



MACA

**Excel Tips and Tricks for
Compensation Professionals**

**MILWAUKEE AREA
COMPENSATION ASSOCIATION**

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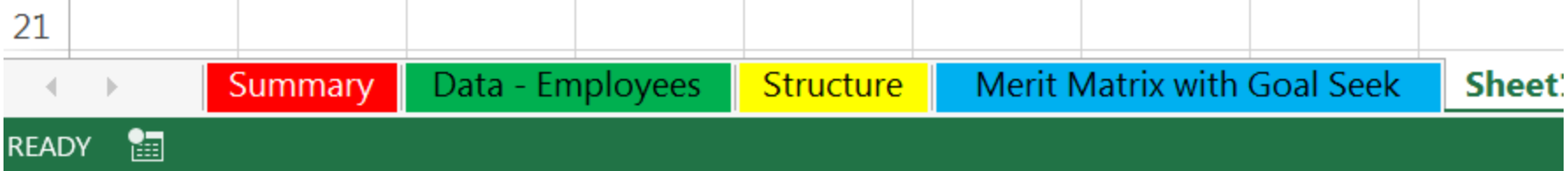


Agenda

- **Best practices in spreadsheet modeling**
- **Common Mistakes**
- **Formulas to review in conjunction with the spreadsheet**
 - » Compa-ratio versus Range Progression
 - » Nested If's
 - » Years of Service
 - » Index Formula
 - » Floating Bar Charts to show structure
 - » Pivot tables
 - » Concatenate
 - » Locking Cells / Conditional Formatting for Performance data entry
 - » Sumif and Countif to the summary costing of the data

Best Practices in Spreadsheet Modeling

- Talk to Excel while building your spreadsheets! It really helps to talk thru the formulas, never mind that your co-workers will think you're crazy 😊
- Your spreadsheet column headers should ask logical questions and when you look at the data for each person it should tell a story.
- Think globally about the story you're going to tell FIRST, then create your tabs; next start to build out your EMPLOYEE DATA tab.
 - It should be in pure tabular form, no blank column headers, no spacing out data with rows that are blank so you can have a visually pleasing presentation, if it's important info, it belongs in a column header and each row is filled. Use filters to check for holes in your data.
- Create a Summary tab that uses the data to answer your questions



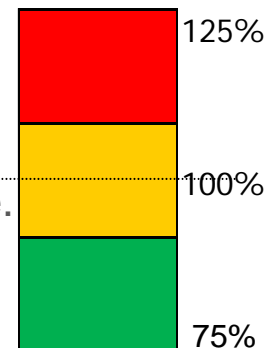
Common Mistakes

- People will try to send you data that creates space to visually separate
 - » you can't sort and filter with this kind of format; **CONVERT** to tabular form
- Linking to specific cells (\$ signs make them absolute)
- Columns without headers
- **NO TOTALS** at the bottoms of columns. That is what your Summary Tab is for.
- Filter on and then adding data to the right – homeless data
- Beware of freeze panes; you might be missing a chunk of data

Compa-ratio versus Range Progression

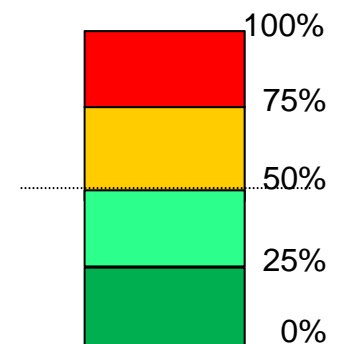
Compa-ratio – Employee Salary positioning against Reference Point

- » Expressed as % where 100% means they are right in the middle of the range.
- » Formula: $\text{Employee Salary} / \text{Reference Point (midpoint, mkt, avg, etc)}$



Range Progression – Employee Salary Positioning within Range

- » Expressed as a position from 0% through at the entry to the range to 100% through at the top. Halfway thru would be the midpoint.
- » Formula: $(\text{Employee Salary} - \text{Minimum of range}) / (\text{Max} - \text{Min})$



When to use?

- » If range spreads are different then use Range Progression formula

Use Nested "IF" formulas

Make your columns of data talk to you!

- » Talking out the Formula:
 - IF the EE Salary is blank, put a blank, if the employee's range progression is below zero, put "Below Min", if the employee's range progression is above 1, put "Above Max", and if none of those is true, put "Within Range".
- » =IF(A12^{EE Salary}="", "", IF(A12^{EE Salary}<0, "Below Min", IF(A12^{EE Salary}>1, "Above Max", "Within Range")))

Calculating years of service

Years of service – need two dates, date of hire or entry to current position AND the start of the current pay year

» Talking through the Formula:

- Let's subtract this date from the date of hire into the position and then divide by 365 to get the years and then use the round formula to get a whole number.

» =ROUND((AY2^{current date} - K2^{position start date})/365,0)

Checking for Compression using Index Formula

Let's say you have a structure and you want to see if people are making it through the range. You would want to check to see if they were to certain check-points in the range by certain years of service (provided performance was where it needed to be).

Use the index formula – have you ever played Battleship? It's the same concept. Give coordinates to find a location on a table.

This person is in grade 212 and has 7 years of service in the role

		Years =>							
		0	3	6	9	12	100		
		1	2	3	4	5	5		
Grade	NumStep	Minimum		Q4		Midpoint	Q4	Maximum	
202	1	\$ 10.84	\$ 11.33	\$ 11.83	\$ 12.08	\$ 12.83	\$ 13.82	\$ 14.82	
203	2	\$ 11.96	\$ 12.53	\$ 13.10	\$ 13.39	\$ 14.24	\$ 15.38	\$ 16.52	
204	3	\$ 12.99	\$ 13.63	\$ 14.27	\$ 14.59	\$ 15.55	\$ 16.84	\$ 18.12	
205	4	\$ 13.75	\$ 14.45	\$ 15.16	\$ 15.51	\$ 16.56	\$ 17.97	\$ 19.38	
206	5	\$ 14.75	\$ 15.53	\$ 16.31	\$ 16.70	\$ 17.88	\$ 19.44	\$ 21.01	
207	6	\$ 16.15	\$ 17.03	\$ 17.92	\$ 18.36	\$ 19.70	\$ 21.47	\$ 23.24	
208	7	\$ 17.45	\$ 18.44	\$ 19.43	\$ 19.93	\$ 21.41	\$ 23.39	\$ 25.37	
209	8	\$ 18.90	\$ 20.00	\$ 21.11	\$ 21.67	\$ 23.33	\$ 25.55	\$ 27.76	
210	9	\$ 20.81	\$ 22.08	\$ 23.34	\$ 23.97	\$ 25.86	\$ 28.38	\$ 30.90	
211	10	\$ 22.30	\$ 23.70	\$ 25.09	\$ 25.79	\$ 27.88	\$ 30.66	\$ 33.45	
212	11	\$ 24.81	\$ 25.51	\$ 27.10	\$ 27.88	\$ 30.20	\$ 33.29	\$ 36.39	
213	12	\$ 25.51	\$ 27.41	\$ 29.32	\$ 30.27	\$ 33.13	\$ 36.94	\$ 40.75	
14A	13	\$ 26.99	\$ 29.00	\$ 31.02	\$ 32.03	\$ 35.05	\$ 39.08	\$ 43.11	
214	14	\$ 29.92	\$ 31.91	\$ 33.90	\$ 34.89	\$ 37.88	\$ 41.85	\$ 45.83	
215	15	\$ 32.27	\$ 34.48	\$ 36.69	\$ 37.79	\$ 41.11	\$ 45.53	\$ 49.95	
216	16	\$ 35.84	\$ 38.37	\$ 40.90	\$ 42.16	\$ 45.96	\$ 51.01	\$ 56.07	
217	17	\$ 42.58	\$ 45.67	\$ 48.76	\$ 50.31	\$ 54.94	\$ 61.13	\$ 67.31	
218	18	\$ 46.51	\$ 49.98	\$ 53.45	\$ 55.19	\$ 60.40	\$ 67.34	\$ 74.29	

Checking for Compression using Index Formula

The index formula – needs the row and column numbers as coordinates. In this case, you're telling it to find the intersection of ROW 11 and COLUMN 3 within the "array" or guts of the table....

f_x =IFERROR(INDEX(Structure!\$T\$8:\$Z\$34,BA2,BB2), "")

Select Arguments

INDEX

This function has multiple argument lists. Please select one of them.

Arguments:

- array,row_num,column_num
- reference,row_num,column_num,area_num

[Help on this function](#)

Certified Registered Nurse Anesthetist 1/1/2019

	Years =>	0	3	6	9	12	100
	col/row	1	2	3	4	5	5
Grade	NumStep	Minimum		Q2		Midpoint	Q4
202	1	1:1	\$ 11.33	\$ 11.88	\$ 12.08	\$ 12.83	\$ 13.82
203	2	\$ 11.96	\$ 12.53	\$ 13.10	\$ 13.39	\$ 14.24	\$ 15.38
204	3	\$ 12.99	\$ 13.63	\$ 14.27	\$ 14.59	\$ 15.55	\$ 16.84
205	4	\$ 13.75	\$ 14.45	\$ 15.15	\$ 15.51	\$ 16.56	\$ 17.97
206	5	\$ 14.75	\$ 15.53	\$ 16.31	\$ 16.70	\$ 17.88	\$ 19.44
207	6	\$ 16.15	\$ 17.03	\$ 17.92	\$ 18.36	\$ 19.70	\$ 21.47
208	7	\$ 17.45	\$ 18.44	\$ 19.43	\$ 19.93	\$ 21.41	\$ 23.39
209	8	\$ 18.90	\$ 20.00	\$ 21.11	\$ 21.67	\$ 23.33	\$ 25.55
210	9	\$ 20.81	\$ 22.08	\$ 23.34	\$ 23.97	\$ 25.86	\$ 28.38
211	10	\$ 22.30	\$ 23.70	\$ 25.09	\$ 25.79	\$ 27.88	\$ 30.66
212	11	\$ 24.01	\$ 25.55	\$ 27.10	\$ 27.88	\$ 30.20	\$ 33.29
213	12	\$ 25.51	\$ 27.41	\$ 29.32	\$ 30.27	\$ 33.13	\$ 36.94
14A	13	\$ 26.99	\$ 29.00	\$ 31.02	\$ 32.03	\$ 35.05	\$ 39.08
214	14	\$ 29.92	\$ 31.91	\$ 33.90	\$ 34.89	\$ 37.88	\$ 41.85
215	15	\$ 32.27	\$ 34.48	\$ 36.69	15:4	\$ 41.11	\$ 45.53
216	16	\$ 35.84	\$ 38.37	\$ 40.90	\$ 42.16	\$ 45.96	\$ 51.01
217	17	\$ 42.58	17:2	\$ 48.76	\$ 50.31	\$ 54.94	\$ 61.13
218	18	\$ 46.51	\$ 49.98	\$ 53.45	\$ 55.19	\$ 60.40	\$ 67.34

Using VLOOKUP and HLOOKUP to get to the “Coordinates” for INDEX

Create basic tables to translate the rows and columns of your table into Integers that can be used as coordinates in the Index formula

Years =>	0	3	6	9	12	100		
col/row =>	1	2	3	4	5	5		
Grade	NumStep	Minimum	Q2	Midpoint	Q4	Maximum		
202	1	\$ 10.84	\$ 11.33	\$ 11.83	\$ 12.33	\$ 12.83	\$ 13.82	\$ 14.82
203	2	\$ 11.96	\$ 12.53	\$ 13.10	\$ 13.39	\$ 14.24	\$ 15.38	\$ 16.52
204	3	\$ 12.99	\$ 13.65	\$ 14.27	\$ 14.59	\$ 15.55	\$ 16.84	\$ 18.12
205	4	\$ 13.75	\$ 14.45	\$ 15.16	\$ 15.51	\$ 16.56	\$ 17.97	\$ 19.38
206	5	\$ 14.75	\$ 15.53	\$ 16.31	\$ 16.70	\$ 17.88	\$ 19.44	\$ 21.01
207	6	\$ 16.15	\$ 17.03	\$ 17.92	\$ 18.36	\$ 19.70	\$ 21.47	\$ 23.24
208	7	\$ 17.45	\$ 18.44	\$ 19.43	\$ 19.93	\$ 21.41	\$ 23.39	\$ 25.37
		\$ 18.90	\$ 20.00	\$ 21.11	\$ 21.67	\$ 23.33	\$ 25.55	\$ 27.76
		\$ 20.81	\$ 22.08	\$ 23.34	\$ 23.97	\$ 25.86	\$ 28.38	\$ 30.90
		\$ 22.30	\$ 23.70	\$ 25.09	\$ 25.79	\$ 27.88	\$ 30.66	\$ 33.45
		\$ 24.01	\$ 25.55	\$ 27.10	\$ 27.88	\$ 30.20	\$ 33.29	\$ 36.39
		\$ 25.51	\$ 27.41	\$ 29.32	\$ 30.27	\$ 33.13	\$ 36.94	\$ 40.75

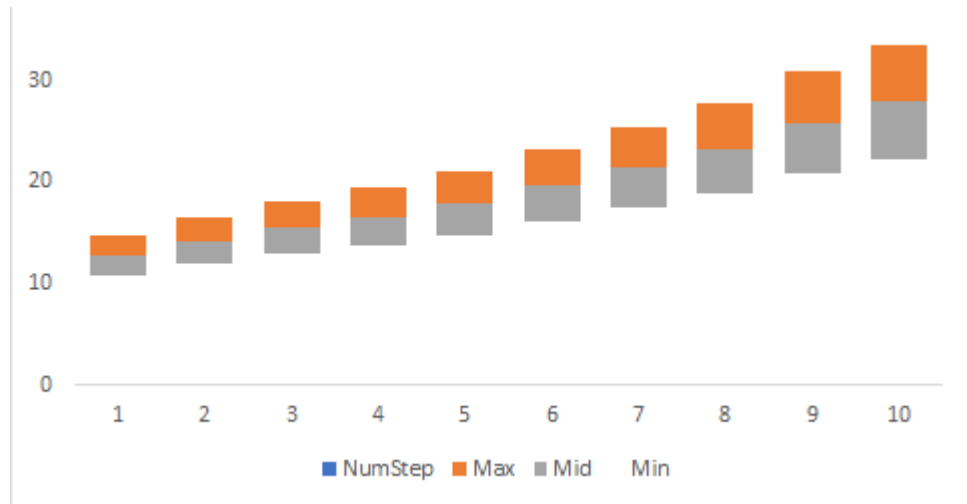
`=IFERROR(HLOOKUP(AZ14,Structure!T4:Y5,2,""))`

Business Title	Seniority Calculation Date	Years Experience	Grade Row - 12yrs to Mid	YOE Bucket - 12yrs to Mid
Pharmacotherapist	1/1/2019	8	24	3

Floating Bar Charts to Show Structure

To get this look follow these steps:

1. Set your grades and range up **HORIZONTALLY**; and in the order shown below **Grade, Max, Mid Min**
 - » Use the special copy "TRANSPOSE"
2. Highlight the data; select **Insert Clustered Column Bar Chart**
 - » Format series overlap needs to be set to 100%
 - » Adjust Gap Width
 - » Format fill to white (none doesn't seem to work)
 - » Gridlines need to be deleted and choose white as fill
 - » Can adjust bar color if wish
 - » Can add data labels



NumStep	Minimum	Q2	Midpoint	Q4	Maximum		
1	\$ 10.84	\$ 11.33	\$ 11.83	\$ 12.08	\$ 12.83	\$ 13.82	\$ 14.82
2	\$ 11.96	\$ 12.53	\$ 13.10	\$ 13.39	\$ 14.24	\$ 15.38	\$ 16.52
3	\$ 12.99	\$ 13.63	\$ 14.27	\$ 14.59	\$ 15.55	\$ 16.84	\$ 18.12
4	\$ 13.75	\$ 14.45	\$ 15.16	\$ 15.51	\$ 16.56	\$ 17.97	\$ 19.38
5	\$ 14.75	\$ 15.53	\$ 16.31	\$ 16.70	\$ 17.88	\$ 19.44	\$ 21.01
6	\$ 16.15	\$ 17.03	\$ 17.92	\$ 18.36	\$ 19.70	\$ 21.47	\$ 23.24
7	\$ 17.45	\$ 18.44	\$ 19.43	\$ 19.93	\$ 21.41	\$ 23.39	\$ 25.37
8	\$ 18.90	\$ 20.00	\$ 21.11	\$ 21.67	\$ 23.33	\$ 25.55	\$ 27.76
9	\$ 20.81	\$ 22.08	\$ 23.34	\$ 23.97	\$ 25.86	\$ 28.38	\$ 30.90

Grade	1	2	3	4	5	6	7	8	9
Maximum	\$14.82	\$16.52	\$18.12	\$19.38	\$21.01	\$23.24	\$ 25.37	\$ 27.76	\$ 30.90
Midpoint	\$12.83	\$14.24	\$15.55	\$16.56	\$17.88	\$19.70	\$ 21.41	\$ 23.33	\$ 25.86
Minimum	\$10.84	\$11.96	\$12.99	\$13.75	\$14.75	\$16.15	\$ 17.45	\$ 18.90	\$ 20.81

Pivot Table and Concatenate

Let's say you want to create a list of jobs in the Inpatient Services department with their average pay and their midpoint listed in parentheses behind them.

First you have to use a pivot table to get you the average pay by job and department.

Row Labels	Count of Name	Average of Hourly Rate	Average of 2019 Structure Mid
Inpatient Services	71	\$27.01	\$30.64
Nursing Assistant	21	\$13.35	\$15.55
Unit Secretary	5	\$16.18	\$16.56
Registered Nurse	39	\$33.53	\$38.08
Supv, Inpatient Services	5	\$39.27	\$45.25
Director, Inpatient Services	1	\$52.24	\$54.94
Patient Registration	68	\$15.97	\$17.17
Admissions Representative	4	\$15.10	\$15.55
Patient Registration Representative	60	\$15.26	\$16.56
Supv, Patient Registration	3	\$27.15	\$27.88
Supv, Patient Registration and Training	1	\$28.36	\$27.88

Concatenate

Now you copy the pivot table data and paste as values

Concatenate just links strings together. To get it to link data, just select cell, to add any other text that is not numeric, use quotes i.e. “average hourly”

Job Title	#ees	Avg Hourly	Midpoint	Concatenate
Inpatient Services	71			
Nursing Assistant	21	\$ 13.35	\$ 15.55	=CONCATENATE(F5,"(",G5," ees) ", "(\$",H5," avg hourly)", " (\$",I5," mid)")
Unit Secretary	5	\$ 16.18	\$ 16.56	U CONCATENATE(text1, [text2], [text3], [text4], [text5], [text6], [text7], [text8], [text9], [text10], [text11], ...)
Registered Nurse	39	\$ 33.53	\$ 38.08	Registered Nurse (39 ees) (\$33.53 avg hourly) (\$38.08 mid)
Supv, Inpatient Services	5	\$ 39.27	\$ 45.25	Supv, Inpatient Services (5 ees) (\$39.27 avg hourly) (\$45.25 mid)
Director, Inpatient Services	1	\$ 52.24	\$ 54.94	Director, Inpatient Services (1 ees) (\$52.24 avg hourly) (\$54.94 mid)

Nursing Assistant (21 ees) (\$13.35 avg hourly) (\$15.55 mid)

Unit Secretary (5 ees) (\$16.18 avg hourly) (\$16.56 mid)

Registered Nurse (39 ees) (\$33.53 avg hourly) (\$38.08 mid)

Supv, Inpatient Services (5 ees) (\$39.27 avg hourly) (\$45.25 mid)

Director, Inpatient Services (1 ees) (\$52.24 avg hourly) (\$54.94 mid)

Job Value Matrix

Grade	Proposed			JVM				
	Min	Mid	Max	Org Leadership and Business Support	Beauty	Marketing	Sales	Supply Chain
S17	\$19,079	\$25,431	\$31,788					
S18	\$23,555	\$31,406	\$39,258					Warehouse Clerk I (Mkt \$31.4) (Avg Base \$30.7)
S19	\$29,002	\$38,700	\$48,406	Accountant Payable Specialist (Mkt \$37.8) (Avg Base \$37.9)		Marketing Assistant (Mkt \$40.4) (Avg Base \$41.2)	SALES ASSISTANT (Mkt \$37.6) (Avg Base \$42.9)	Inbound Logistics Coordinator (Mkt \$44.9) (Avg Base \$60.7)
				Customer Service Financial Analyst (Mkt \$36.8) (Avg Base \$42.7)				Junior Buyer (Mkt \$44.5) (Avg Base \$48.1)
				HELP DESK SPECIALIST (Mkt \$35.1) (Avg Base \$30)				PRODUCTION/CA COORDINATOR (Mkt \$40.5) (Avg Base \$36)
								PURCHASING CLERK (Mkt \$41.6) (Avg Base \$40)
S20	\$35,031	\$47,900	\$50,005	Accountant (Mkt \$48.9) (Avg Base \$50.2)	Industrial Designer/Product Development Assistant (Mkt \$48) (Avg Base \$49.2)	E-commerce Marketing Assistant (Mkt \$47.9)	Customer Marketing Associate (Mkt \$45.5) (Avg Base \$43.3)	Buyer (Mkt \$49) (Avg Base \$51.7)
				CUSTOMER SERVICE SPECIALIST (Mkt \$47) (Avg Base \$57.3)	Junior Graphic Designer (Mkt \$48.7) (Avg Base \$47)			SENIOR LOGISTICS CLERK (Mkt \$47.9) (Avg Base \$43.3)
				EDI COORDINATOR (Mkt \$49.8) (Avg Base \$49.5)	Product Development Assistant (Mkt \$47.8) (Avg Base \$50)			Supply Chain Analyst (Mkt \$53) (Avg Base \$49.3)
				Executive Assistant (Mkt \$53.7) (Avg Base \$46.8)				
				SENIOR ACCOUNTS PAYABLE SPECIALIST (Mkt \$41.8) (Avg Base \$44.7)				Supply Chain Sourcing Associate (Mkt \$47.3)
S23	\$67,095	\$90,261	\$112,826	ACCOUNTING MANAGER (Mkt \$86.1) (Avg Base \$76.9)	Associate Product Development Manager (Mkt \$87.9) (Avg Base \$69.7)	Senior Associate Brand Manager (Mkt \$91.1)	SENIOR CUSTOMER MARKETING MANAGER I (Mkt \$98) (Avg Base \$73.7)	LOGISTICS MANAGER (Mkt \$83) (Avg Base \$74.6)
				SENIOR CUSTOMER FINANCIAL SERVICES MANAGER (Mkt \$96.7) (Avg Base \$85)			SENIOR REPLENISHMENT MANAGER (Avg Base \$90.4)	S&OP MANAGER (Avg Base \$101.1)
				MANAGER OF FINANCIAL PLANNING & ANALYSIS (Mkt \$111.4) (Avg Base \$127.3)	Beauty Insights and Consumer Research Manager (Mkt \$104.5)	Brand Manager (Mkt \$98.3) (Avg Base \$128.8)	DIRECTOR OF SALES ADMINISTRATION (Mkt \$138.5) (Avg Base \$131)	Global Quality Assurance Manager (Mkt \$117.6) (Avg Base \$120.2)
S24	\$83,009	\$111,479	\$139,349		PRODUCT DEVELOPMENT MANAGER (Mkt \$102.8) (Avg Base \$87.1)		REGION MANAGER (Mkt \$109.1) (Avg Base \$118)	
					Senior Manager Product Development Bath/Liquid/Technical Development (Mkt \$117.1) (Avg Base \$95)		Senior Customer Marketing Manager II - Domestic (Mkt \$130.8)	
							Senior Customer Marketing Manager II - International (Mkt \$110.3)	
				Director of Human Resources (Mkt \$138.9)	DIRECTOR OF BEAUTY DISCOVERY AND GLOBAL INSIGHT (Mkt \$160.2)	DIRECTOR OF ECOMMERCE (Mkt \$134.9) (Avg Base \$144.7)	DIRECTOR OF SALES AND CATEGORY DEVELOPMENT (Mkt \$140.7) (Avg Base \$131)	Director of Global Sourcing (Mkt \$171.3) (Avg Base \$193)

Locking Cells and Conditional Formatting

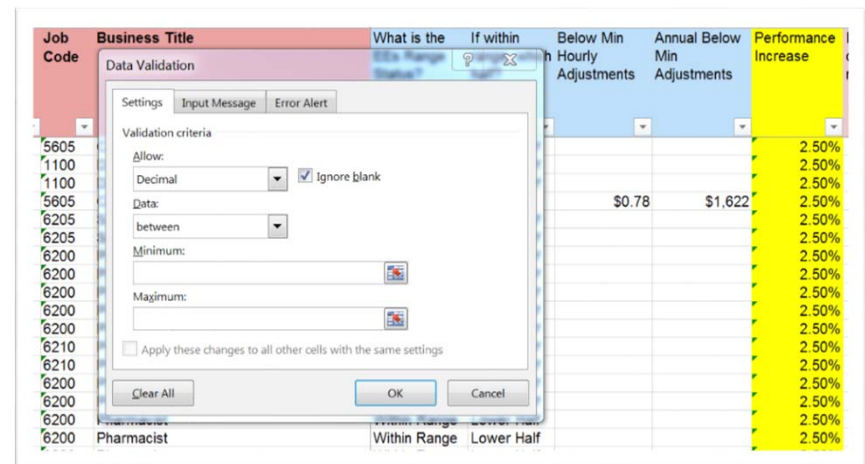
For gathering Performance Data from Managers

Right click => Format Cells => Protection => take check mark OFF “locked”

Go to REVIEW say Protect Sheet and Protect Workbook; Use Hide Tab as well.

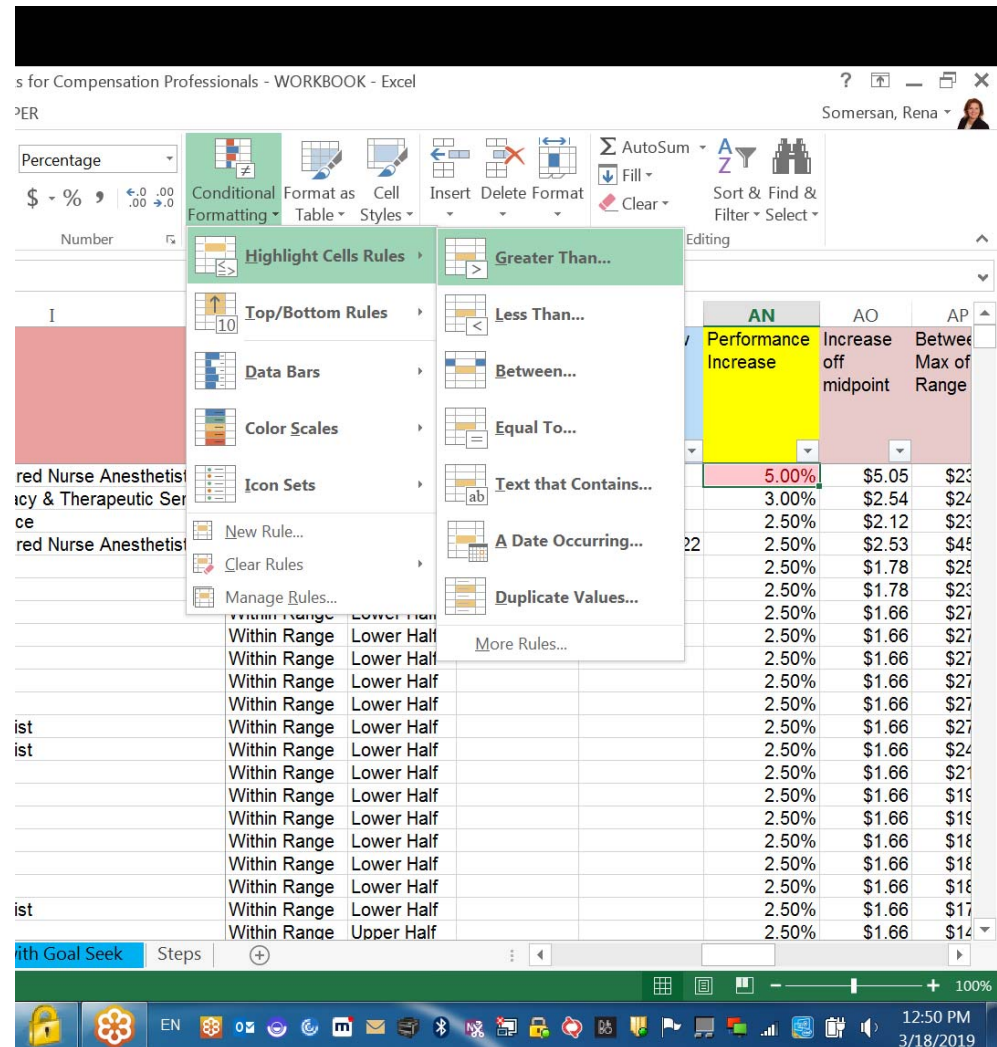
Data Validation: go to DATA, select Data Validation => Decimal and input values

If you're using a percentage, make sure to input the data as .015 - .05



Conditional Formatting

Highlight cells greater than 4% to draw attention in the worksheet



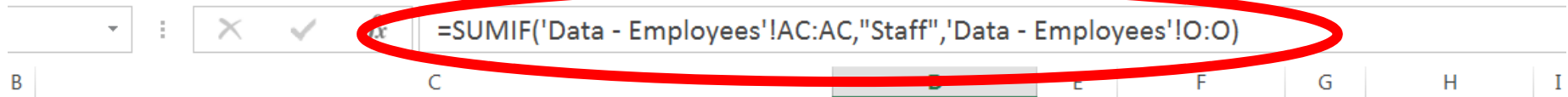
The Summary Tab

What “story” do you want to tell with the data?

2019 Salary Planning
Summary of General and Market Off-Midpoint Increases

Off Midpoint Increase (Please Input %)	2.50%		
	<u>Staff/Supervisors</u>	<u>Directors</u>	<u>Totals</u>
Total Employees	1141	19	1160
FTE	921.2	19	940.2
Before Adjustments			
Total Salaries	\$52,309,741	\$2,210,000	\$54,519,741
Below Minimum	\$19,947	\$0	\$19,947
Compa-ratio	94.2%	95.1%	94.2%
After Adjustments			
Total Salaries	\$53,725,092	\$2,268,552	\$55,993,644
General Increase (Incl Raise to Min)	\$1,415,351	\$58,552	\$1,473,903
Above Maximum Bonus Payments	\$4,113	\$0	\$4,113
Compa-ratio	95.8%	96.6%	95.8%
Total Increase Budget	\$1,419,463	\$58,552	\$1,478,015
Total Budget - %	2.71%	2.65%	2.71%
12yrs to Midpoint Market Adjustments - <90%	\$68,262	\$2,331	\$70,594
Total Increase Budget (General Increase + 12yrs to Mid Market Adj <90%)	\$1,487,726	\$60,883	\$1,548,609
Total Budget 12yrs to Mid - %	2.84%	2.75%	2.84%

Sumif and Countif



2019 Salary Planning Summary of General and Market Off-Midpoint Increases

Off Midpoint Increase (Please Input %) 2.50%

	Staff/Supervisors	Directors	Totals
Total Employees	1141	19	1160
FTE	921.2	19	940.2

Before Adjustments

Total Salaries	\$52,309,741	\$2,210,000	\$54,519,741
Below Minimum	\$19,947	\$0	\$19,947
			94.2%

Business Title	Hourly Rate	Annualized Salary	Grade	2018 Minimum Pay Rate-Hourly	2018 Midpoint Pay Rate-Hourly	2018 Maximum Pay Rate-Hourly	Employee Type	
Director, Consulting and Outpatient Service	\$ 43.18	\$89,814	217	\$ 42.16	\$ 54.40	\$ 66.64	Director	95.8%
Systems Administrator	\$ 36.63	\$76,190	216	\$ 35.49	\$ 45.50	\$ 55.51	Staff	
Coach, Family Birth & Women's Center	\$ 38.07	\$79,186	16A	\$ 34.94	\$ 44.80	\$ 54.66	Staff	\$1,478,015
Coach, Behavioral Health	\$ 34.13	\$70,990	215	\$ 31.95	\$ 40.70	\$ 49.45	Staff	2.71%
Systems Integration Analyst	\$ 34.13	\$70,990	215	\$ 31.95	\$ 40.70	\$ 49.45	Staff	
Physical Therapist	\$ 35.01	\$72,821	215	\$ 31.95	\$ 40.70	\$ 49.45	Staff	\$70,594

Total Increase Budget (General Increase + 12yrs to Mid Market Adj <90%) \$1,487,726 \$60,883 \$1,548,609

Total Budget 12yrs to Mid - % 2.84% 2.75% 2.84%

Thank YOU for Attending!

Questions?

Feel free to email Rena at rena.somersan@newportgroup.com or

Mike at mimans@ameritech.net