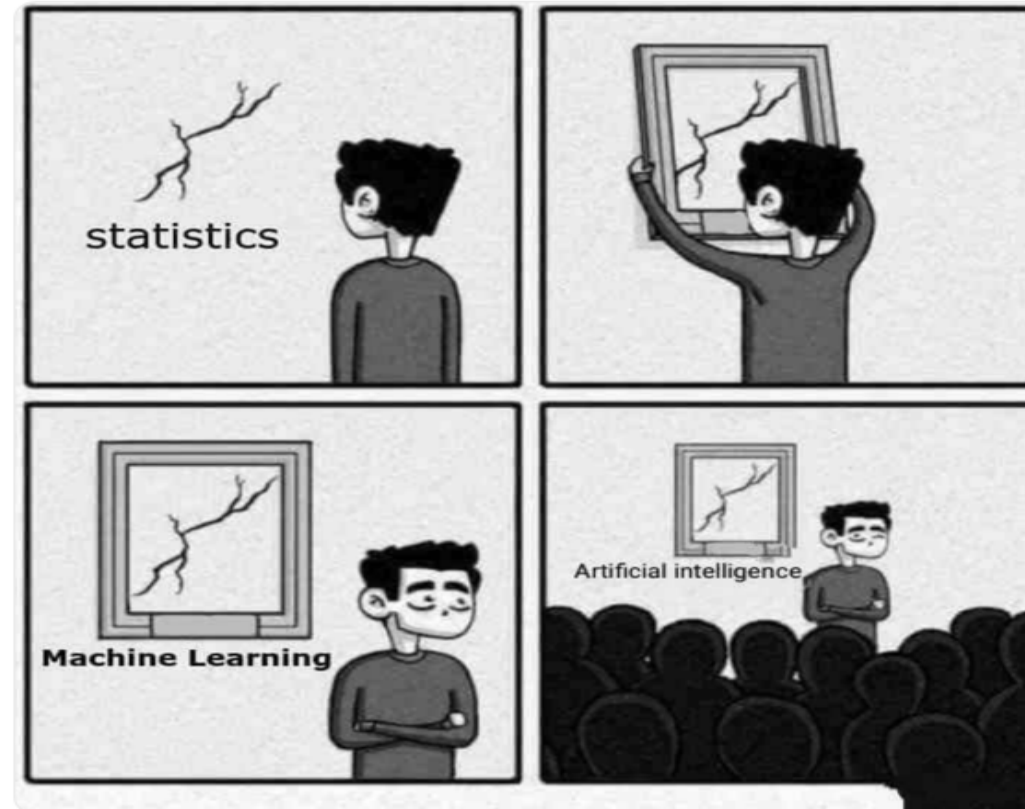
03. What should you do differently when setting up your Data Analytics people and processes?

- Most significant innovation is scheduling
- Assign more than one audit at a time – two or three is better than one
  - Work on getting your data for the next audit while you're in the midst of fieldwork for your current one.
  - Consider re-running your data analytics as part of follow-up procedures for previously completed audits.
- Allow time for learning by trial and error
- Optimal time allocation for data analytics is 1 to 2 hours per day each day



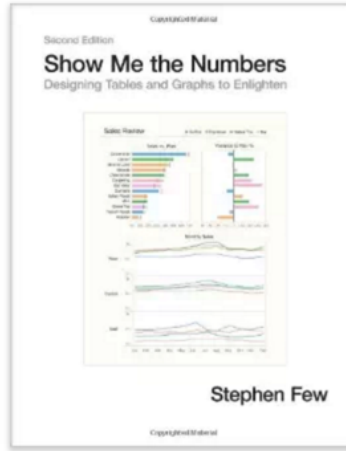
# 03. Tips and Techniques

03. What's "hot" and coming soon? Have we got a Robotics, AI, Machine Learning project for you!

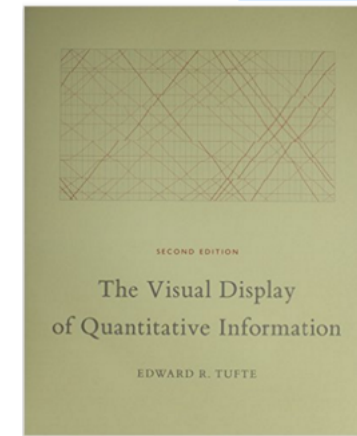


# 04. For More Information

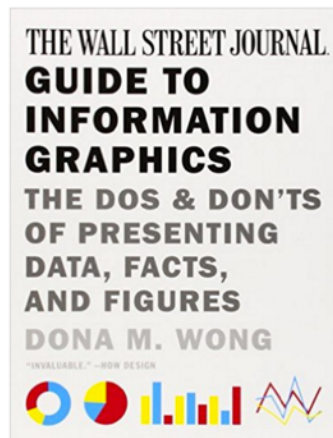
## 04. Additional resources



[Stephen Few](#)

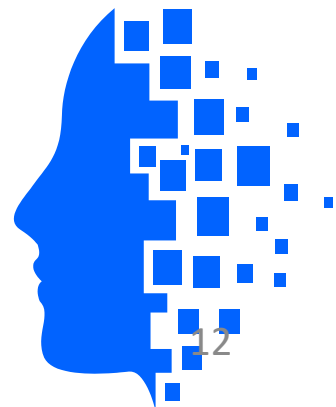


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# 04. For More Information

04. Contact either of us



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