UT Health San Antonio's Use of Microsoft Products to Automate, Organize, and Analyze Institutional Research Activities

Presented by

Emily Rhodes - Database Report Writing Analyst Gloria Salinas - Director, Office of Institutional Research

Session B5 Wednesday, March 27 3:45pm-4:30pm



About UT Health San Antonio

Official Name: University of Texas Health Science Center at San Antonio



4,500 Students

2023-2024 Projected Annual Headcount



1,100 Residents & Post-Graduate Trainees

Includes Non-ACGME Accredited Residents



2,400 Faculty

Includes Adjunct Faculty



2,942,000 Patients

Includes Inpatient Days and Outpatient Visits



\$413 Million in Research

Annual Research Portfolio and Sponsored Program Activity Primarily Health & Science related educational programs such as MD, DDS, PA, PT, OT, Biomedical Sciences, and soon, Public Health!





About the Presenters

Emily Rhodes

- BA in Music
- MS in Library Science
- 9.5 Years Registrar Experience
- 3.5 Years in Institutional Research





Gloria Salinas

- Bachelors in Business Admin
- Masters in Business Administration
- 13 years Financial Aid Experience, including 7 years Assistant Director of Veteran Services and Financial Aid
- 4 years Director, OIR
- 2 sons and a pet





About Office of Institutional Research

- Housed under Division of Strategic Planning
- 6 Employees
 - 1 Director
 - 1 Manager
 - 4 Report Writing Analysts
- Primary Duties
 - IPEDS, CBM
 - Accreditation Reports
 - Ad Hoc Reports
 - Dashboards
- Tools
 - SAS for data manipulation
 - Power BI for Dashboards





Outline

Overview

Components of Data Request

- Intake & Communication (Power Apps)
- Organization & Logging
 - Data Request Log (SharePoint List)
 - Communications (Power Automate)
- Workload Analysis (Power BI)

Future Enhancements

Q&A

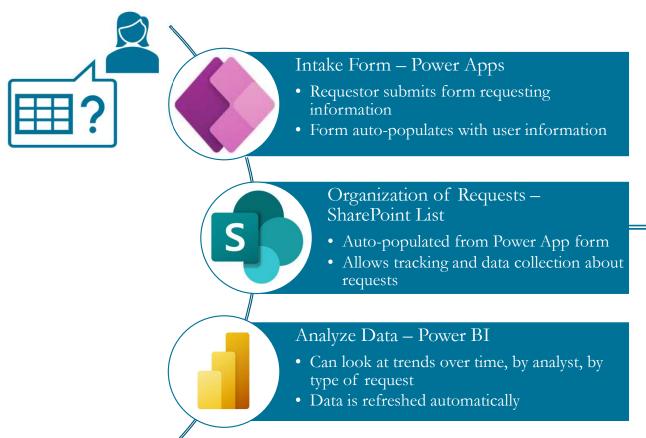




Overview



The Parts and How They Connect





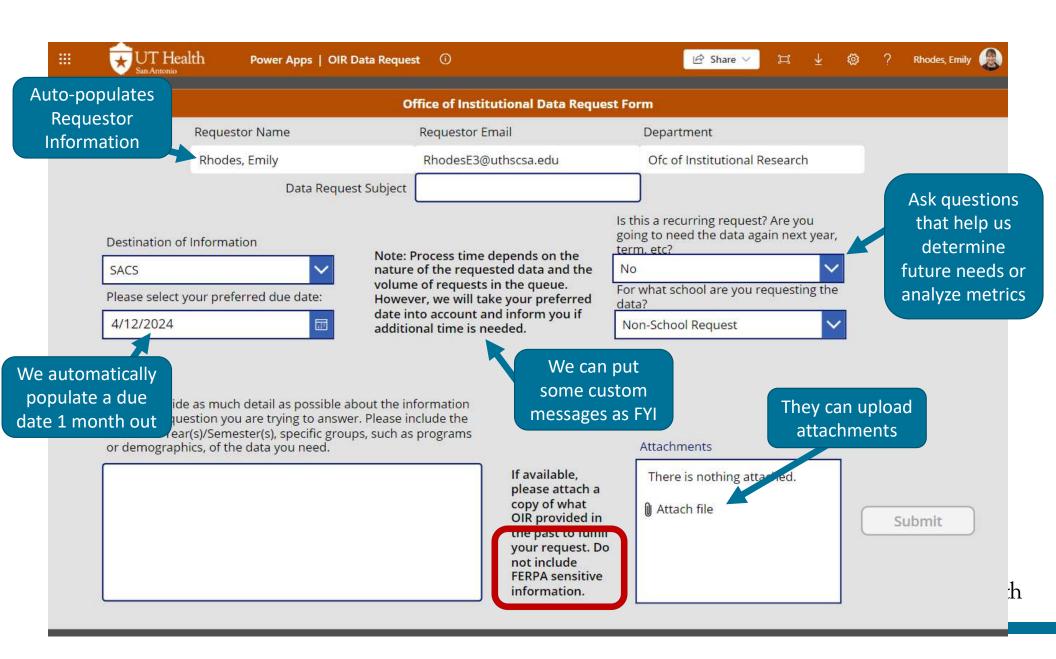
Email – Power Automate

• Sends email communication when request is at certain status (e.g., started)

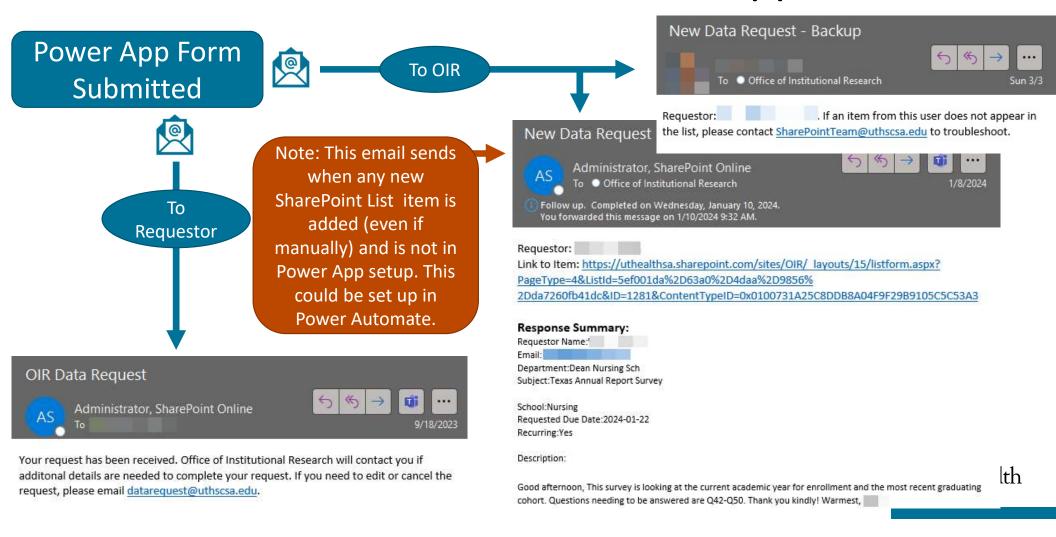


Power Apps





Email Communications & Power App Form



Pros / Cons of Power Apps

Pros

- Automatically populates user data (name, email and department) for consistency.
- Automatically populates SharePoint List with data and attachments.
- Automatically emails OIR and users about submission.
- Drop-down values provide consistency in data submissions for better analysis.

Cons

- We work with technology support (external office) to build/fix/customize.
- It is for **internal requestors only**, since sign in is required.
- Requires that users 'give permission' to the app (to auto-populate data), which can confuse users.
 - Note: This only happens the 1st time.
- Does not prevent FERPA sensitive data being uploaded by users.

What about requests from external users?

- Qualtrics form available
- Email auto sends to OIR inbox after submission
- OIR Manager manually populates data into SharePoint



Office of Institutional Research Data Request Form for EXTERNAL Users

Data Request for internal users at My UT Health.

Are you requesting Student Directory Information pursuant to the Texas Public Information Act (Texas Government Code, Chapter 552)

Yes				
No				
Please provide the fo	llowing informati	ion		
First Name				
Last Name				
Email				
Organization				

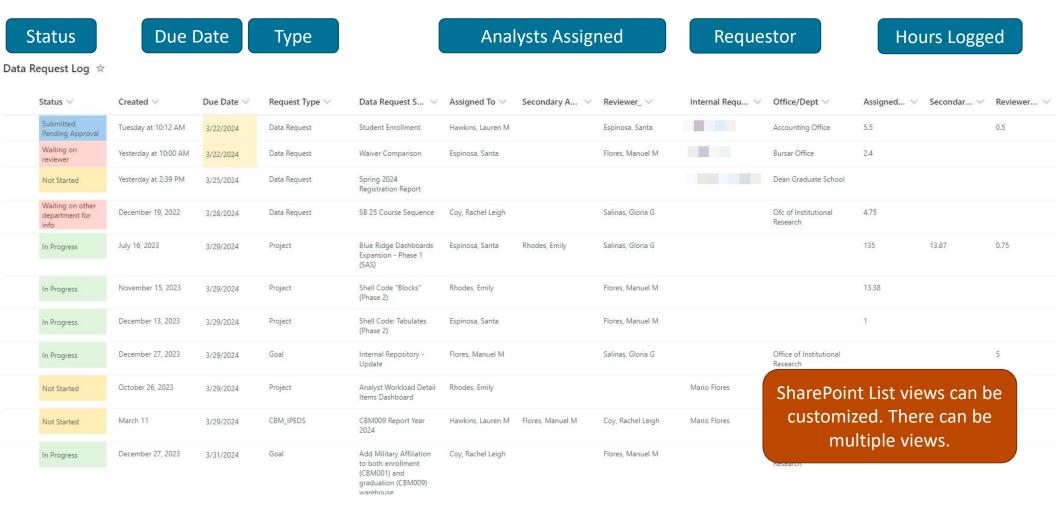
Please select your requested due date:



SharePoint List



SharePoint List Main View



Detailed View of Log Item

- Request Type,
 Name, Due Date,
 Status
- Analyst Assigned and Hours



Assigned To Rhodes, Emily Assigned To Hours 4.11 Secondary Analyst Enter a name or email address Secondary Analyst Hours Enter value here Reviewer Coy, Rachel Leigh 1 Reviewer Hours

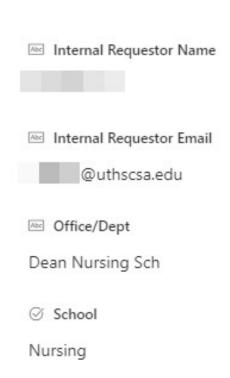
2.5

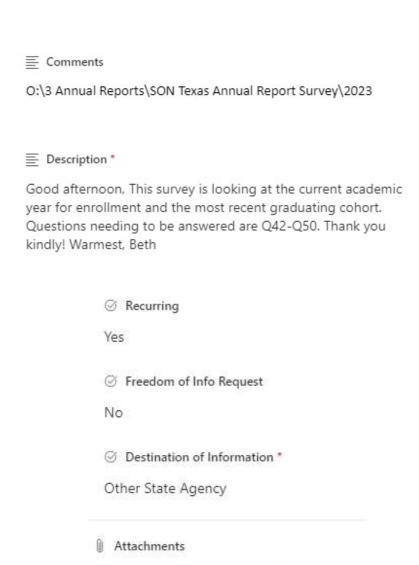
JT Health

Jan Antonio

Detailed View of Log Item

- Comments (Shared Drive location and analyst comments) and Description
- Requestor Information
- Other information and attachments





Texas Annual Report Survey Template.pdf

JT Health

SharePoint List: Pros

Organization

- It's clear who is assigned to what and in what capacity.
- You can see upcoming pending items.

Transparency

- Everyone has access to the log via the OIR SharePoint Site and can see outstanding items.
- Different views of the list can be made to cater to individuals or tasks.

Integration

• It integrates with Microsoft SharePoint and Power BI.

Data

• Shows the value and productivity of the office (especially with a 100% remote team).





SharePoint List: Challenges

Setup

- Our list has had several iterations.
 - Example: Multiple analysts per item caused issues with tracking hours (couldn't distinguish what hours went with what individual).

Tracking Hours

- Analysts track time on requests, which can be perceived as cumbersome.
- When analyzing, hour totals are based on the due date of the item, not the date/month they were done.
 - Example: If I spent all summer working on a request that was due in September, then all those hours would only show in September. This can cause issues when analyzing hours over time.

Maintenance

- Someone should be designated to assign analysts to tasks.
- Analyst(s) need to be trained to update the log.
- Someone designated to ensure data integrity.
 - Example: If we hand-enter a request on behalf of a requestor, do we align the department name to what would have auto-populated?

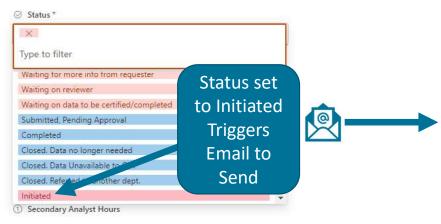


Power Automate



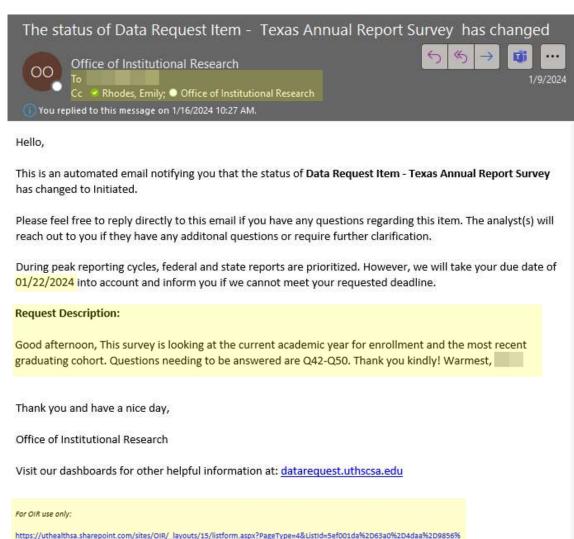
Email Notification – Status Update

Triggers when log item status set to 'Initiated'



Sends to requestor, primary analyst, and OIR Inbox. Includes:

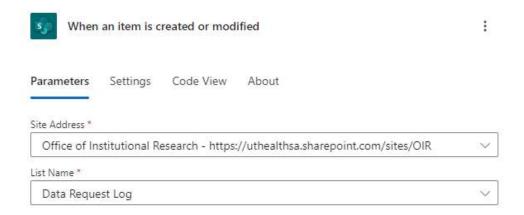
- Due Date
- Description
- Link to Log

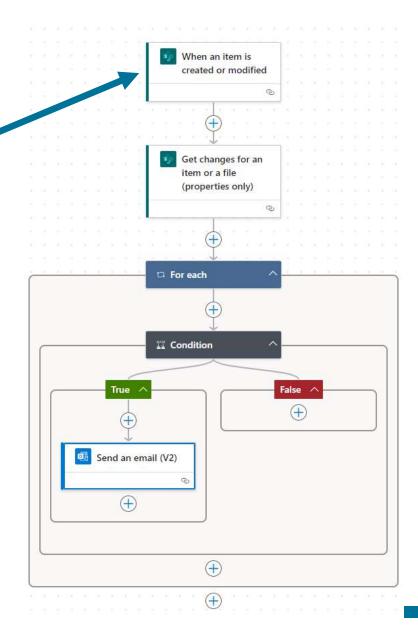


2Dda7260fb41dc&ID=1281&ContentTypeID=0x0100731A25C8DD88A04F9F29B9105C5C53A3

Sample Power Automate Workflow

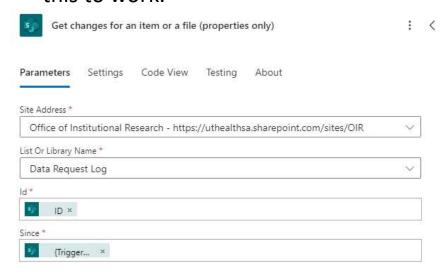
 Selects a trigger tied to the SharePoint List

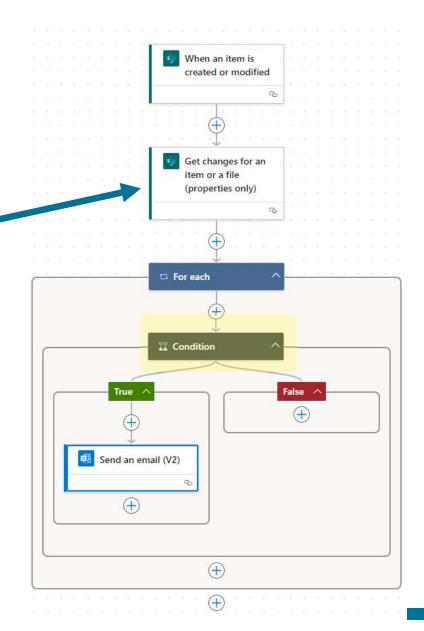




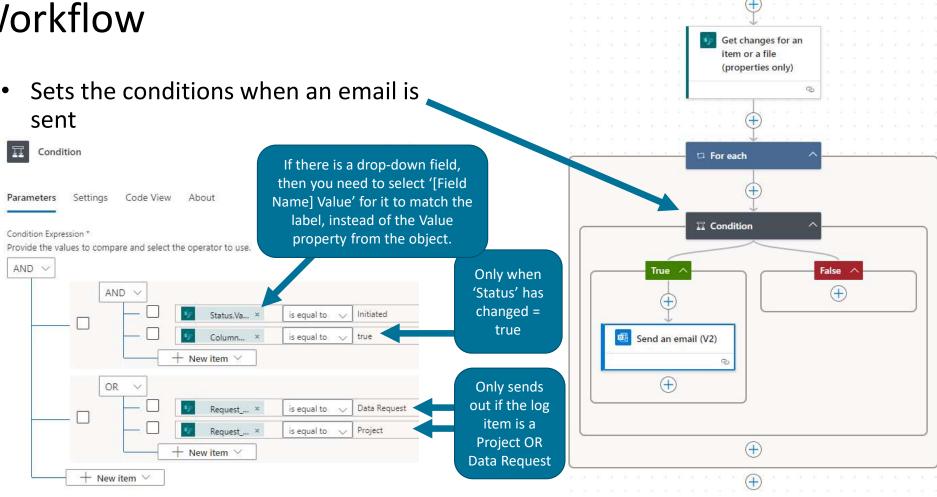
Sample Power Automate Workflow

- Allows me to later under 'Condition' select the condition "Has Column Changed:<Column Name> (link to Microsoft Article about this feature)
- Note: You need to have enabled versioning for your SharePoint List for this to work.





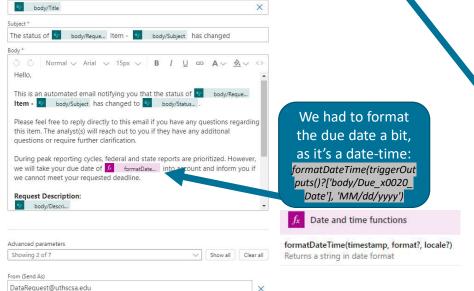


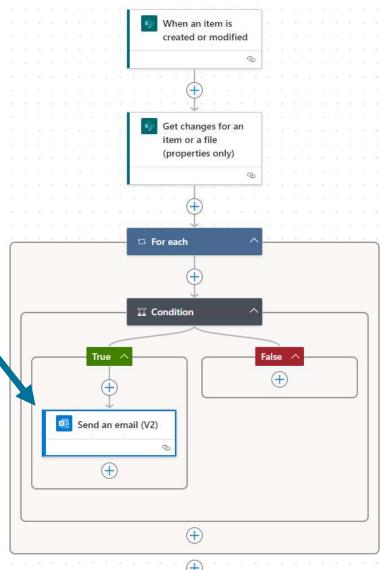


When an item is created or modified

Sample Power Automate Workflow

- Allows you to customize the email.
 - Note: If modifying the 'From (Send As), the person putting the email address must have "Send as" or "Send on behalf of" permissions to set the email address.





Common Errors & Gotchas



- Setup Has an Issue
 - Test your flows to ensure they work.
 - There is a test feature when editing a flow. Manually modify an item in the list to trigger and test if it works.
- Email field has an issue.
 - Example: Instead of <u>RhodesE3@uthscsa.edu</u>, it has <u>mailto:RhodesE3@uthscsa.edu</u>
- The person who created the flow leaves.
 - Be sure to add co-owners.
 - Note: A co-owner has full control of the flow.



Power Automate

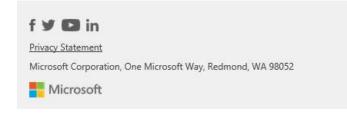
• 1 of your flow(s) have failed

The flow(s) listed failed in the past week and may need your attention.

1 Notification:

Flow name	Failure count
Send Email Notification to Requester When Request Initiated v2	1

If you need more help, please visit the Power Automate support page.



Power BI



Power BI – Trends

Review Overall Trends

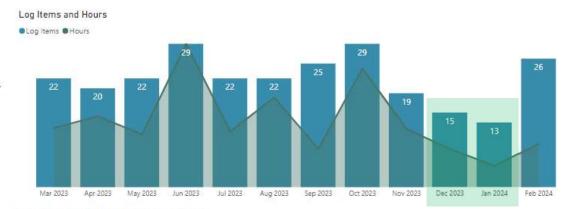
- Heavy required reporting is September, October, February, and April (and some in July).
- January was a slower month for us (we also had a lot of people sick!)

Prior 12 Months

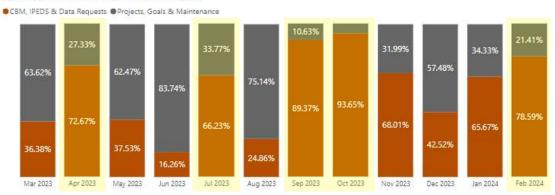
From 3/1/2023 to 2/29/2024

Requests over time help us assess upcoming volume based on past trends and summarizes cyclical peaks. It is important to note that for major reports and projects, the work typically occurs the weeks or months leading up to the due date.

Data excludes Professional Development.



Percentage of Hours Based on Type of Request



Power BI – Analyst Workload

Gain Insights into Distribution of Workload

- Mario and Gloria
 (Manager/Director)
 are primarily reviewing items
- Rachel spends more time on CBM_IPEDS (from the CBM001)
- Santa has spent more time on a project
- Lauren is new and therefore spent most of her time training since hire

Analyst Overview Current Fiscal Year

From 9/1/2023 to 8/31/2024

This page helps assess productivity, collaboration, engagement, and workload at the analyst level. Consider the employee's level and tenure in your review. Includes work for the current fiscal year.

Role	Analyst - Pri	nary	Analys	t - Secondary	Reviev	ver	Total	
Analyst	Items	Hours	Items	Hours	Items	Hours	Items	Hours
Coy, Rachel Leigh	56	326.75	7	30.75	18	43.00	81	400.50
Espinosa, Santa	39	425.69	4	5.53	10	19.58	53	450.80
Flores, Manuel M	25	37.23	7	10.50	53	59.31	85	107.04
Hawkins, Lauren M	16	173.50	3	14.00	2	0.50	21	188.00
Rhodes, Emily	45	366.99	14	60.93	13	74.01	72	501.93
Salinas, Gloria G	24	142.65	4	8.25	33	66.91	61	217.81
*Chapa, Daniel Carlos	27	337.99	2	0.00			29	337.99
Total	232	1,810.80	41	129.96	129	263.31	232	2,204.07

Analyst	CBM_IPEDS	Data Request	Goal	Maintenance	Professional Development	Project
Coy, Rachel Leigh	28.40%	41.89%	10.11%	14.48%	5.12%	0.00%
Espinosa, Santa	14.59%	25.94%	1.77%	12.62%	5.32%	39.76%
Flores, Manuel M	16.42%	48.70%	5.61%	13.62%	13.78%	1.87%
Hawkins, Lauren M	0.00%	32.45%		1.60%	65.96%	
Rhodes, Emily	17.52%	46.61%	0.30%	6.26%	15.15%	14.15%
Salinas, Gloria G	18.55%	25.76%	4.61%	1.38%	20.32%	29.38%
*Chapa, Daniel Carlos	26.23%	64.34%		8.84%	0.59%	
Total	18.79%	41.08%	3.00%	8.93%	13.86%	14.35%

Details for all items in within the fiscal year are available here.

No.		
Analyst	Top 3 Items, Excluding Professional Development	Hours
Coy, Rachel Leigh	Add Military Affiliation to both enrollment (CBM001) and graduation (CBM009) warehouse	25.00
	CBM001 Fall 2023	41.00
	CBM001 Spring 2024	34.25
Espinosa, Santa	Blue Ridge Dashboards Expansion - Phase 1 (SAS)	135.00
	CBM00R Report Year 2023	59.53
	Student Success Dashboard - Phase II	43.22
Flores, Manuel M	CBM009 Report Year 2023	11.50
	Competitive Admission Metrics - Data update	4.25
	Legislative Budget Board (LBB) Performance Measures - FY23 Actuals	5.00
Hawkins, Lauren M	LCME Annual Medical School Questionnaire Part II	20.00
	Student Life Military Affiliated Students	10.50
	Transcript Holds and Outstanding Student Financial Balances	11.00
Rhodes, Emily	2023-2024 CODA Survey of Dental Hygiene	23.24
	CBM008 Report Year 2023	50.94
	CODA Group 2 Survey	23.93
Salinas, Gloria G	Classifying Remote Site Students - Formalizing the Process	22.75
	GSBS Faculty Designation Scoping & Analysis Project	17.00
	HCM Oracle Cloud - Faculty Processes Scoping	14.00
*Chapa, Daniel Carlos	2023-2024 CODA Survey of Dental Hygiene	30.20
	CBM009 Report Year 2023	34.50
	CODA Group 2 Survey	30.05
141	* No longer emple	

* No longer employee of OIR

Power BI – Individual Analyst Items

Look at specific data for an individual analyst.

- View requests by total hours
- Look at 'in progress' items

Type of Request	Role	Hours	Status	Due Date	Subject
CBM_IPEDS	Analyst - Primary	50.94	Completed	11/1/2023	CBM008 Report Year 2023
Professional Development	Analyst - Primary	32.16	In Progress	3/31/2024	Emily March 2024 Professional Development
Professional Development	Analyst - Primary	29.03	Completed	2/29/2024	Emily February 2024 Professional Development
Data Request	Reviewer	23.93	Completed	9/8/2023	CODA Group 2 Survey
Data Request	Reviewer	23.24	Completed	10/6/2023	2023-2024 CODA Survey of Dental Hygiene
Data Request	Analyst - Primary	22.52	▲ Waiting	4/1/2024	SoN - Apoyo Grant Student Data Metrics
Data Request	Analyst - Primary	22.38	Completed	3/8/2024	Transcript Holds and Outstanding Student Finance Balances
Project	Analyst - Primary	19.40	Completed	2/29/2024	OUR/OIR Collaboration: Creation of Workload Dashboard - Phase 1
CBM_IPEDS	Analyst - Primary	14.78	Waiting	4/3/2024	IPEDS Human Resources
Data Request	Analyst - Primary	14.76	Completed	3/8/2024	SoN - Sunrise Metrics for Excelencia in Education
Data Request	Analyst - Primary	13.91	Completed	12/22/2023	PhD Nursing Science, THECB 10 year Program Rev
Project	Analyst - Secondary	13.87	In Progress	3/29/2024	Blue Ridge Dashboards Expansion - Phase 1 (SAS)
Project	Analyst - Primary	13.38	In Progress	3/29/2024	Shell Code "Blocks" (Phase 2)
CBM_IPEDS	Analyst - Primary	12.69	Completed	2/7/2024	IPEDS - Student Financial Aid
Data Request	Analyst - Primary	12.46	Completed	12/18/2023	Nursing Supply
Data Request	Analyst - Primary	11.01	Completed	2/9/2024	LSOM NTT Rank Time Request
Project	Analyst - Primary	10.26	Waiting	8/31/2024	VPR Dashboards FY24 Work
Data Request	Analyst - Secondary	10.26	Completed	11/9/2023	PhD program 2 charts
Data Request	Reviewer	9.66	Completed	3/22/2024	LCME Annual Medical School Questionnaire Part
CBM_IPEDS	Analyst - Secondary	9.54	Completed	10/27/2023	CBM00R Report Year 2023

Power BI – The Data Model (& Power Query)

Data Request Log

This is the SharePoint List

Status

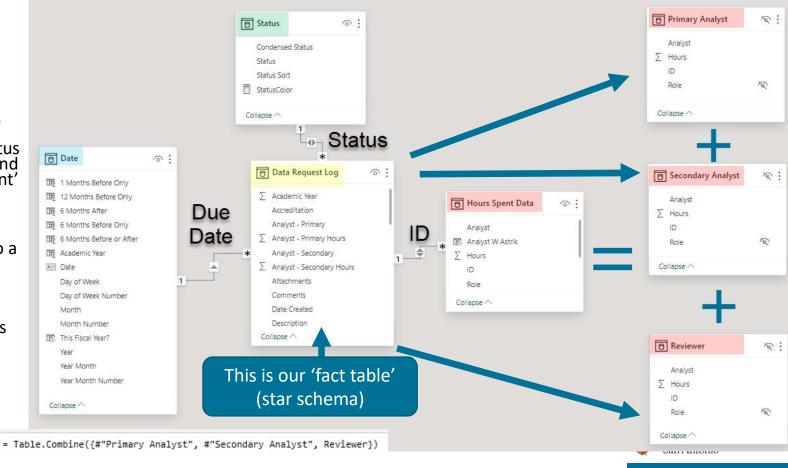
- Allows to sort the status in a specific order (Completed comes after In Progress, etc.)
- Allows for a 'Condensed' Status (e.g. 'Waiting on Reviewer' and 'Waiting on Other Department' are both 'Waiting')

Date

 Transforms the Due Date into a variety of useful values (Academic Year, short descriptions for time series, auto-filters for 6 months before/after based on today's date)

Hours and Analysts Tables

- Analyst tables are based on Data Request Log.
- Combined (union) to make Hours Spent Data



Analyst Data – From Wide to Long

- Needed a way to filter by Analyst
 - All items for a single analyst
 - Total hours for a single analyst (regardless of role)

Original

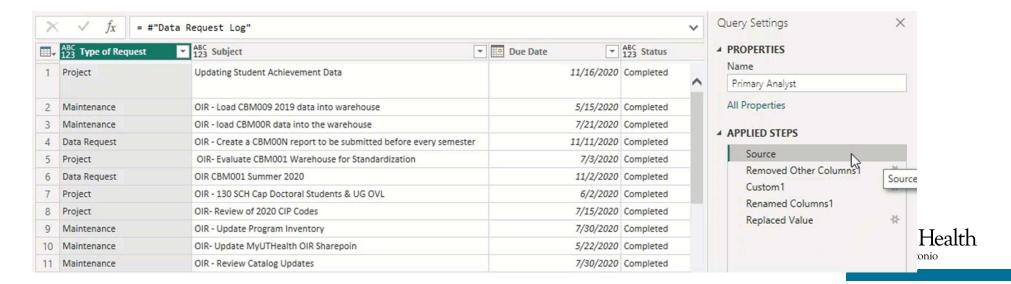
ABC 123 Analyst - Primary	1.2 Analyst 🕶	ABC 123 Analyst - Secondary	1.2 Anal 🔻	ABC 123 Reviewer	1.2 Revie
Salinas, Gloria G	1.5	Coy, Rachel Leigh	1.25		null
Salinas, Gloria G	5		null		null
Flores, Manuel M	5.3	Rhodes, Emily	1.31	Salinas, Gloria G	2

Transformed

-	123 Analyst	1.2 Hours	123 ID	123 Role	-
941	Espinosa, Santa	8.6	1033	Analyst - Primary	
942	Rhodes, Emily	3.57	1034	Analyst - Primary	
943	Chapa, Daniel Carlos	6	1035	Analyst - Primary	
944	No Analyst Assigned	0	1036	Analyst - Primary	
945	Flores, Manuel M	6.5	1037	Analyst - Primary	
946	Chapa, Daniel Carlos	12.75	1038	Analyst - Primary	
947	Chapa, Daniel Carlos	7	1039	Analyst - Primary	
948	Espinosa, Santa	5.3	1040	Analyst - Primary	
949	Rhodes, Emily	2.16	1041	Analyst - Primary	

Analyst Data – From Wide to Long

- From the Data Request Log, keep only fields needed
- Transform to an 'Analyst Primary' only table
- Repeat with 'Analyst Secondary' and 'Reviewer'
- Combine all the tables together = Table.Combine({#"Primary Analyst", #"Secondary Analyst", Reviewer})



Hours Spent Data

Analyst

Analyst W Astrik

∑ Hours

Role Collapse ^

Power BI - Pros and Cons

Pros

- Automated Can be set to auto refresh daily (or hourly/weekly)
- For Managers/Directors
 - Gain insights into workload and justify staffing need/effort
 - Help with resource planning for future projects
- For Analysts
 - Assists in monitoring performance
 - Assists in writing performance evaluations (i.e., what projects did I complete 8 months ago?)

Cons

- Only uses due date for time-series, so workload is an approximation
- Can be a steep learning curve for Power Query and Power BI
- SharePoint List set up can impact data model set up
 - Example: If a field allows for multiple values, it may require an auxiliary table with a manyto-one join on ID



Next Steps for UT Health SA



Possible Future Enhancements

Notifications

- Update Power Automate to remove extra code related to multiple analysts in a SharePoint field (for future sustainability/simplicity)
- Have a notification that provides more details to the requestor about what they submitted.
- Have a notification to the requestor when the request is closed for survey feedback (currently done manually when we send data)

Analytics

• Include **links to the log item** where applicable, in current dashboards, like this:



 Improve the dashboard dedicated for analysts for reviewing their in- progress tasks and upcoming tasks, with direct links to the log

Questions?

RhodesE3@uthscsa.edu



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Go here (or use the QR code):

https://shorturl.at/dDS59

