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Basic of Exploring Data in Excel - Tables, Key Functions, and Pivot Tables

Don Tomoff
Business Learning Institute Provider

PRESENTED TO
Maryland Government Finance Officers Association
In-person (Ocean City, MD)
June 15, 2022

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Donald Tomoff, CPA, MBA

Don is the founder of Invenio Advisors LLC, a consulting firm specializing in information management, process improvement, reporting and data analysis, as well as education and training. Don's experience includes "Big 4" public accounting, senior-level industry finance positions, and consulting. Don's industry experience includes serving eight years with Jo-Ann Stores as VP, Finance and Treasurer.

Since 2010, Don has focused his efforts with executives and companies on many digital process improvement, data analytics and training initiatives, including developing and implementing mobile information strategies. His efforts are focused on the identification of process improvement opportunities, and leveraging readily available technology tools to drive that change. In addition to consulting, Don speaks at various conferences, including the IMA National Conference in Indianapolis, IN.

Other Courses by Donald Tomoff

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ADDITIONAL MATERIALS FOR YOUR STAFF

Pam Devine, Customized Learning Manager
800-782-2036, ext. 321 | pam@aicpa-cima.org

Automation In Excel: Using Macros Without Understanding Code (VBA)

CPA Firm Business Development: Don't Miss The Data Analytics Opportunity

Custom Excel Training: Basic to Beginner Advanced

Excel – Young Professionals: Skills to Jump Start Your Career

Excel Data Management: Tables and Pivot Tables Challenge

Excel Essentials & Intro to Data Analysis For Accounting and Finance: Part 1 – Excel Basics and Best Practices

Excel Essentials & Intro to Data Analysis For Accounting and Finance: Part 2 – Formulas and Functions: Best Practices and Top Functions To Understand

Excel Essentials & Intro to Data Analysis For Accounting and Finance: Part 3 – Data Management & Introduction to Power Query

Excel Essentials & Intro to Data Analysis For Accounting and Finance: Part 4 – Data Analysis, Pivot Tables and Power Pivot

Excel Productivity: 5 Excel Tips and Techniques to Massively Boost Team Productivity

Excel, Power BI and Data Analysis – Eliminating the Paralysis of the Analysis

Excel, Power BI and Data Analysis – Eliminating the Paralysis of the Analysis

Excel, Power Tools, and PowerBI: Upping Your Data Analytics Game

Excel: 5 Reports Your CFO Wants (But Probably Doesn't Have) – Developing an Anticipatory Mindset

Excel: 5 Tips for Understanding a Complicated Spreadsheet

Introduction to Data Analytics with Power Pivot

Introduction to Microsoft OneNote

Introduction to Data Analytics with Power Query (Get and Transform in Excel 2016)

Stand Out with Your Excel Skills: Key Capabilities to Set You Apart

Tech Trends for Accountants: What To Know and What You Can Do About It

The Big 5: Excel and PowerBI Data Topics

The Essentials of Data Analytics: Excel & PowerBI

Welcome To The Future: Forget "Excel" – Understand Today's Excel

Basics of Exploring Data in Excel

Data, Tables, Functions, Pivot Tables

Presentation MDGFOA 2022 Annual Summer Conference
Don Tomoff, CPA, MBA
June 15, 2022

Invenio Advisors, LLC

About Don

Don Tomoff

LinkedIn Profile

- #twinztalk
- #twinztechtip

Twitter

Google Search Don

"Let's Excel" Blog on Medium

BLI Instructor

CPA, MBA, senior financial executive with experience in public accounting, industry and consulting

Agenda

- 1 – About This Presentation
- 2 – The Language of Data
- 3 – Data Structure & Excel Tables
- 4 – Key Excel Functions Review
- 5 – Pivot Tables / Pivot Charts
- 6 – Data Case Studies / Tips
- 7 – Handouts

"In a world of more data, the companies with more data-literate people are the ones that are going to win." — Miro Kazakoff, senior lecturer, MIT Sloan (Link)

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About This Presentation

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- Think of this as an e-book.
- Resource with touch navigation and many content links.
- Load onto your Mobile device for easy access.

Click Here to Access (or Scan Code) >>

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About This Presentation

1. Navigating the document
   - Tap ***Invenio Advisors, LLC*** >> Return to Agenda page
   - QR Codes provided for mobile device content access
2. It is a RESOURCE. Take it with you (mobile) / *keep it with you!*
3. Content hyperlinks are live.

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Learning Objectives

Upon completion this session, participants will be able to:

1. Develop and utilize Excel data Tables for your data and recall why they are necessary,
2. Identify proper structuring of data for pivot table analysis,
3. Recognize how pivot tables and pivot charts can make analysis faster, easier, and more flexible, and
4. Understand modifying data fields / dimensions to simplify and prepare for data analysis. Awareness of key functions and formulas!

How much time do you spend using Excel each day?

1. Less than 1 hour
2. 2-3 hours
3. 3-5 hours
4. Seems like all day!

QUESTION #1

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Prior MDGFOA Presentation? – June 19, 2019

WERE YOU THERE?

Before We Dive In…Recommended Excel Skills?

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1. PowerQuery
2. PowerPivot (includes Pivot Tables)
3. Dynamic Arrays (365)
4. Data Visualization
5. Formatted Tables
6. Functions (20 key items)
7. Data Validation
8. PowerBI (separate tool)

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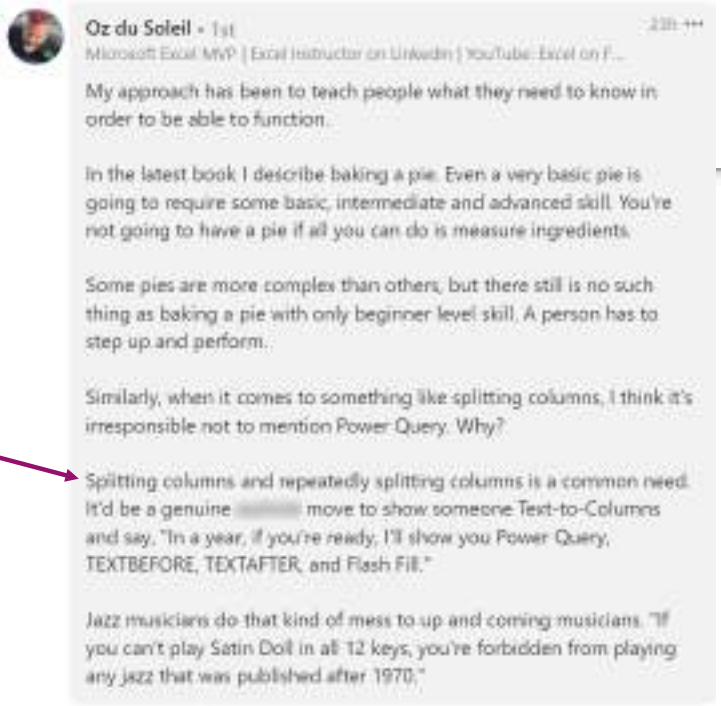
Consider Baking a Pie…

"Similarly, when it comes to something like splitting column, I think it's irresponsible not to mention Power Query. ***Why?***"



Oz du Soleil • 1st
Microsoft Excel MVP | Excel Instructor on LinkedIn | YouTube: Excel on F...

My approach has been to teach people what they need to know in order to be able to function.

In the latest book I describe baking a pie. Even a very basic pie is going to require some basic, intermediate and advanced skill. You're not going to have a pie if all you can do is measure ingredients.

Some pies are more complex than others, but there still is no such thing as baking a pie with only beginner level skill. A person has to step up and perform.

Similarly, when it comes to something like splitting columns, I think it's irresponsible not to mention Power Query. Why?

Splitting columns and repeatedly splitting columns is a common need. It'd be a genuine [redacted] move to show someone Text-to-Columns and say, "In a year, if you're ready, I'll show you Power Query, TEXTBEFORE, TEXTAFTER, and Flash Fill."

Jazz musicians do that kind of mess to up and coming musicians. "If you can't play Satin Doll in all 12 keys, you're forbidden from playing any jazz that was published after 1970."

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The Language of Data

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Why Analytics? Why Now?

DA is the #1 technology expected to impact finance & accounting professionals in the next 2-3 years!

So, Why Data Analytics?

"By now it has become clear that all businesses should embrace data to make their organization as efficient and profitable as possible. Old and tiresome puns like 'data is the new oil' may have been used to death but they have in no way whatsoever lost their meaning. This is because data is indeed one of the most important commodities to any business."

- *FintechTimes - Promoting Digital Growth Through a Hands-on Approach to Data & Analytics*

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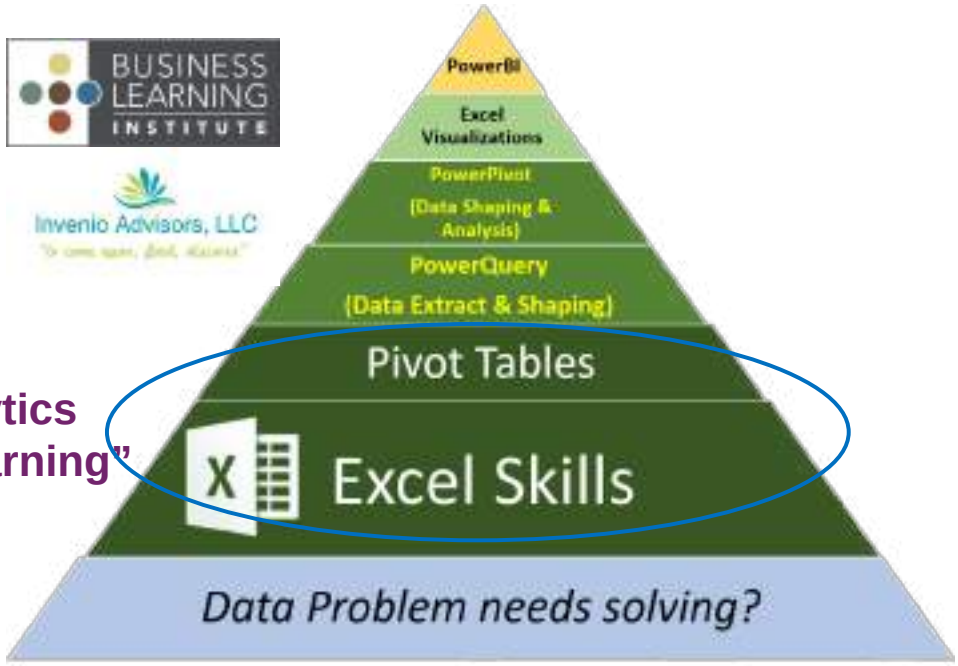
Microsoft's Analytics "Hierarchy of Learning"



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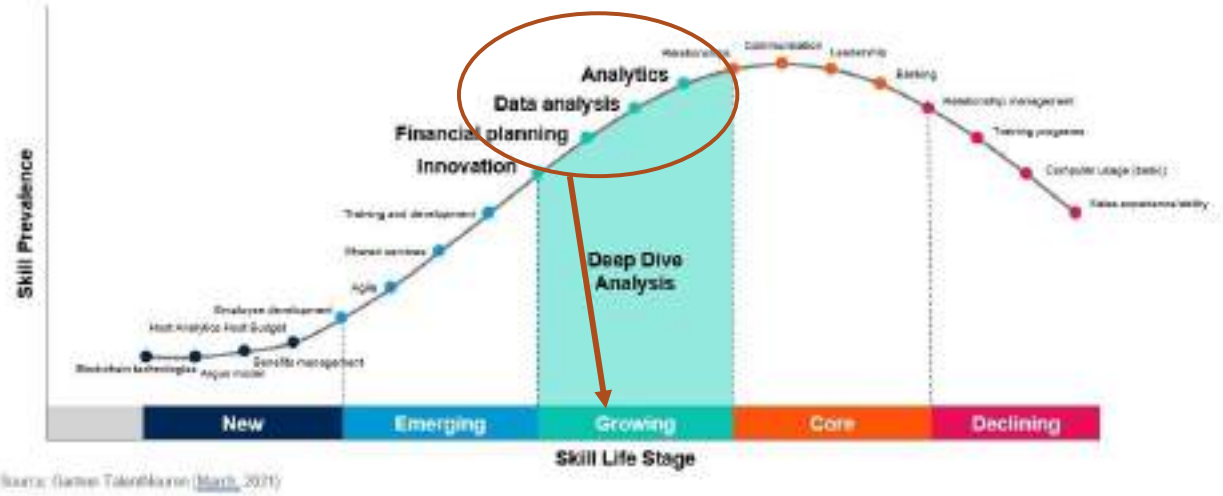
Gartner Skills Life Cycle Analysis (2021)

Financial Managers

Skills Life Cycle — S&P 100 Employers

Click Here for related LinkedIn Post



Source: Gartner TalentNeuron (March, 2021)

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Data Analytics - Basic Terminology

1. Data Structure – **"Proper" Dataset** (Fields & Records VS Columns & Rows)
2. Transaction (**Fact**) tables (e.g., sales data) vs Lookup (**Dimension**) tables (e.g., customer table)
3. **ETLR** – Extract, Transform, Load and Report
4. **EDA** – exploratory data analysis
5. Relational Databases – **Data Joins** between tables "connect" data
6. **Queries** (PowerQuery, M-Code)
7. **Modeling** (PowerPivot, DAX, Data Model)

Consider…Typical Participant Poll Responses

1. Do you work with data? **100%**
2. Aware of Excel Tables and Pivot Tables? **70%**
3. Can explain the purpose of each and why they are important? **50%**
4. Use Tables and Pivot Tables on a regular basis? **20%**

= OPPORTUNITY!

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Data Structure and Excel Tables

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Data Basics – Data Structure

1. Excel Tables (Data Structure)
2. LOOKUP Functions - VLOOKUP, HLOOKUP, XLOOKUP – (Data Structure)
3. Date “dimensions” to shape data (Data Structure)
4. Pivot Tables (Data Analysis)

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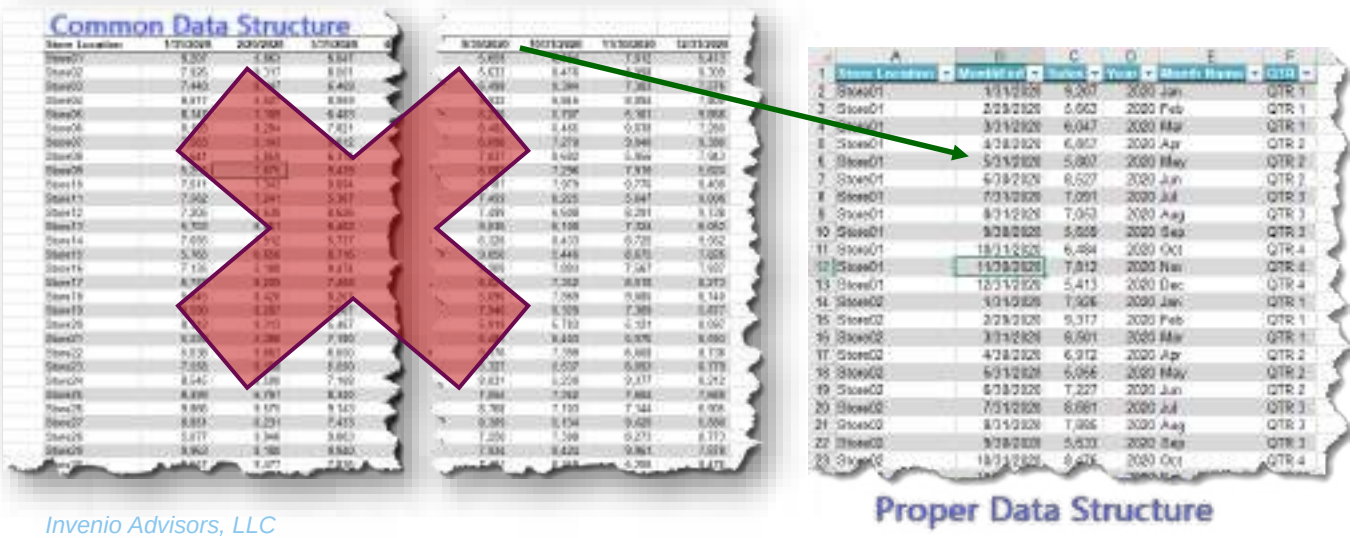
Store Sales Data – Structure Example



Tables – *Demo* (see Handouts)

#9 CREATING TABLES (DATA TABLES STRUCTURE IN EXCEL) - ST

Name (Last, First)	DeptNumber	Department	Annual Salary	SalaryGroup	Count
Norling, Jeremy	2	Marketing	43,374	> $30.0K <= $60.0K	
Milici, Tuan	4	Information Technology	68,209	> $60.0K <= $100.0K	
Brawner, Jeanna	2	Marketing	46,837	> $30.0K <= $60.0K	
Chaparro, Latarsha	4	Information Technology	67,424	> $60.0K <= $100.0K	
Danziger, Patrina	4	Information Technology	87,841	> $60.0K <= $100.0K	
Guntrum, Mandi	1	Merchandising	31,712	> $30.0K <= $60.0K	
Meng, Sarai	1	Merchandising	77,852	> $60.0K <= $100.0K	
Kostka, Nestor	4	Information Technology	69,857	> $60.0K <= $100.0K	
Sanluis, Francesca	5	Operations	64,174	> $60.0K <= $100.0K	
Reising, Dorcas	1	Merchandising	100,984	> $100.0K	
Mchone, Dora	5	Operations	95,765	> $60.0K <= $100.0K	
Suess, Shanel	2	Marketing	91,693	> $60.0K <= $100.0K	
Bonds, Sonya	1	Merchandising	109,560	> $100.0K	
Pledger, Anastasia	5	Operations	70,594	> $60.0K <= $100.0K	
Prioleau, Marquetta	5	Operations	65,183	> $60.0K <= $100.0K	
Mollett, Barbera	5	Operations	66,520	> $60.0K <= $100.0K	
Harsell, Kati	1	Merchandising	90,493	> $60.0K <= $100.0K	

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Key Benefits / Features of Excel Data Tables

1. Automatic data filters and sort options
2. Formulas “Structured” references vs cell references
3. Auto-fill formulas
4. No need to freeze headers to keep column references
5. Dynamic range (updates as new records are added)
6. Auto expansion of table as data is added (rows & columns)
7. Auto summing and calculations on table totals

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Excel Tables (Data Structure)

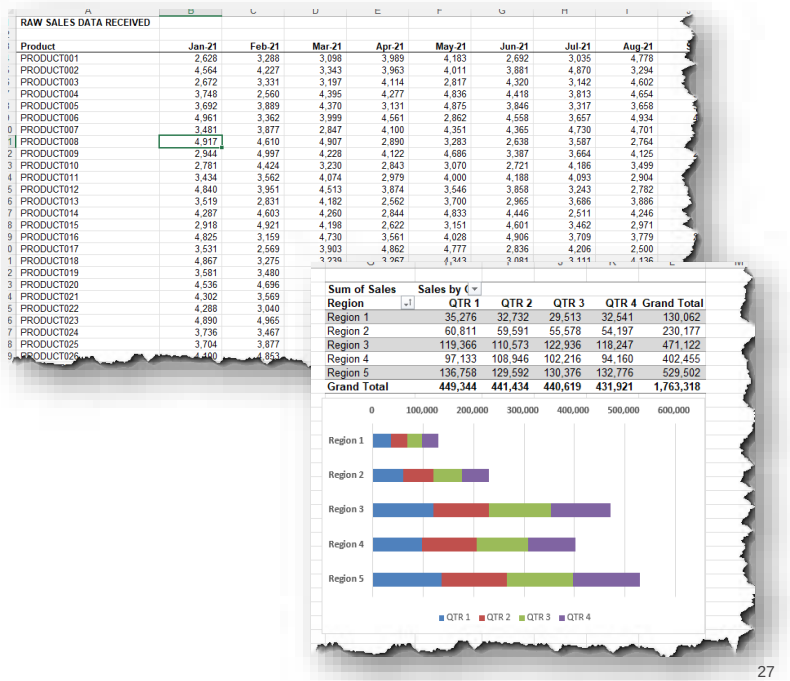
1. Foundation of data structure for analysis purposes
2. Benefits of Excel Tables:
   - *“Excel Tables: Overlooked, Yet Awesome”*
   - *“Want to become a Data God? Learn Excel Data Tables”*

Data Structure Discussion - Examples

1. Sales dataset
2. Payroll Budget dataset
3. Date / Time Timeclock dataset

Sample Sales Dataset (Basic)

1. Structure issues?
2. What might I want to know?
   - This question drives transformation process
   - Create analysis flexibility by adding Fields to enable analysis



RAW SALES DATA RECEIVED

Product	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21
PRODUCT001	2,628	3,288	3,098	3,989	4,183	2,692	3,035	4,778
PRODUCT002	4,564	4,227	3,343	3,963	4,011	3,881	4,870	3,294
PRODUCT003	2,672	3,331	3,197	4,114	2,817	4,320	3,142	4,602
PRODUCT004	3,748	2,560	4,395	4,277	4,836	4,418	3,813	4,654
PRODUCT005	3,692	3,889	4,370	3,131	4,875	3,846	3,317	3,658
PRODUCT006	4,961	3,362	3,999	4,561	2,862	4,558	3,657	4,934
PRODUCT007	3,481	3,877	2,847	4,100	4,351	4,365	4,730	4,701
PRODUCT008	4,917	4,610	4,907	2,890	3,283	2,638	3,587	2,764
PRODUCT009	2,944	4,997	4,228	4,122	4,686	3,387	3,664	4,125
PRODUCT010	2,781	4,424	3,230	2,843	3,070	2,721	4,186	3,499
PRODUCT011	3,434	3,562	4,074	2,979	4,000	4,188	4,093	2,904
PRODUCT012	4,840	3,951	4,513	3,874	3,546	3,858	3,243	2,782
PRODUCT013	3,519	2,831	4,182	2,562	3,700	2,965	3,686	3,886
PRODUCT014	4,287	4,603	4,260	2,844	4,833	4,446	2,511	4,246
PRODUCT015	2,918	4,921	4,198	2,622	3,151	4,601	3,462	2,971
PRODUCT016	4,825	3,159	4,730	3,561	4,028	4,906	3,709	3,779
PRODUCT017	3,531	2,569	3,903	4,862	4,777	2,836	4,206	2,500
PRODUCT018	4,867	3,275						
PRODUCT019	3,581	3,480						
PRODUCT020	4,536	4,696						
PRODUCT021	4,302	3,569						
PRODUCT022	4,288	3,040						
PRODUCT023	4,890	4,965						
PRODUCT024	3,736	3,467						
PRODUCT025	3,704	3,877						
PRODUCT026	4,490	4,853						

Sum of Sales	Sales by (				
Region	QTR 1	QTR 2	QTR 3	QTR 4	Grand Total
Region 1	35,276	32,732	29,513	32,541	130,062
Region 2	60,811	59,591	55,578	54,197	230,177
Region 3	119,366	110,573	122,936	118,247	471,122
Region 4	97,133	108,946	102,216	94,160	402,455
Region 5	136,758	129,592	130,376	132,776	529,502
Grand Total	449,344	441,434	440,619	431,921	1,763,318

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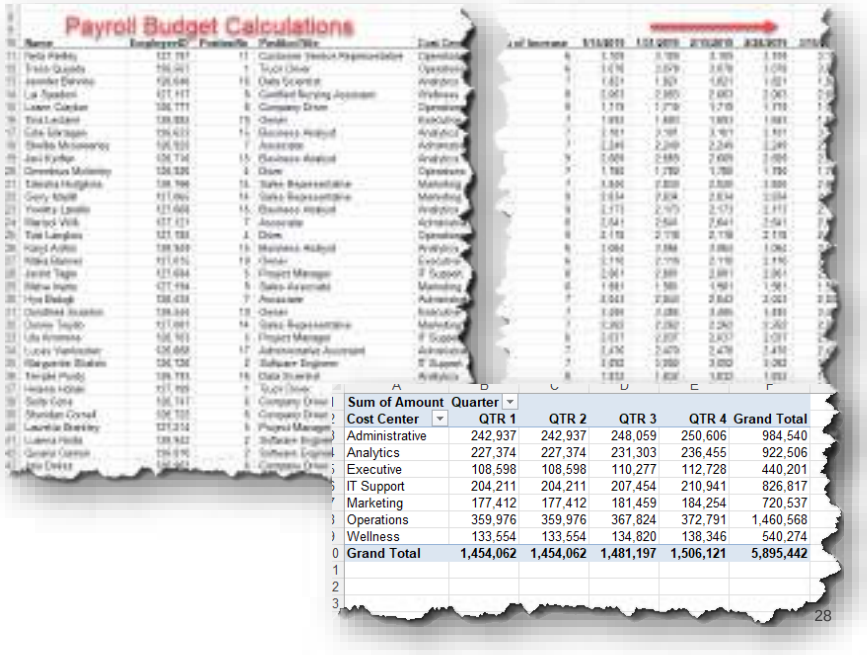
Budget Payroll Dataset (Intermediate)

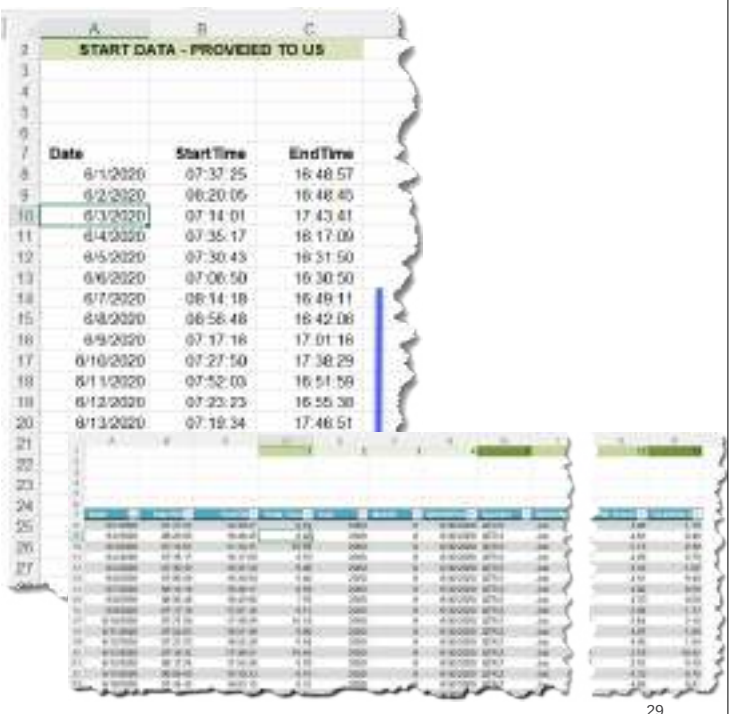
1. Budget calculations, but we need quick analysis!
2. What might we want to know?
   - Salary Totals by Dept?
   - Quarterly trend?



Sum of Amount	Quarter				
Cost Center	QTR 1	QTR 2	QTR 3	QTR 4	Grand Total
Administrative	242,937	242,937	248,059	250,606	984,540
Analytics	227,374	227,374	231,303	236,455	922,506
Executive	108,598	108,598	110,277	112,728	440,201
IT Support	204,211	204,211	207,454	210,941	826,817
Marketing	177,412	177,412	181,459	184,254	720,537
Operations	359,976	359,976	367,824	372,791	1,460,568
Wellness	133,554	133,554	134,820	138,346	540,274
Grand Total	**1,454,062**	**1,454,062**	**1,481,197**	**1,506,121**	**5,895,442**

Date / Time Timeclock Dataset (Intermediate +) – 1

1. Employee time clock data for analysis
2. Dimension fields need to be added for flexibility!
3. What's the optimal way to approach this?



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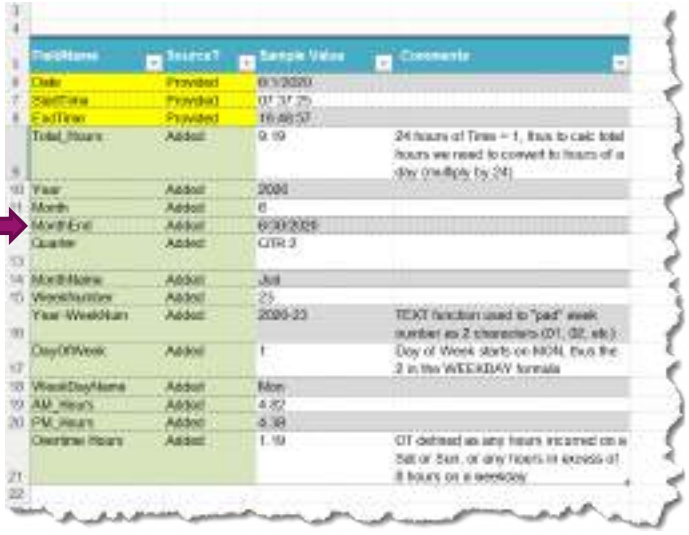
Excel Date & Time Basics

EXCEL - KEY DATE & TIME CONCEPTS				
Formatted Date	**Format**	**Formula**	**Underlying value**	**Shortcut**
6/6/2022	Date	=TODAY()	44718.00	**CTRL + ; (semi-colon)**
6/6/2022 15:46	Date / Time	=NOW()	44718.66	**CTRL + ; (semi-colon), then SPACE & "CTRL + SHIFT + ;"**
3:17 PM	Time		0.64	**CTRL + SHIFT + ; (semi-colon)**
	Using formulas will cause results to be dynamic, otherwise they are static			
	Underlying value of just time is decimal value of PORTION of 24 hours			

Date / Time Timeclock Dataset - 2 (Intermediate +)

1. Employee time clock data for analysis
2. Dimension fields need to be added for flexibility!
3. What's the optimal way to approach this?



FieldName	Source?	Sample Value	Comments
Date	Provided	6/1/2020	
StartTime	Provided	07:37:25	
EndTime	Provided	16:49:57	
Total_Hours	Added	9.19	24 hours of Time = 1, thus to calc total hours we need to convert to hours of a day (multiply by 24)
Year	Added	2020	
Month	Added	6	
Month End	Added	6/30/2020	
Quarter	Added	QTR 2	
MonthName	Added	Jun	
WeekNumber	Added	23	
Year-WeekNum	Added	2020-23	TEXT function used to "pad" week number as 2 characters (01, 02, etc.)
DayOfWeek	Added	1	Day of Week starts on MON, thus the 2 in the WEEKDAY formula
WeekDayName	Added	Mon	
AM_Hours	Added	4.82	
PM_Hours	Added	4.38	
Overtime Hours	Added	1.19	OT defined as any hours incurred on a Sat or Sun, or any hours in excess of 8 hours on a weekday

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Tables – My Fav Keyboard Shortcuts

1. *Create Table* – CTRL + T (CTRL + L also works)
2. *Select Table Area* – CTRL + A (& “CTRL + A” twice!)
3. *Activate Filter Dropdown Menu* – ALT + ▼
4. *Insert / Delete Row or Column* – CTRL + “+” / CTRL + “-”
   - **ROW**? Select cell in Table (Insert Row above)
   - **COLUMN**? Select minimum two cells in Table (Insert COL to Left)

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Key Excel Functions Review

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Data Transformation – Shaping For Analysis

"How To" Review items – Workbook Link

- *This workbook covers various Excel functions and capabilities that are considered essential knowledge to understand related to working with data in Excel.*

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KEY TOPICS

1. FlashFill
2. VLOOKUP (Exact Match)
3. VLOOKUP (Approx Match)
4. **Tables**
5. **Table Slicers**
6. Transpose

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Excel 365? Does It Really Matter?

Link to open

- **Power Query** lets you to connect, transform and analyze HUGE datasets, from virtually any source
- **Data models *(Power Pivot)*** allow you to join tables using the power of relational modeling, without writing a single formula
- **Dynamic arrays** are revolutionizing how cell formulas work, with spilled values and functions like SORT, UNIQUE & FILTER
- **Functions** like LET and LAMBDA are helping Excel users write clean code and define powerful custom functions
- New **(*custom*) data types** add layers of rich, real-time info to spreadsheet values, from stocks and geography to chemistry and food

Excel – Open Letter to C-Suite…

Wyn Hopkins

Dear C-suite folk of companies of all sizes...

I started using Excel over 30 years ago and for almost a decade of that time period Excel didn't change. We had time to learn from our colleagues by looking over their shoulder. They was OK.

These days significant new functionality is appearing every 6 months and dramatic feature enhancements/capabilities are appearing every couple of years.

If you are happy to continue with inefficient daily work practices (there exists with assumption that you're staff "know" Excel.

In my experience they probably learned Excel 5-10 years ago, or have learned from someone that learned it 15-20 years ago. Their knowledge is likely out of date.

If you'd like the organization to be more efficient than staff should receive Excel Training every 3 years as a minimum. This is a product they use all day every day, so every little improvement has a big impact.

My recommendation is to make sure that a "skills update" training course covers Tables, Power Query, Dynamic Array formulas and at least an overview of Power Pivot, otherwise look for another training provider. Then for those people who have the "data gene" give them dedicated Power Query, Power Pivot and even Power BI training. They'll love it and your organization will benefit from having these internal data champions in the team.

I'm an Excel and Power BI Trainer so I've clearly got skin in the game here, but that doesn't make me wrong.

Wyn
Microsoft MVP
Excel and Power BI Developer and Trainer
Once upon a time Chartered Accountant

Link to open

"My recommendation is to make sure that a "skills update" training course covers Tables, Power Query, Dynamic Array formulas and at least an overview of Power Pivot, otherwise look for another training provider. Then for those people who have the "data gene" give them dedicated Power Query, Power Pivot and even Power BI training. They'll love it and your organization will benefit from having these internal data champions in the team."

"Modern" Excel…

1. Power Tools (Power Query & Power Pivot)
2. Dynamic Array Formulas (Blog post here!)
   - UNIQUE, SORT, FILTER, *etc*
3. XLOOKUP replaces VLOOKUP
4. Artificial Intelligence (Recommended Pivot Tables, Recommended Charts, Analyze Data (Ideas)
5. New "Data Types" Ribbon & Custom Data Types
6. LAMBDA Functions (Blog post here) – in Beta currently, but this is game changing!
7. LET Function
8. PowerPivot Pivot Tables!

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Data Transformation – Shaping For Analysis

"How To" Review items – *DEMO / Workbook Review*

- *This workbook covers various Excel functions and capabilities that are considered essential knowledge to understand related to working with data in Excel.*

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1. FlashFill
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Pivot Tables / Pivot Charts

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Pivot Tables Introduction

http://bit.ly/2cO7cy1

Pivot Tables Topics

1. Inserting a pivot table (and the “ALT, N, V shortcut)
2. Field list review and layout
3. Recommended PivotTable
4. Pivot Table context menus and options
5. “Right-click” menu options
   - Value Field Settings
   - Pivot Table Options
6. Change Default Layout Settings (365)
7. *Demo*

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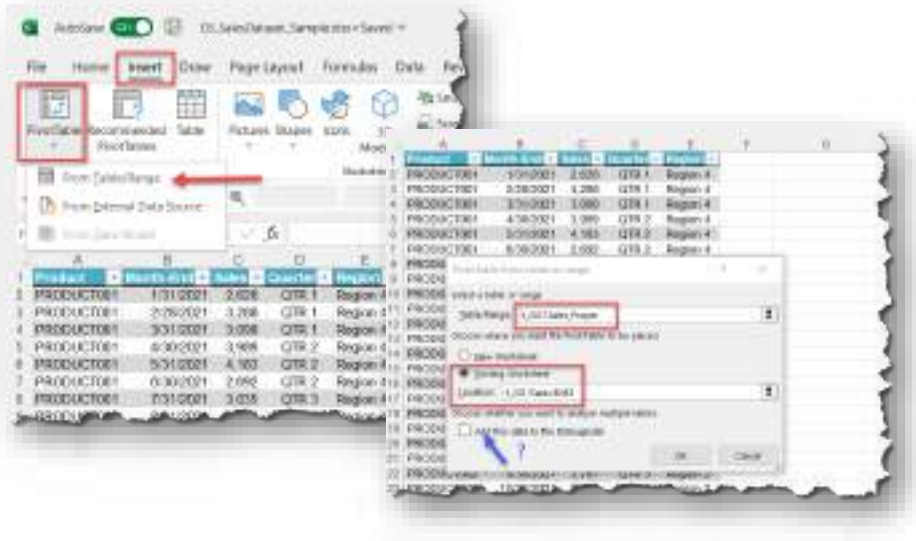
Inserting a Pivot Table - 1

1. Insert >> PivotTable >> From Table/Range
2. Identify where you want the PivotTable placed



Inserting a Pivot Table - 2

3. Placeholder appears along with “Field List”
4. Fields
   - Filters
   - Rows
   - Columns
   - Values

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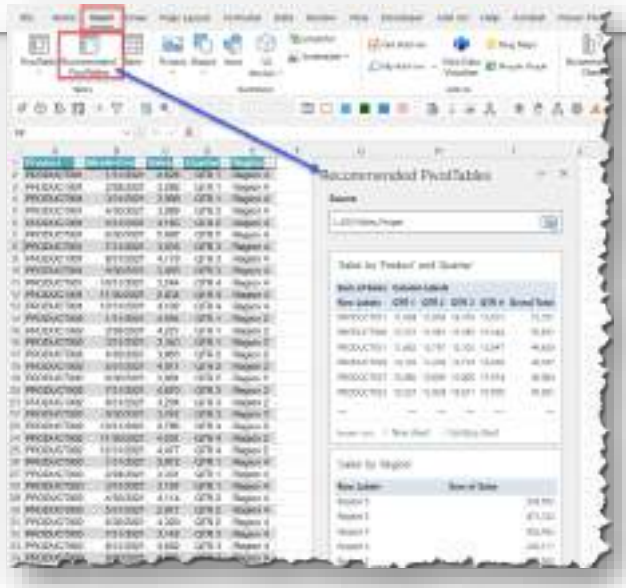
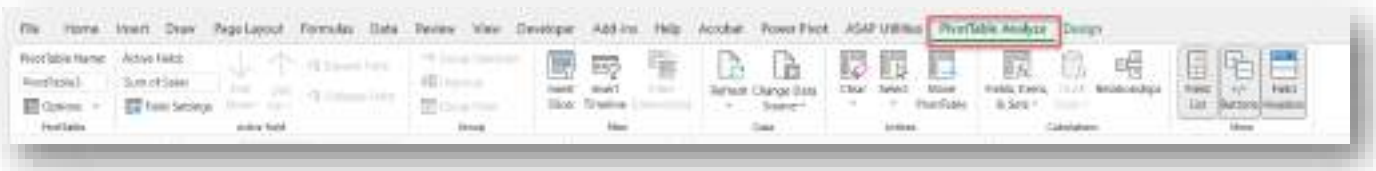
Inserting a Pivot Table – 3 (*Recommended Pivot Table*)

1. Insert >> Recommended PivotTable
2. Double click option to insert Pivot Table

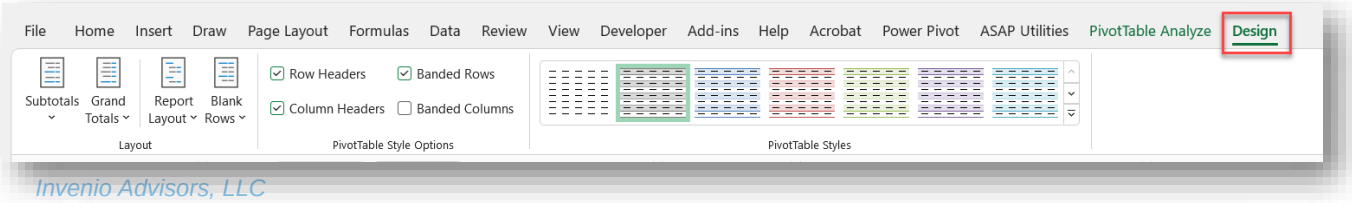


Pivot Tables Context Menus (appear when PT selected)

Pivot Table Analyze



Pivot Table Design



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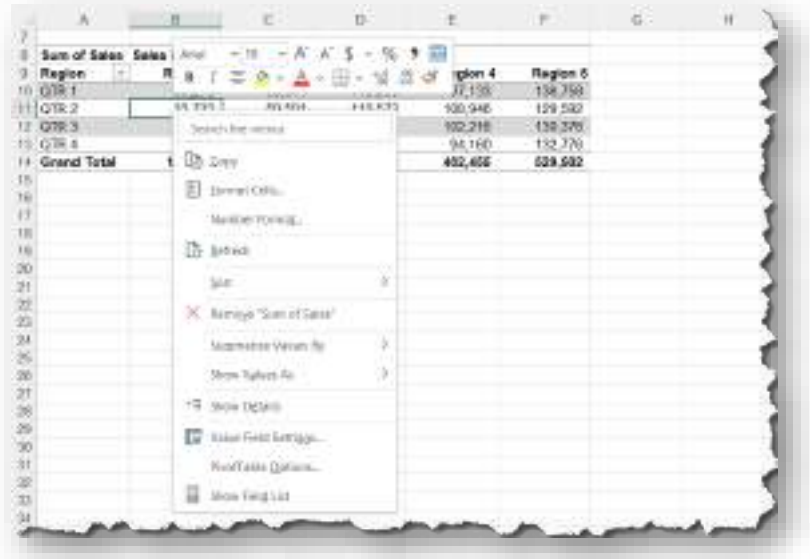
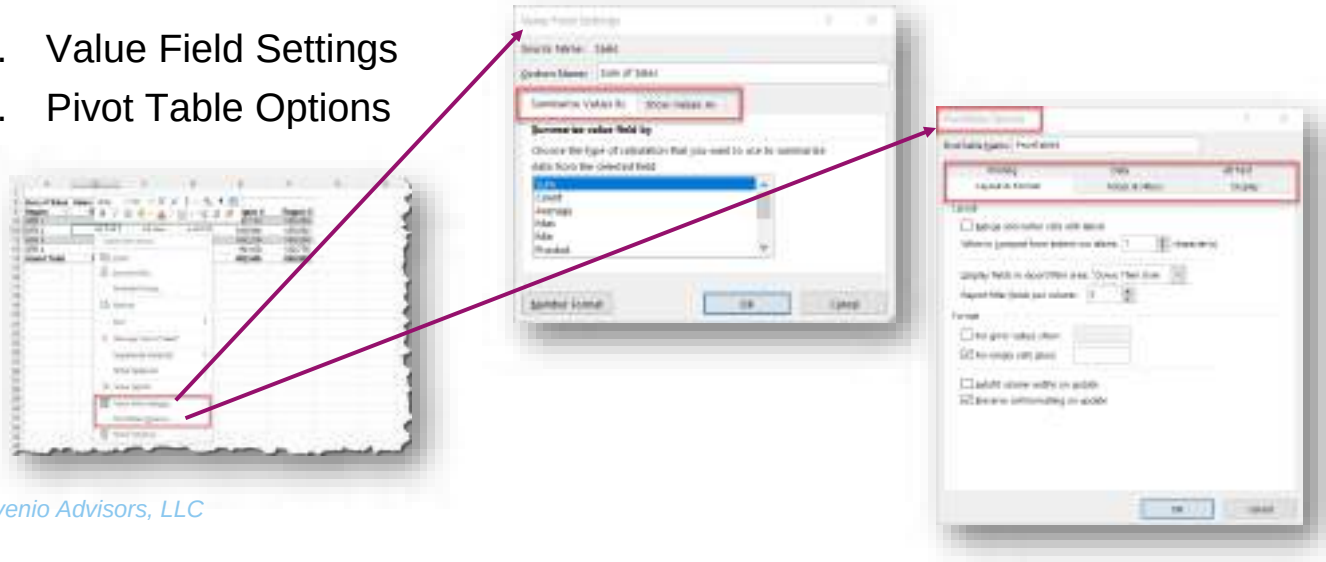
Right-click Menu Options - 1

1. From within pivot table, Right-click mouse button opens shortcut menu options
2. Learn these options – you will spend a lot of time here!



Right-click Menu Options - 2

1. Value Field Settings
2. Pivot Table Options



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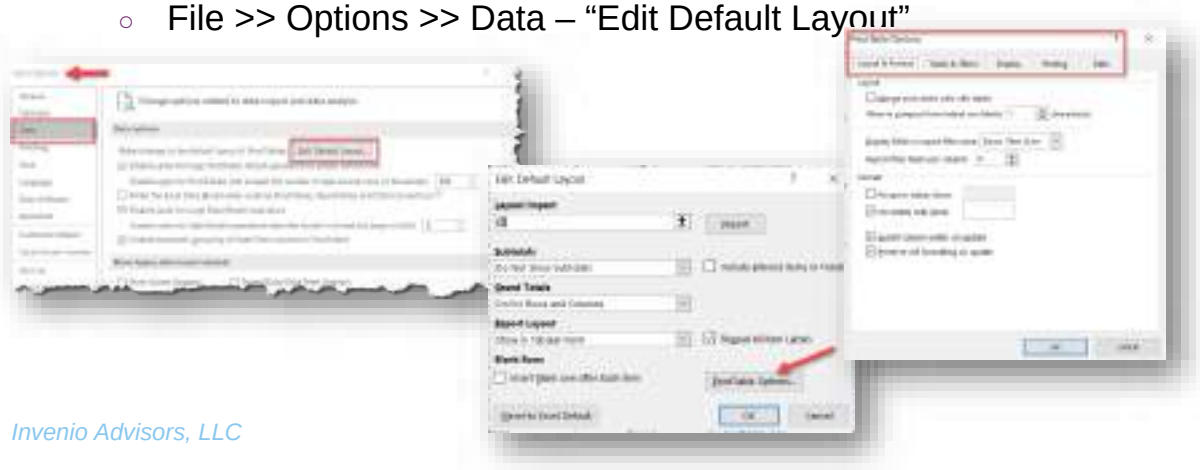
Pivot Table Default Settings (365 only) - 1

- Default settings options configuration
  - File >> Options >> Data – “Edit Default Layout”



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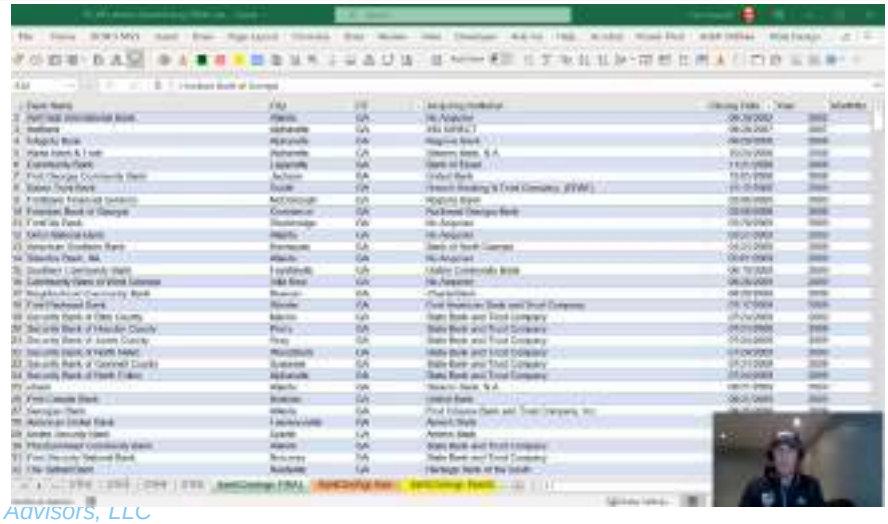
Default Settings – Here’s How 😀



[YouTube Video Link]

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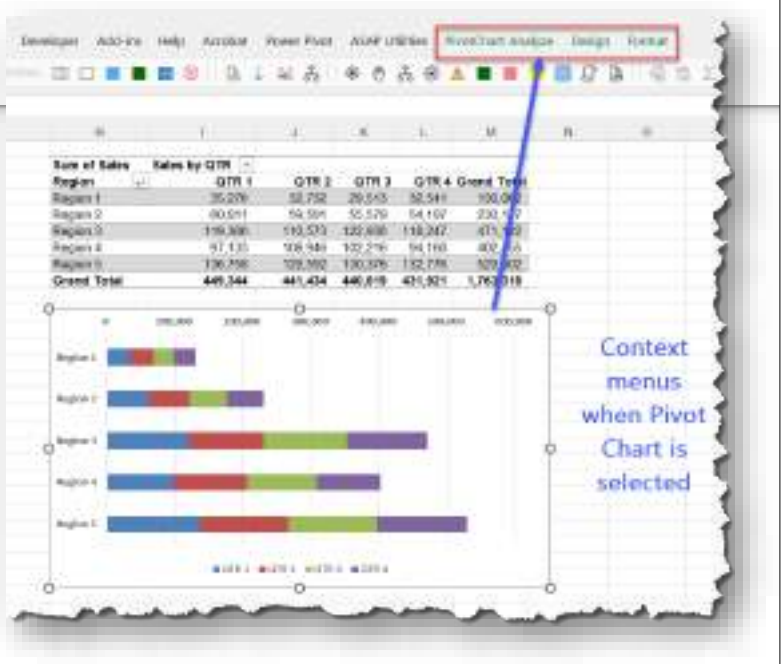
Pivot Charts

- Insert just like Pivot Tables (a pivot table will be created simultaneously with the Pivot Chart)



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Data Case Studies

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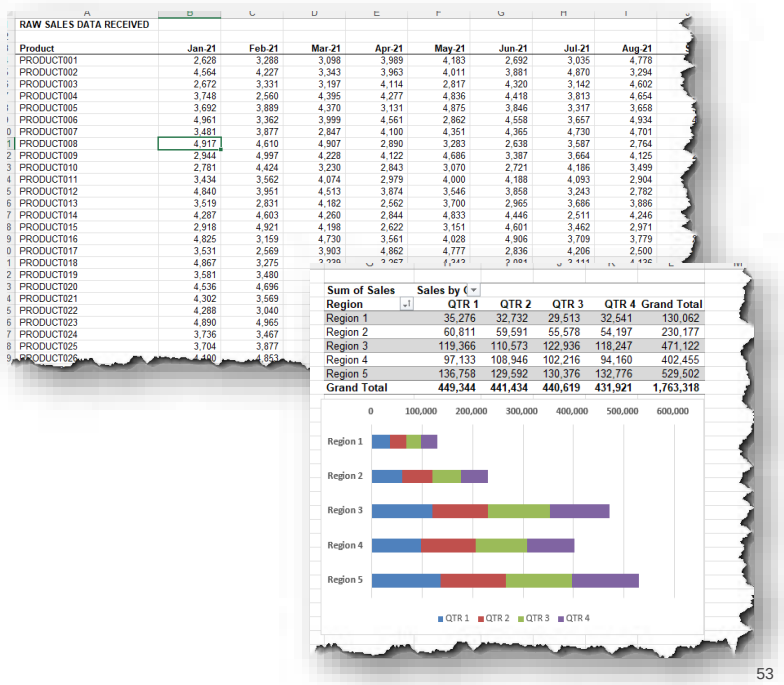
Sample Sales Dataset (Basic)

1. Structure issues?
2. What might I want to know?
   - This question drives transformation process
   - Create analysis flexibility by adding Fields to enable analysis



RAW SALES DATA RECEIVED

Product	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21
PRODUCT001	2,628	3,288	3,098	3,989	4,183	2,692	3,035	4,778
PRODUCT002	4,564	4,227	3,343	3,963	4,011	3,881	4,870	3,294
PRODUCT003	2,672	3,331	3,197	4,114	2,817	4,320	3,142	4,602
PRODUCT004	3,748	2,560	4,395	4,277	4,836	4,418	3,813	4,654
PRODUCT005	3,692	3,889	4,370	3,131	4,875	3,846	3,317	3,658
PRODUCT006	4,961	3,362	3,999	4,561	2,862	4,558	3,657	4,934
PRODUCT007	3,481	3,877	2,847	4,100	4,351	4,365	4,730	4,701
PRODUCT008	4,917	4,610	4,907	2,890	3,283	2,638	3,587	2,764
PRODUCT009	2,944	4,997	4,228	4,122	4,686	3,387	3,664	4,125
PRODUCT010	2,781	4,424	3,230	2,843	3,070	2,721	4,186	3,499
PRODUCT011	3,434	3,562	4,074	2,979	4,000	4,188	4,093	2,904
PRODUCT012	4,840	3,951	4,513	3,874	3,546	3,858	3,243	2,782
PRODUCT013	3,519	2,831	4,182	2,562	3,700	2,965	3,686	3,886
PRODUCT014	4,287	4,603	4,260	2,844	4,833	4,446	2,511	4,246
PRODUCT015	2,918	4,921	4,198	2,622	3,151	4,601	3,462	2,971
PRODUCT016	4,825	3,159	4,730	3,561	4,028	4,906	3,709	3,779
PRODUCT017	3,531	2,569	3,903	4,862	4,777	2,836	4,206	2,500
PRODUCT018	4,867	3,275						
PRODUCT019	3,581	3,480						
PRODUCT020	4,536	4,696						
PRODUCT021	4,302	3,569						
PRODUCT022	4,288	3,040						
PRODUCT023	4,890	4,965						
PRODUCT024	3,736	3,467						
PRODUCT025	3,704	3,877						
PRODUCT026	4,490	4,853						

Sum of Sales Region	Sales by (QTR 1	QTR 2	QTR 3	QTR 4	Grand Total
Region 1	35,276	32,732	29,513	32,541	130,062
Region 2	60,811	59,591	55,578	54,197	230,177
Region 3	119,366	110,573	122,936	118,247	471,122
Region 4	97,133	108,946	102,216	94,160	402,455
Region 5	136,758	129,592	130,376	132,776	529,502
Grand Total	**449,344**	**441,434**	**440,619**	**431,921**	**1,763,318**

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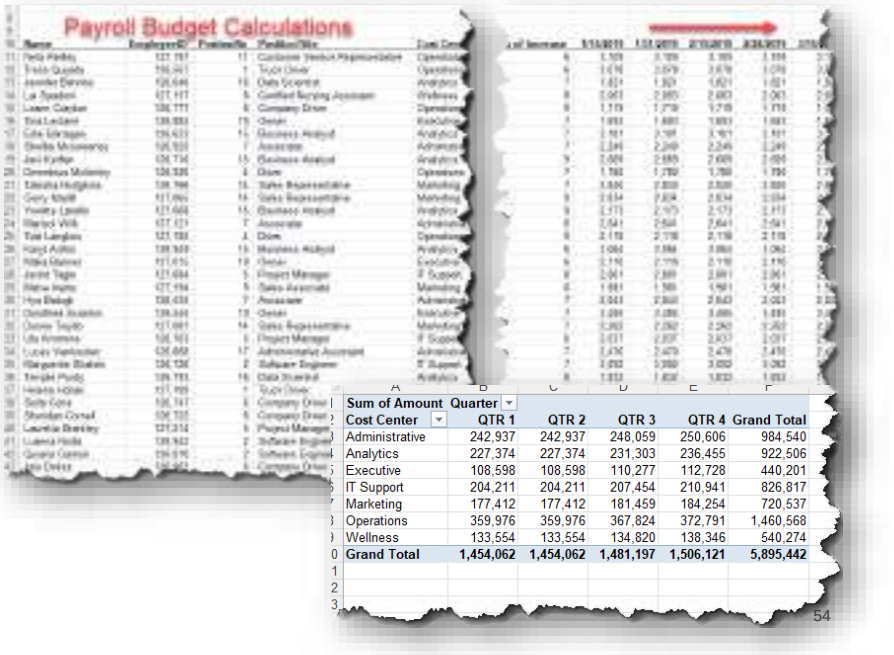
Budget Payroll Dataset (Intermediate)

1. Budget calculations, but we need quick analysis!
2. What might we want to know?
   - Salary Totals by Dept?
   - Quarterly trend?



Payroll Budget Calculations

Sum of Amount Cost Center	Quarter QTR 1	QTR 2	QTR 3	QTR 4	Grand Total
Administrative	242,937	242,937	248,059	250,606	984,540
Analytics	227,374	227,374	231,303	236,455	922,506
Executive	108,598	108,598	110,277	112,728	440,201
IT Support	204,211	204,211	207,454	210,941	826,817
Marketing	177,412	177,412	181,459	184,254	720,537
Operations	359,976	359,976	367,824	372,791	1,460,568
Wellness	133,554	133,554	134,820	138,346	540,274
Grand Total	**1,454,062**	**1,454,062**	**1,481,197**	**1,506,121**	**5,895,442**

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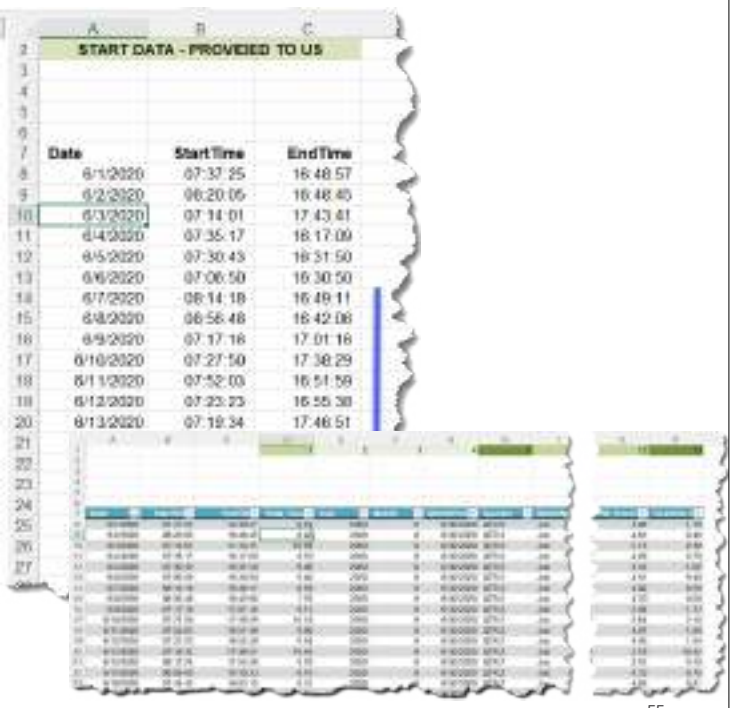
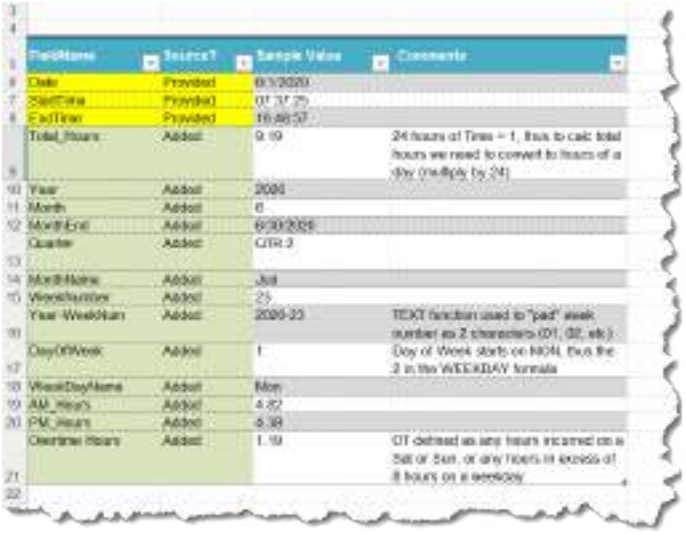
Date / Time Timeclock Dataset (Intermediate +)

1. Employee time clock data for analysis
2. Dimension fields need to be added for flexibility!
3. What's the optimal way to approach this?



Date / Time Timeclock Dataset - 2 (Intermediate +)

1. Employee time clock data for analysis
2. Dimension fields need to be added for flexibility!
3. What's the optimal way to approach this?



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Date / Time Timeclock Dataset - 3 (Intermediate +)

Fieldname	Source?	Sample Value	Transformation Process	Formula Reference	Comments
Date	Provided	6/1/2020			
StartTime	Provided	07:37:25			
EndTime	Provided	16:48:57			
Total_Hours	Added	9.19	Formula	=(I@EndTime]-[@StartTime])*24	24 hours of Time = 1, thus to calc total hours we need to convert to hours of a day (multiply by 24)
Year	Added	2020	Formula	=YEAR([@Date])	
Month	Added	6	Formula	=MONTH([@Date])	
MonthEnd	Added	6/30/2020	Formula	=EOMONTH([@Date],0)	
Quarter	Added	QTR 2	Formula	=IFS([@Month]<4,"QTR 1",[@Month]<7,"QTR 2",[@Month]<10,"QTR 3",[@Month]>9,"QTR 4")	
MonthName	Added	Jun	Formula	=TEXT([@Date],"mmm")	
WeekNumber	Added	23	Formula	=WEEKNUM([@Date])	
Year-Weeknum	Added	2020-23	Formula	=[@Year]&"-"&TEXT([@Weeknumber],"00")	TEXT function used to "pad" week number as 2 characters (01, 02, etc)
DayOfWeek	Added	1	Formula	=WEEKDAY([@Date],2)	Day of Week starts on MON, thus the 2 in the WEEKDAY formula
WeekDayName	Added	Mon	Formula	=TEXT([@Date],"ddd")	
AM_Hours	Added	4.62	Formula	=(12-[@StartTime]*24))	
PM_Hours	Added	4.38	Formula	=([@EndTime]*24)-12)	
Overtime Hours	Added	1.19	Formula	=IFERROR(IFS([@WeekDayName]="Sat",[@Total_Hours],[@WeekDayName]="Sun",[@[Total_Hours]],[@Total_Hours]>8,[@[Total_Hours]]-8),0)	OT defined as any hours incurred on a Sat or Sun, or any hours in excess of 8 hours on a weekday

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Handouts

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Presentation PDF

Click Here to Access (or Scan Code) >>

SCAN ME

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Before We Dive In…Recommended Excel Skills?

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1. PowerQuery
2. PowerPivot (includes Pivot Tables)
3. Dynamic Arrays (365)
4. Data Visualization
5. Formatted Tables
6. Functions (20 key items)
7. Data Validation
8. PowerBI (separate tool)

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Data Transformation – Shaping For Analysis

"How To" Review items – Workbook Link

- *This workbook covers various Excel functions and capabilities that are considered essential knowledge to understand related to working with data in Excel.*

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KEY TOPICS

1. FlashFill
2. VLOOKUP (Exact Match)
3. VLOOKUP (Approx Match)
4. **Tables**
5. **Table Slicers**
6. Transpose

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Datasets Used

Sales Analysis

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Budget Payroll Analysis

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Date / Timeclock Analysis

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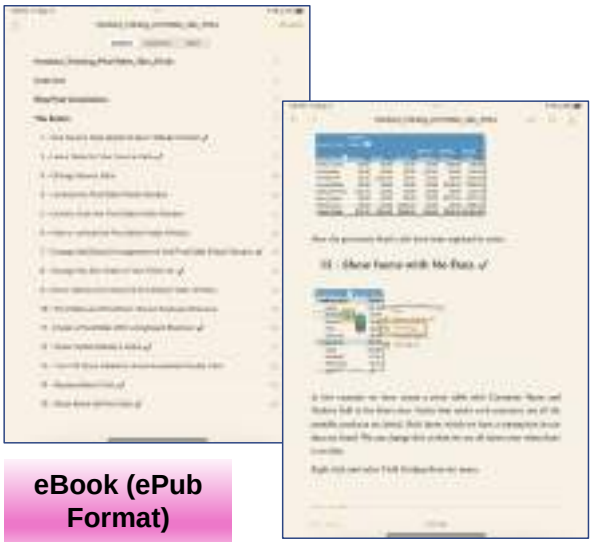
Pivot Tables – Tips, Tricks & Techniques

PDF



eBook (ePub Format)

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Learning Objectives

Upon completion this session, participants will be able to:

1. Develop and utilize Excel data Tables for your data and recall why they are necessary, ✓
2. Identify proper structuring of data for pivot table analysis, ✓
3. Recognize how pivot tables and pivot charts can make analysis faster, easier, and more flexible, and ✓
4. Understand modifying data fields / dimensions to simplify and prepare for data analysis. Awareness of key functions and formulas! ✓

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What is the Business Learning Institute?

BLI is a training affiliate of the AICPA-CIMA. BLI's mission is to deliver competency-based courses, content and community that enhance learning and foster organizational and executive leadership.

BLI has grown into the largest provider of on-site training in the country. Pam and the Customized Learning Solutions team have grown the business in three core segments – Corporate, Firm and Government.

The BLI Curricula

Today's business environment demands the need to gain competencies and share strategic knowledge. BLI delivers competency-based curriculum, courses, content, and community to enhance learning and grow intellectual capital for organizational and executive leadership.

These soft skills are essentially people skills – the non-technical, intangible, performance skills that determine your strengths as a leader, manager, and team member.

STRATEGIC MANAGEMENT

Strategic conversation reflects the dynamics between the organization and its environment. The closer the language reflects current and potential customer dynamics, the higher the company's profit potential.

LEADERSHIP DEVELOPMENT

Great leadership is one of the most valued of all human activities. Modern myth holds that "leaders are born not made," but leadership is a set of observable and learnable practices - it is the process people use when they bring out the best in others and themselves.

BUSINESS MANAGEMENT

As the business world moves at an incredible pace, keeping up is a key to success. Today's financial managers must be able to translate strategy to operational and corporate growth.

TECHNOLOGY AND COMPUTER SKILLS

Harness the technology you use every day to make your business life easier and allow you to work smarter.

PERFORMANCE MEASUREMENT MANAGEMENT

Executives and managers must effectively transform their firms or companies into high performance organizations and progressively identify and develop the appropriate core competencies and link them to their business strategies.

COMMUNICATION SKILLS

Many people in the business field cannot communicate effectively and, even more damaging, don't realize it. Success is not defined solely by a product line or service - it relies on relationships formed and maintained through skillful communications. Your competitors know this. Do you?

TECHNICAL EXPERTISE

Keeping up with technical competencies is a core business requirement for financial professionals. Staying attuned to the latest changes, updates, and regulations are necessary components to staying competitive in an ever-changing business environment.

Please note that many programs in this catalog are available in webcast format. Contact a BLI Customized Learning consultant if you are interested in a webcast.

TO GET STARTED WITH MEETING YOUR TRAINING NEEDS
EMAIL LEARN@BLIONLINE.ORG