

From Data Dilemmas  
to High Fives &  
Handshakes:

Our Journey So  
Far...

Nick VanBrown – MT  
Legislative Fiscal Division



# Montana Legislative Fiscal Division

AutoSave Book1 - Excel Search

File Home Insert Page Layout Formulas Data Review View Add-Ins Help Acrobat Power Pivot

Clipboard Font Alignment Number Styles Cells Editing Sensitivity

Normal Bad Good Neutral Calculation Check Cell Explanatory... Input

Share Comments

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
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# Increasing Expectations

- Speed – Automation and trust of the data
- Depth & Breadth of Analysis - Connections and ability to deal with larger and more row level data
- Scalability – Live connected models are easier to adjust and add to, such as changing location
- Communication – Visualizations lets the information be more interactive for legislators or the public. Another tool to tell complicated stories

Turnover



## Connect to data source

 Blank query  
Other

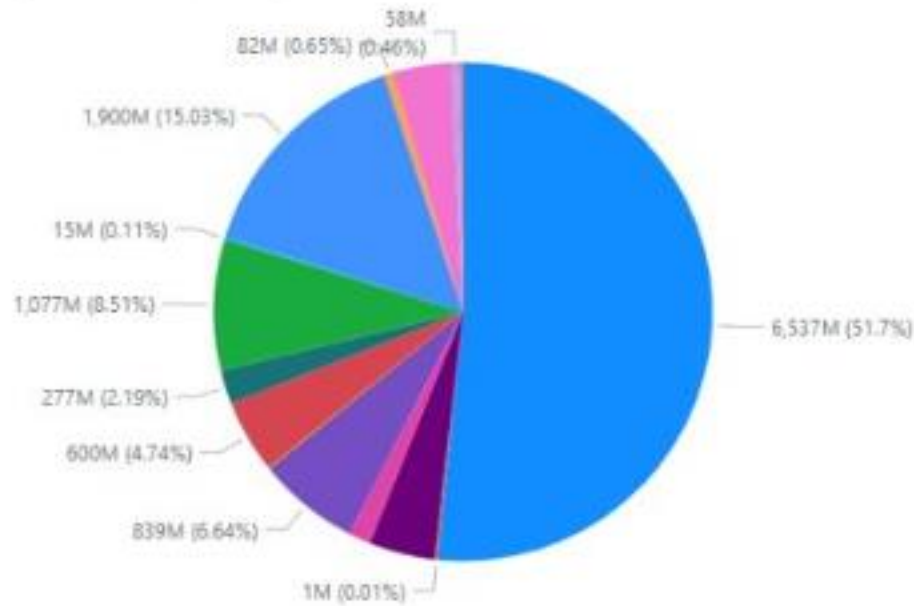
```
1 let
2   Source = ""
3 in
4   Source
```

# Database Query



# Microsoft Teams

Budget by Source of Authority



FY23 Modified Budget FY23 Expended Budget Percent Expended

	FY23 Modified Budget	FY23 Expended Budget	Percent Expended	
	6,536,771,471	4,855,405,402	74.3%	
Transfer	4,851,535	66,637	1.4%	
Grant	467,463,958	87,036,113	18.6%	
	37,995,660	1,851,018	4.9%	
	179,994,356	119,757,693	66.5%	
	839,166,843	216,481,152	25.8%	
State Bill	10,453,562	194,933	1.9%	
	277,160,805	34,057,605	12.3%	
	1,076,669,895	612,991,507	56.9%	
	14,520,737	5,915,781	40.7%	
	667,470	-	-	
	58,086,308	15,501,231	26.7%	
	<b>12,644,728,124</b>	<b>6,416,388,774</b>	<b>50.7%</b>	

# BI Software

# Committee Engagement

Z

MONTANA STATE LEGISLATURE

## MODERNIZATION & RISK ANALYSIS (MARA) 2023 BIENNIUM

Legislative Fiscal Division / Modernization & Risk Analysis (MARA) 2023 Biennium



### MARA 2023 BIENNIUM

ARCHIVES  
GOALS & OBJECTIVES  
STAFF

#### UPCOMING MEETINGS

#### ANNOUNCEMENTS

- » [Request Remote Participation](#)
- » [Sign Up for Email Notifications](#)



A) Meeting Materials	+
B) Reports & Data Requests	+
C) Interactive Data	+
D) Minutes & Videos	+
E) Public Comment	+
F) Committee Members	+
G) About	+



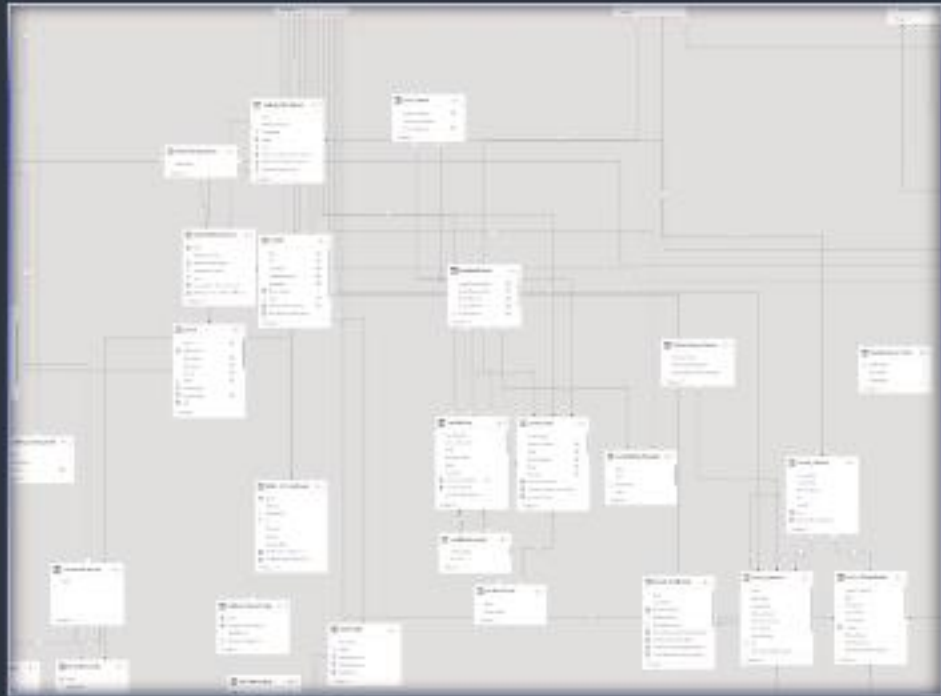
LEGISLATIVE  
CHAMPION



MANAGEMENT



STAFF



```

CALCULATE (
    DISTINCTCOUNT ( 'Calendar'[FiscalYear] ),
    'Calendar'[FiscalYear] >= MinYr,
    'Calendar'[FiscalYear] <= MaxYr,
    ALL ( 'Calendar'[FiscalYear] )
)

VAR Calculation1 =
    CALCULATE (
        X1Sqrdsun = ( X1SumSqr / FiscalYearsDistinctCount ),
        ALL ( 'Calendar'[FiscalYear] )
    )

VAR X2 =
    CALCULATE (
        SUMX ( 'Calendar', [CPI] ),
        'Calendar'[FiscalYear] >= MinYr,
        'Calendar'[FiscalYear] <= MaxYr
    )

VAR X2SumSqr =
    CALCULATE (
        SUMX ( 'Calendar', [CPI] ),
        'Calendar'[FiscalYear] >= MinYr,
        'Calendar'[FiscalYear] <= MaxYr,
        ALL ( 'Calendar' )
    )
    ^ 2

VAR X2Sqrdsun =
    CALCULATE (
        SUMX ( 'Calendar', [CPI] ^ 2 ),

```

# 2040 Model

We've  
Started  
Seeing  
Results



[Committee Page Demo](#)



[Budget Demo](#)

We've  
Started  
Seeing  
Results



MARA Committee  
Permanent



Additional Staff

# A Few Lessons

1. Making time to do this work is the trick with all the demands of the normal job.
2. Adding Resources - The deeper we've gone into this the more we realized we have to spread the load a bit.
3. You must start trusting your people, you can't be the expert they are.
4. Involvement in groups outside our typical world.
5. Moved from one-offs to more living products when it makes sense.
6. Relationship with your IT shop must be in good shape, this has been a shared journey for us.

**“I've come up with a set of rules that describe our reactions to technologies:**

**Anything that is in the world when you're born is normal and ordinary and is just a natural part of the way the world works.**

**Anything that's invented between when you're fifteen and thirty-five is new and exciting and revolutionary and you can probably get a career in it.**

**Anything invented after you're thirty-five is against the natural order of things.”**

— Douglas Adams, [The Salmon of Doubt](#)

So, What's  
Next?



Snowflake



# Data Storage and Setup

Z

Name	Date modified	Type	Size		
GLAccounts_2011-02.xlsx	3/16/2012 9:35 AM	Microsoft Excel W...	463 KB		
GLAccounts	Name	Date modified	Type	Size	
productreve	CPI_replacewhenabletoautomate.xlsx	10/8/2019 3:04 PM	Microsoft Excel W...	33 KB	
productreve	Department IDs.xlsx	4/21/2020 12:32 PM	Microsoft Excel W...	219 KB	
GLAccounts	DEPT Names:	Name	Date modified	Type	Size
productreve	eREMI Deathl	MontanaData052023.xlsx	5/17/2023 10:12 AM	Microsoft Excel W...	2,878 KB
GLAccounts	eREMI_PopPr	MontanaData062023.xlsx	6/19/2023 11:53 AM	Microsoft Excel W...	2,927 KB
productreve	Expenditure C	MontanaData072022.xlsx	7/25/2022 9:47 AM	Microsoft Excel W...	3,212 KB
GLAccounts	Fiscal Year (Ti	MontanaData082022.xlsx	8/17/2022 9:15 AM	Microsoft Excel W...	3,213 KB
productreve	FundLookup:	MontanaData092022.xlsx	10/12/2022 8:57 AM	Microsoft Excel W...	3,211 KB
GLAccounts	Funds SB cate	MontanaData102022.xlsx	10/18/2022 3:38 PM	Microsoft Excel W...	3,212 KB
productreve	Funds Structu	MontanaData112022.xlsx	12/28/2022 9:10 AM	Microsoft Excel W...	3,231 KB
productreve	General Fund	NationalData012023.xlsx	1/12/2023 10:19 AM	Microsoft Excel W...	9,306 KB
GLAccounts	Glossary Cen:	NationalData022023.xlsx	2/9/2023 6:54 PM	Microsoft Excel W...	9,385 KB
transactionh	IBARSVersion:	NationalData032023.xlsx	3/9/2023 12:49 PM	Microsoft Excel W...	9,390 KB
transactionh	LFD Correctio	NationalData042023.xlsx	4/12/2023 11:19 AM	Microsoft Excel W...	9,386 KB
GLAccounts	LOCAL_GOV_	NationalData052023.xlsx	5/15/2023 1:03 PM	Microsoft Excel W...	9,390 KB
	LongRangeOf	NationalData062023.xlsx	6/19/2023 11:48 AM	Microsoft Excel W...	9,394 KB
	MTLFD_BUD_	NationalData072022.xlsx	7/14/2022 9:55 AM	Microsoft Excel W...	8,972 KB
		NationalData082022.xlsx	8/31/2022 11:55 AM	Microsoft Excel W...	8,982 KB
		NationalData092022.xlsx	9/13/2022 10:51 AM	Microsoft Excel W...	8,999 KB
		NationalData102022.xlsx	10/12/2022 1:36 PM	Microsoft Excel W...	9,009 KB



### Legislative Fiscal Division #

Private group

+ New    ↑ Upload    Edit in grid view    Sync    Add shortcut to OneDrive

Some files are missing required metadata. Fix file issues now

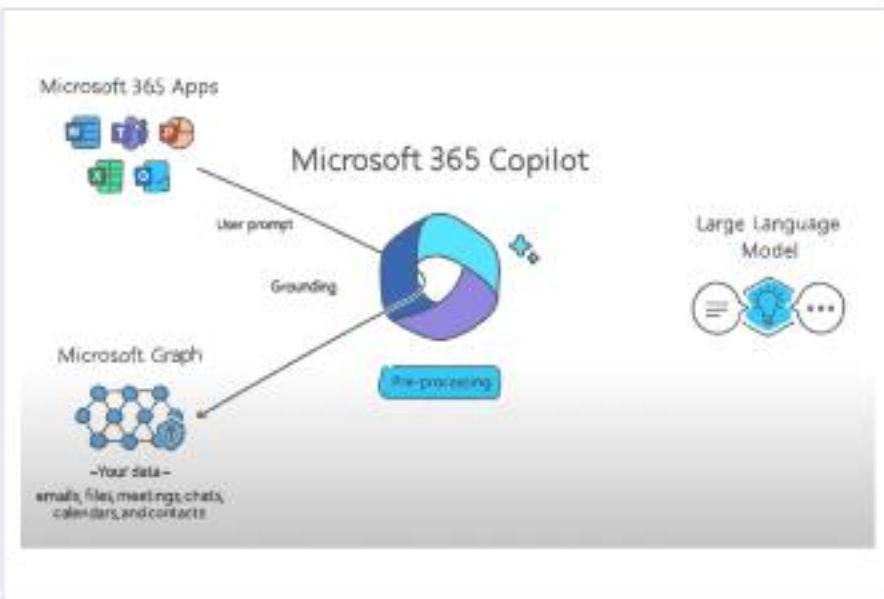
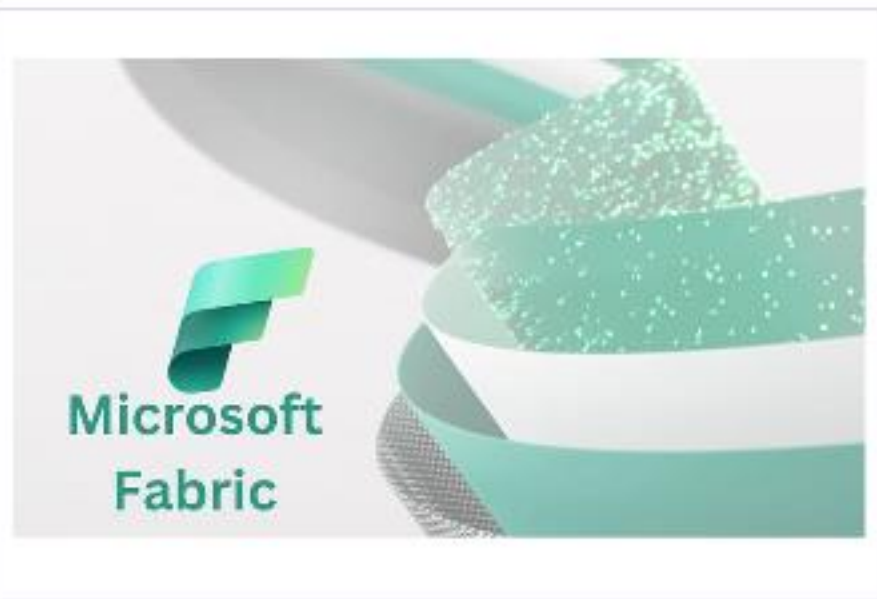
Documents

> In channels

∨ In site library

Name	Modified	Modified By
Expenditures	5 days ago	VanDoren, Mick
Temporary A	July 24	Unites, Sule
Data	April 25	VanDoren, Mick
Revenue	November 28, 2022	VanDoren, Mick

# Document Library



# Setting up for new tools

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## Jobs in U.S. that are likely to have high, medium or low exposure to AI

### High exposure

- Budget analysts
- Data entry keyers
- Tax preparers
- Technical writers
- Web developers



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### Medium exposure

- Chief executives
- Veterinarians
- Interior designers
- Fundraisers
- Sales managers



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### Low exposure

- Barbers
- Child care workers
- Dishwashers
- Firefighters
- Pipelayers



Note: Occupations are grouped by the relative importance of work activities with low, medium or high exposure to AI

Source: Pew Research Center analysis of O\*NET (Version 27.3).

"Which U.S. Workers Are More Exposed to AI on Their Jobs?"

PEW RESEARCH CENTER

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PEW RESEARCH  
CENTER

JULY 21, 2023

Thanks!

