



Advice With a Slice

*Excel Basics for the Classroom,
Career, and Life*

Marcy Binkley and Joe Rando



Excel Overview

What is Excel?

- Spreadsheet software developed by Microsoft.
- Allows users to organize, format, and calculate data in a tabular form.
- Widely used for data analysis, budgeting, project management, and more.
- Offers powerful tools like formulas, charts, and pivot tables to process and visualize data.



Week 9 - Data Analysis Works... • Last Modified: Yesterday at 9:20 PM

| Order No. | Item No. | Item Description | Item Cost | Quantity | Cost per order | A/P Terms | Months | Order Date |
|-----------|----------|---------------------|-----------|----------|----------------|-----------|--------|------------|
| Aug11001 | 1122 | Airframe fasteners | \$4.25 | 19,500 | \$82,875.00 | 30 | | 08/05/11 |
| Aug11002 | 1243 | Airframe fasteners | \$4.25 | 10,000 | \$42,500.00 | 30 | | 08/08/11 |
| Aug11003 | 5462 | Shielded Cable/ft. | \$1.05 | 23,000 | \$24,150.00 | 30 | | 08/10/11 |
| Aug11004 | 5462 | Shielded Cable/ft. | \$1.05 | 21,500 | \$22,575.00 | 30 | | 08/15/11 |
| Aug11005 | 5319 | Shielded Cable/ft. | \$1.10 | 17,500 | \$19,250.00 | 30 | | 08/20/11 |
| Aug11006 | 5462 | Shielded Cable/ft. | \$1.05 | 22,500 | \$23,625.00 | 30 | | 08/20/11 |
| Aug11007 | 4312 | Bolt-nut package | \$3.75 | 4,250 | \$15,937.50 | 30 | | 08/20/11 |
| Aug11008 | 7258 | Pressure Gauge | \$90.00 | 100 | \$9,000.00 | 45 | | 08/20/11 |
| Aug11009 | 6321 | O-Ring | \$2.45 | 1,300 | \$3,185.00 | 30 | | 08/20/11 |
| Aug11010 | 5462 | Shielded Cable/ft. | \$1.05 | 22,500 | \$23,625.00 | 30 | | 08/20/11 |
| Aug11011 | 5319 | Shielded Cable/ft. | \$1.10 | 18,100 | \$19,910.00 | 30 | | 08/20/11 |
| Aug11012 | 3166 | Electrical Connectc | \$1.25 | 5,600 | \$7,000.00 | | | |
| Aug11014 | 5234 | Electrical Connectc | \$1.65 | 4,500 | \$7,425.00 | | | |
| Sep11001 | 4312 | Bolt-nut package | \$3.75 | 4,200 | \$15,750.00 | | | |
| Sep11002 | 5417 | Control Panel | \$255.00 | 406 | \$103,530.00 | | | |
| Sep11003 | 3166 | Electrical Connectc | \$1.25 | 5,500 | \$6,875.00 | | | |
| Sep11004 | 5234 | Electrical Connectc | \$1.65 | 4,850 | \$7,992.50 | | | |
| Sep11005 | 4312 | Bolt-nut package | \$3.75 | 4,150 | \$15,562.50 | | | |
| Sep11006 | 1122 | Airframe fasteners | \$4.25 | 15,500 | \$65,875.00 | | | |
| Sep11007 | 4111 | Bolt-nut package | \$3.55 | 4,800 | \$17,040.00 | | | |
| Sep11008 | 1243 | Airframe fasteners | \$4.25 | 9 | \$38.25 | | | |
| Sep11009 | 7258 | Pressure Gauge | \$90.00 | | | | | |
| Sep11010 | 5234 | Electrical Connectc | \$1.65 | | | | | |

A Brief History of Excel

- 1987: Microsoft launched Excel for Windows, quickly becoming a leading spreadsheet software.
- 1990s: Excel gained popularity due to its graphical user interface (GUI) and user-friendly features.
- 2000s: Excel introduced advanced features like PivotTables, formulas, and automation through VBA (Visual Basic for Applications).
- Today: Excel continues to be a crucial tool for millions of users, supporting cloud integration and real-time collaboration through Microsoft 365.

How Excel Fits in a Firm's Tech Suite

- **First Layer: Data Lake / Data Warehouse**

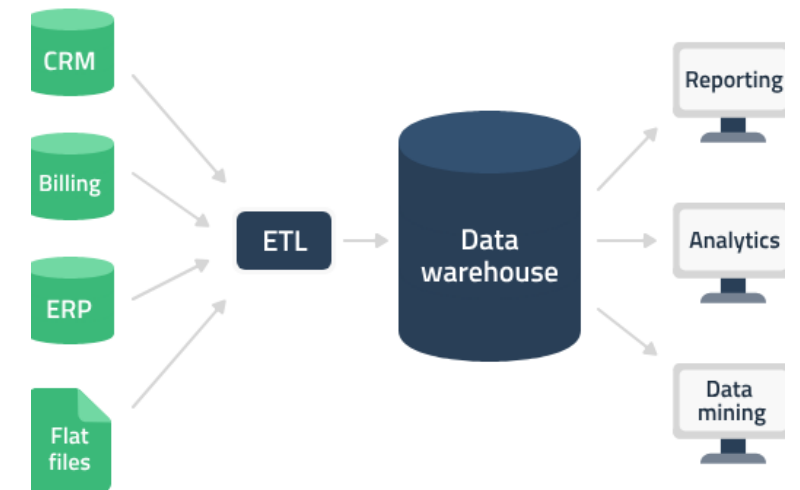
- Transaction data is captured from various operational systems (like POS, CRM, etc.).
- This data is then processed by ETL (Extract, Transform, Load) pipelines, which move it from transactional systems into the Data Lake or Data Warehouse.
- In the Data Lake, data is stored in its raw format, while in the Data Warehouse, it's cleaned, structured, and optimized for analysis.
- Technologies such as Apache Hadoop, Snowflake, AWS support these layers.

- **Second Layer: ERP Systems**

- Enterprise Resource Planning (ERP) systems like SAP, Oracle, or Microsoft Dynamics use the data from transactions to manage business processes.
- ERP systems may either directly interface with the Data Warehouse or interact through APIs or middleware for data exchange.
- These systems streamline processes such as finance, HR, supply chain, and production management.

- **Third Layer: Excel / End-User Tools**

- Excel and other end-user tools provide flexible access to structured data for reporting, financial modeling, and ad-hoc analysis.
- Excel connects to ERP systems and sometimes directly to data warehouses to pull updated data for analysis and visualization.
- Users can automate reporting and analysis with tools like Power Query, Power Pivot, and external integrations.



Excel Use Cases Within an Organization

- **Marketing: Campaign Performance Tracker**
 - Excel is used to track the effectiveness of marketing campaigns.
 - Marketers analyze key metrics like click-through rates (CTR), conversion rates, and return on investment (ROI).
 - Excel's charts and pivot tables help visualize trends and performance over time.
- **Financial Statement Audit: Audit Workpaper**
 - Auditors use Excel to create workpapers that document findings from financial statement audits.
 - Excel helps manage trial balances, verify data accuracy, and track adjustments or reclassifications.
 - Auditors can use formulas for reconciliations and create schedules to compare reported figures.
- **Finance: Budgeting and Forecasting**
 - Excel is widely used for creating detailed budgets and performing financial forecasting.
 - Finance teams use Excel to model cash flows, track actual vs. budget performance, and analyze financial scenarios.
 - Advanced features like goal seek and scenario analysis support financial decision-making.

ATM – ASSOCIAÇÃO DE INVESTIDORES BUDGET PLAN

Joe Family Account Number 123456 Client Number 222 Language EN

DATA

| Personal Data | Account Data | Rates | Balance |
|------------------|------------------------|--------------------------|----------------------------------|
| Name: Joe Family | Account Number: 123456 | Return on Capital: 4.25% | Cash Assets (prior year): 0,00 € |
| Age: 33 | Client Number: 222 | Inflation: 2.96% | Account Reconciliation: 0,00 € |

FAMILY BUDGET CONTROLLER Developing and monitoring an effective budget

Savings (included capital expenditures on "programmed savings")

| Descriptive | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC | TOTAL | AVERAGE | YTD |
|------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|--------|
| CAPACITY TO SAVE MONEY | | | | | | | | | | | | | | | |
| Savings | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € |
| Accumulated Savings | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € |

Investment

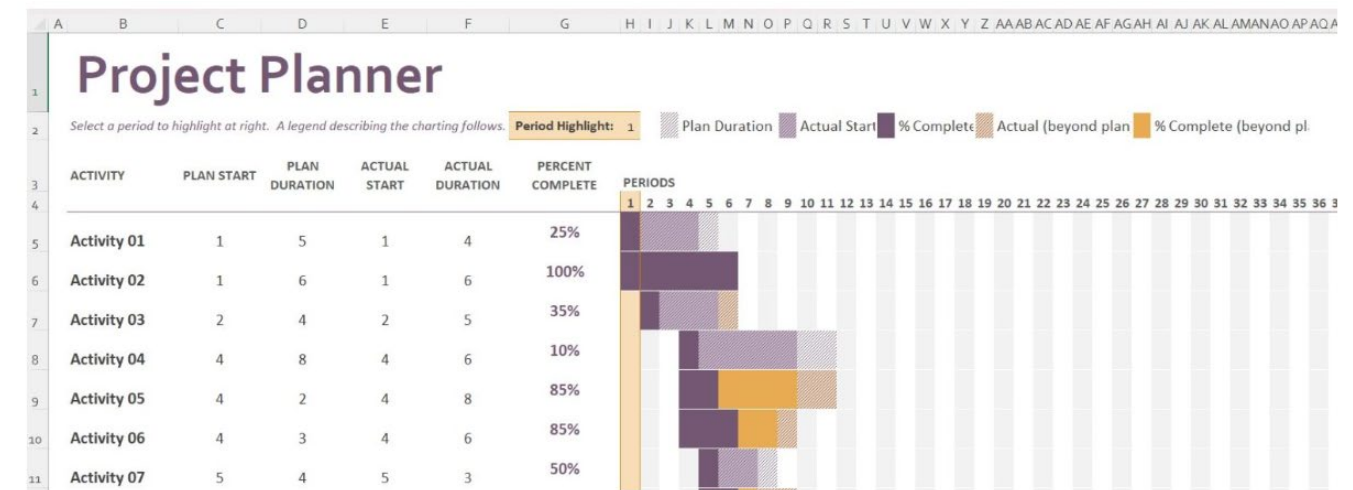
| Descriptive | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC | YTD | AVERAGE | STD DEV |
|---------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|---------|
| ACCOUNT VALUE | | | | | | | | | | | | | | | |
| Securities Portfolio | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € |
| Unrealized Profit/Loss | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € |
| Cost to Close | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € |
| Transactions Not Booked | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € |
| Account Value (+ accumulated savings) | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € |

Deposits/Revenues

| Descriptive | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC | TOTAL | AVERAGE | STD DEV |
|--------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|---------|
| DEPOSITS/REVENUES | | | | | | | | | | | | | | | |
| Salário | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € |
| Living/Entertainment Allowance | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € |
| Dole | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € |
| Subsidies | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € |
| Dividends | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € |
| Surplus Value | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € |
| Cash Prizes/Bonus | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € |
| Tax Reimbursement | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € |
| Others Revenues | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € | 0,00 € |

Excel Use Cases for Personal Life

- Budgeting:
 - Track your income and expenses in a spreadsheet, then create a bar chart to see where most of your money is going and identify areas to cut back on spending.
- Fitness tracking:
 - Log your daily exercise, calories consumed, and weight, then visualize progress with a line chart to see trends over time.
- Meal planning:
 - Create a weekly meal plan in Excel, including ingredients and grocery lists, and use color coding to highlight healthy options.
- Travel planning:
 - Organize travel details like flights, accommodation, and activities in a spreadsheet, then use a calendar view to visualize your itinerary.
- Project management:
 - Break down large personal projects into smaller tasks with deadlines, then use a Gantt chart to visualize the project timeline and dependencies.



Example of a Gantt Chart found in Excel Templates; uses of Microsoft Excel

Microsoft 365 Suite

Microsoft 365 Integration

- Excel is part of the Microsoft 365 suite, which offers seamless integration with other tools like Word, PowerPoint, Outlook, OneDrive, and Teams.
- This integration allows users to collaborate in real-time, share files easily through the cloud, and leverage automation tools like Power Automate and Power BI for advanced data analysis.
- Excel's cloud capabilities allow users to access and work on files from any device.



Microsoft 365 Suite

Differences Across Platforms

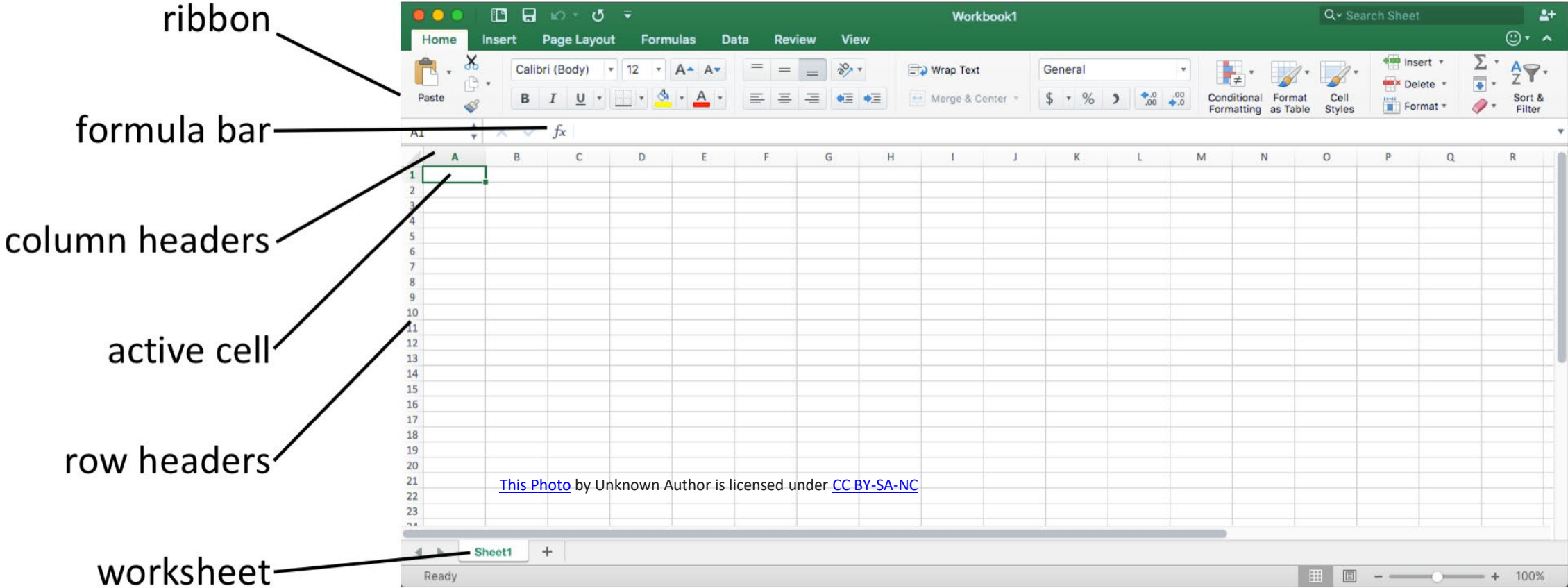
- Excel for Windows:
 - Offers the most comprehensive feature set, including advanced features like Power Query, Power Pivot, and VBA macros for automation.
- Excel for Mac:
 - Similar core functionalities but with some limitations on certain advanced features (like VBA).
 - Integrated well with the Microsoft 365 suite but slightly behind Windows in terms of feature releases.
- Excel Online:
 - Accessible through any web browser, offering real-time collaboration.
 - Limited in terms of advanced features such as complex macros and add-ins, but great for quick edits and sharing.
 - Ideal for teamwork as multiple users can edit simultaneously.



Excel Tutorial

Excel Workbook Structure

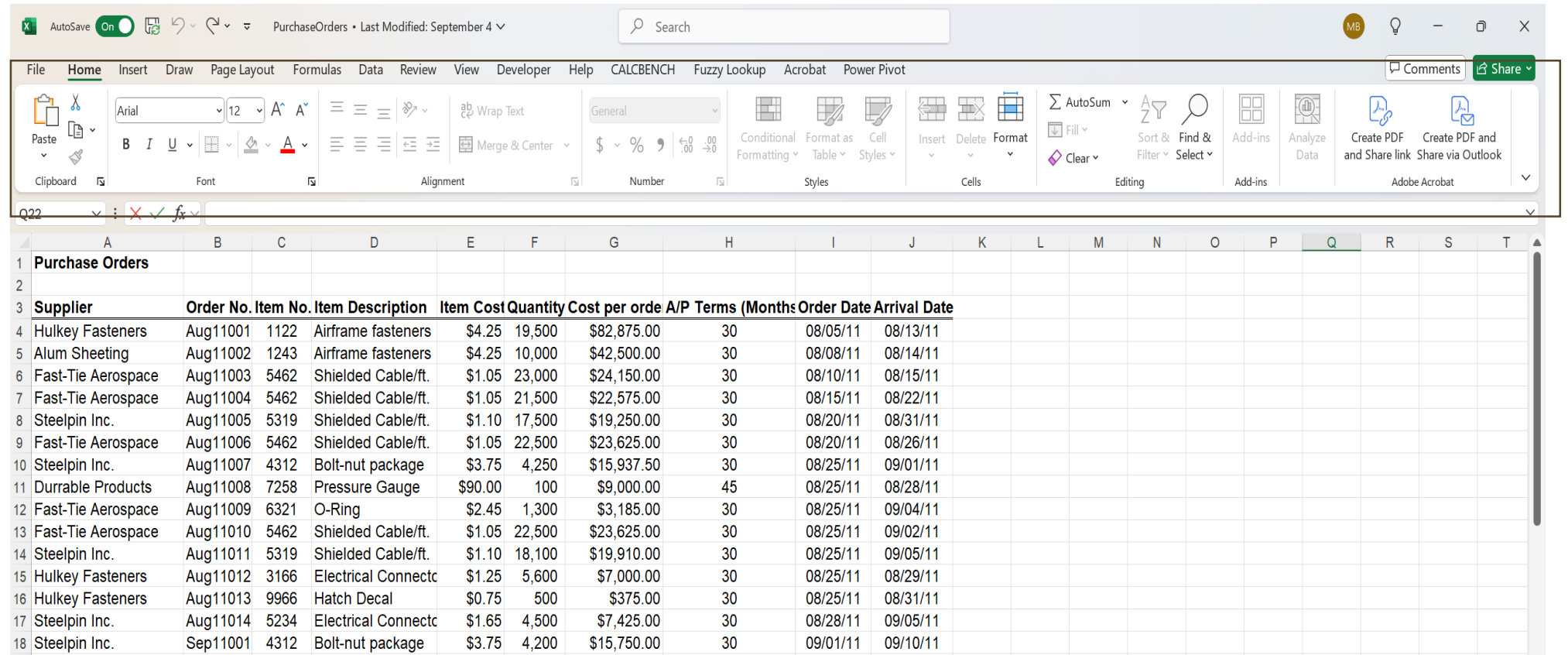
Key Elements



Excel Workbook Structure

Ribbons

- Ribbons are the set of tabs at the top of the Excel interface that organize the various tools and features.
- Each ribbon contains groups of related commands to help users find features quickly and efficiently.



The screenshot shows the Microsoft Excel interface. The ribbon is visible at the top, with the 'Home' tab selected. The ribbon groups include Clipboard, Font, Alignment, Number, Styles, Cells, Editing, and Add-ins. Below the ribbon, a data table is displayed in the worksheet. The table has 18 rows and 10 columns. The first row is a header for 'Purchase Orders'. The second row is a sub-header for 'Supplier'. The third row is a header for the data columns: 'Supplier', 'Order No.', 'Item No.', 'Item Description', 'Item Cost', 'Quantity', 'Cost per orde', 'A/P Terms (Months)', 'Order Date', and 'Arrival Date'. The data rows follow, listing various suppliers and their orders.

| Purchase Orders | | | | | | | | | |
|--------------------|-----------|----------|---------------------|-----------|----------|---------------|--------------------|------------|--------------|
| Supplier | | | | | | | | | |
| Supplier | Order No. | Item No. | Item Description | Item Cost | Quantity | Cost per orde | A/P Terms (Months) | Order Date | Arrival Date |
| Hulkey Fasteners | Aug11001 | 1122 | Airframe fasteners | \$4.25 | 19,500 | \$82,875.00 | 30 | 08/05/11 | 08/13/11 |
| Alum Sheeting | Aug11002 | 1243 | Airframe fasteners | \$4.25 | 10,000 | \$42,500.00 | 30 | 08/08/11 | 08/14/11 |
| Fast-Tie Aerospace | Aug11003 | 5462 | Shielded Cable/ft. | \$1.05 | 23,000 | \$24,150.00 | 30 | 08/10/11 | 08/15/11 |
| Fast-Tie Aerospace | Aug11004 | 5462 | Shielded Cable/ft. | \$1.05 | 21,500 | \$22,575.00 | 30 | 08/15/11 | 08/22/11 |
| Steelpin Inc. | Aug11005 | 5319 | Shielded Cable/ft. | \$1.10 | 17,500 | \$19,250.00 | 30 | 08/20/11 | 08/31/11 |
| Fast-Tie Aerospace | Aug11006 | 5462 | Shielded Cable/ft. | \$1.05 | 22,500 | \$23,625.00 | 30 | 08/20/11 | 08/26/11 |
| Steelpin Inc. | Aug11007 | 4312 | Bolt-nut package | \$3.75 | 4,250 | \$15,937.50 | 30 | 08/25/11 | 09/01/11 |
| Durable Products | Aug11008 | 7258 | Pressure Gauge | \$90.00 | 100 | \$9,000.00 | 45 | 08/25/11 | 08/28/11 |
| Fast-Tie Aerospace | Aug11009 | 6321 | O-Ring | \$2.45 | 1,300 | \$3,185.00 | 30 | 08/25/11 | 09/04/11 |
| Fast-Tie Aerospace | Aug11010 | 5462 | Shielded Cable/ft. | \$1.05 | 22,500 | \$23,625.00 | 30 | 08/25/11 | 09/02/11 |
| Steelpin Inc. | Aug11011 | 5319 | Shielded Cable/ft. | \$1.10 | 18,100 | \$19,910.00 | 30 | 08/25/11 | 09/05/11 |
| Hulkey Fasteners | Aug11012 | 3166 | Electrical Connectc | \$1.25 | 5,600 | \$7,000.00 | 30 | 08/25/11 | 08/29/11 |
| Hulkey Fasteners | Aug11013 | 9966 | Hatch Decal | \$0.75 | 500 | \$375.00 | 30 | 08/25/11 | 08/31/11 |
| Steelpin Inc. | Aug11014 | 5234 | Electrical Connectc | \$1.65 | 4,500 | \$7,425.00 | 30 | 08/28/11 | 09/05/11 |
| Steelpin Inc. | Sep11001 | 4312 | Bolt-nut package | \$3.75 | 4,200 | \$15,750.00 | 30 | 09/01/11 | 09/10/11 |

Excel Workbook Structure

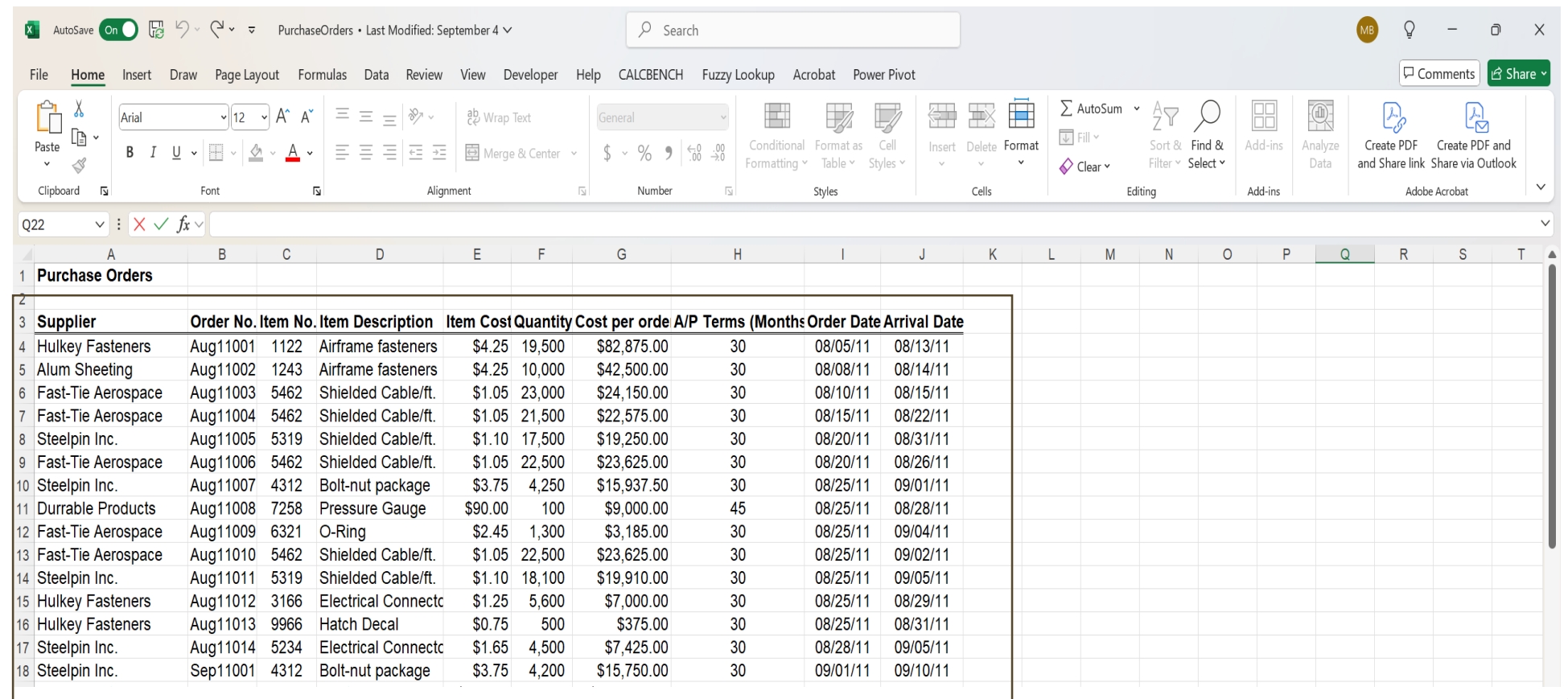
Range vs Table

- Range:

- A range refers to a specific group of cells selected for analysis or calculations.
- Ranges are used in formulas and functions to perform calculations across multiple cells.

- Tables:

- Excel allows users to convert data into a structured table, which makes managing large data sets easier.
- Tables come with features like automatic filtering, sorting, and table-specific formatting.
- Excel tables also automatically expand as new rows or columns of data are added.



| | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T |
|----|--------------------|------------------|-----------------|-------------------------|------------------|-----------------|-----------------------|---------------------------|-------------------|---------------------|---|---|---|---|---|---|---|---|---|---|
| 1 | Purchase Orders | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | |
| 3 | Supplier | Order No. | Item No. | Item Description | Item Cost | Quantity | Cost per order | A/P Terms (Months) | Order Date | Arrival Date | | | | | | | | | | |
| 4 | Hulkey Fasteners | Aug11001 | 1122 | Airframe fasteners | \$4.25 | 19,500 | \$82,875.00 | 30 | 08/05/11 | 08/13/11 | | | | | | | | | | |
| 5 | Alum Sheeting | Aug11002 | 1243 | Airframe fasteners | \$4.25 | 10,000 | \$42,500.00 | 30 | 08/08/11 | 08/14/11 | | | | | | | | | | |
| 6 | Fast-Tie Aerospace | Aug11003 | 5462 | Shielded Cable/ft. | \$1.05 | 23,000 | \$24,150.00 | 30 | 08/10/11 | 08/15/11 | | | | | | | | | | |
| 7 | Fast-Tie Aerospace | Aug11004 | 5462 | Shielded Cable/ft. | \$1.05 | 21,500 | \$22,575.00 | 30 | 08/15/11 | 08/22/11 | | | | | | | | | | |
| 8 | Steelpin Inc. | Aug11005 | 5319 | Shielded Cable/ft. | \$1.10 | 17,500 | \$19,250.00 | 30 | 08/20/11 | 08/31/11 | | | | | | | | | | |
| 9 | Fast-Tie Aerospace | Aug11006 | 5462 | Shielded Cable/ft. | \$1.05 | 22,500 | \$23,625.00 | 30 | 08/20/11 | 08/26/11 | | | | | | | | | | |
| 10 | Steelpin Inc. | Aug11007 | 4312 | Bolt-nut package | \$3.75 | 4,250 | \$15,937.50 | 30 | 08/25/11 | 09/01/11 | | | | | | | | | | |
| 11 | Durrable Products | Aug11008 | 7258 | Pressure Gauge | \$90.00 | 100 | \$9,000.00 | 45 | 08/25/11 | 08/28/11 | | | | | | | | | | |
| 12 | Fast-Tie Aerospace | Aug11009 | 6321 | O-Ring | \$2.45 | 1,300 | \$3,185.00 | 30 | 08/25/11 | 09/04/11 | | | | | | | | | | |
| 13 | Fast-Tie Aerospace | Aug11010 | 5462 | Shielded Cable/ft. | \$1.05 | 22,500 | \$23,625.00 | 30 | 08/25/11 | 09/02/11 | | | | | | | | | | |
| 14 | Steelpin Inc. | Aug11011 | 5319 | Shielded Cable/ft. | \$1.10 | 18,100 | \$19,910.00 | 30 | 08/25/11 | 09/05/11 | | | | | | | | | | |
| 15 | Hulkey Fasteners | Aug11012 | 3166 | Electrical Connect | \$1.25 | 5,600 | \$7,000.00 | 30 | 08/25/11 | 08/29/11 | | | | | | | | | | |
| 16 | Hulkey Fasteners | Aug11013 | 9966 | Hatch Decal | \$0.75 | 500 | \$375.00 | 30 | 08/25/11 | 08/31/11 | | | | | | | | | | |
| 17 | Steelpin Inc. | Aug11014 | 5234 | Electrical Connect | \$1.65 | 4,500 | \$7,425.00 | 30 | 08/28/11 | 09/05/11 | | | | | | | | | | |
| 18 | Steelpin Inc. | Sep11001 | 4312 | Bolt-nut package | \$3.75 | 4,200 | \$15,750.00 | 30 | 09/01/11 | 09/10/11 | | | | | | | | | | |



Excel Best Practices

Excel Best Practices

Keyboard Shortcuts

- **Why Use Keyboard Shortcuts?**

- Keyboard shortcuts improve efficiency by allowing users to quickly navigate and perform tasks without relying on the mouse.
- They can significantly speed up common operations like formatting, data entry, and navigating large datasets.

Excel Best Practices

Keyboard Shortcuts

Categories of Excel Keyboard Shortcuts:

1. Navigation:

1. **Ctrl + Arrow Keys:** Quickly jump to the edges of data regions.
2. **Ctrl + Page Up/Page Down:** Switch between worksheet tabs.

2. Formatting:

1. **Ctrl + B:** Bold selected text.
2. **Ctrl + 1:** Open the format cells dialog box for advanced formatting.

3. Data Management:

1. **Ctrl + Shift + L:** Turn filters on or off.
2. **Ctrl + Shift + "+":** Insert new cells, rows, or columns.

4. Formulas:

1. **F4:** Toggle between absolute and relative cell references in formulas.
2. **Ctrl + Shift + Enter:** Enter an array formula.

Office Accessibility / Excel / Keyboard shortcuts in Excel

Keyboard shortcuts in Excel

Excel for Microsoft 365, Excel for Microsoft 365 for Mac, Excel for the web, Excel 2024, [More...](#)

Many users find that using an external keyboard with keyboard shortcuts for Excel helps them work more efficiently. For users with mobility or vision disabilities, keyboard shortcuts can be easier than using the touchscreen and are an essential alternative to using a mouse.

Notes:

- The shortcuts in this topic refer to the US keyboard layout. Keys for other layouts might not correspond exactly to the keys on a US keyboard.
- A plus sign (+) in a shortcut means that you need to press multiple keys at the same time.
- A comma sign (,) in a shortcut means that you need to press multiple keys in order.

Windows

macOS

Office for iOS

Office for Android

Web

This article describes the keyboard shortcuts, function keys, and some other common shortcut keys in Excel for Windows.

Excel Best Practices

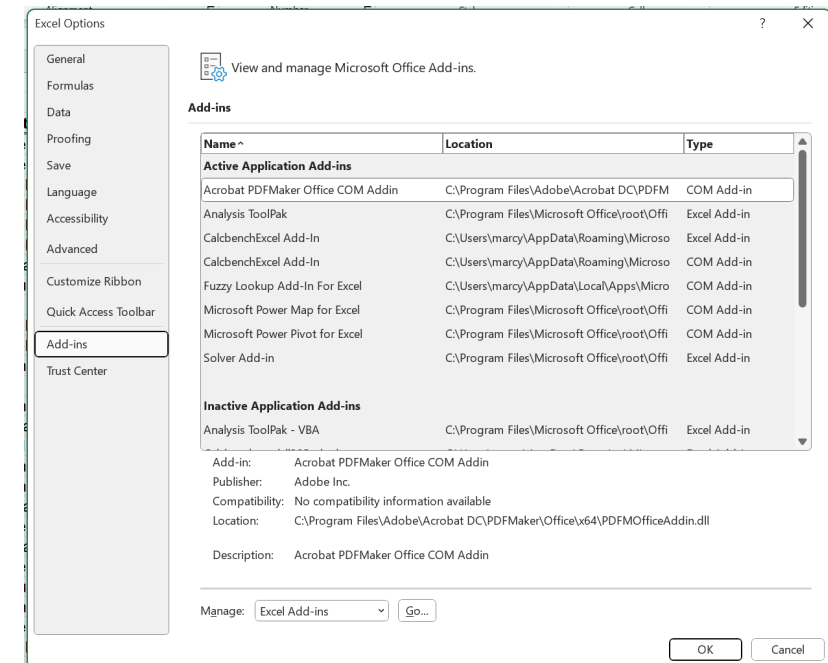
Add-ins

- **What are Excel Add-ins?**

- Excel add-ins are additional tools or features that can be added to enhance functionality.
- These are especially useful for specialized tasks such as advanced data analysis, financial modeling, and reporting.

- **Popular Excel Add-ins:**

- Data Analysis Toolpack
- Power Pivot
- Solver
- Power Query
- Analysis Toolpack - VBA



Excel Best Practices

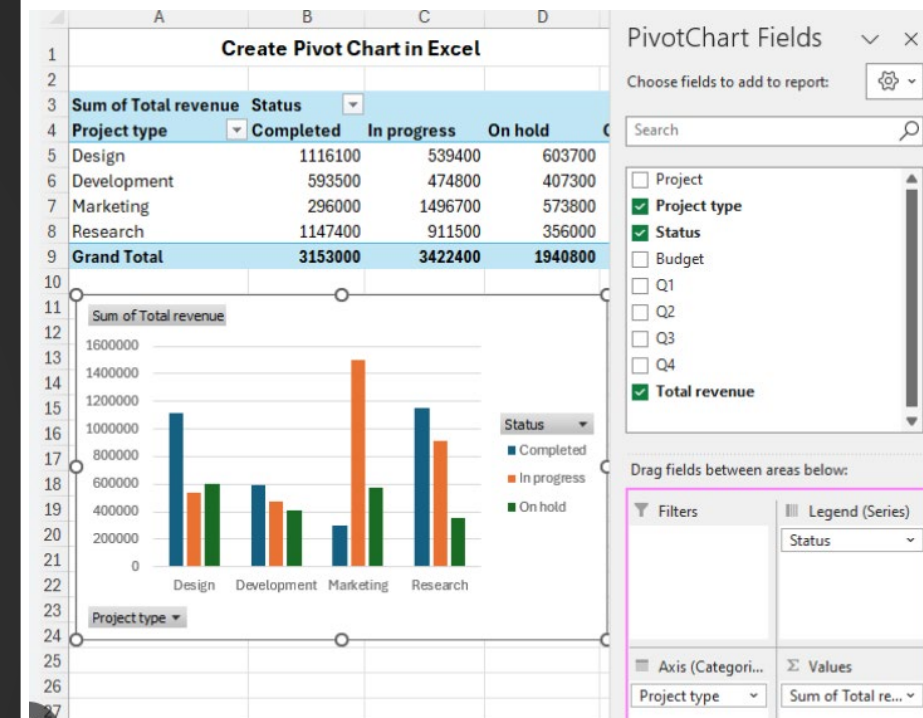
Data Visualizations

- **Pivot Tables**

- A Pivot Table is one of the most powerful tools in Excel for summarizing and analyzing large datasets.
- It allows users to organize and aggregate data by dragging fields into categories like rows, columns, values, and filters.

- **Pivot Charts**

- After creating a pivot table, you can build an interactive Pivot Chart to visualize the summarized data.
- Pivot charts are fully interactive, allowing users to filter, slice, and drill down into data without altering the underlying table.
- These charts automatically update when you change the pivot table, making them ideal for dynamic reporting and presentations.



Excel Best Practices

Data Dashboard

- **What is a Data Dashboard?**

- A **data dashboard** in Excel is a visual representation of key metrics and data points, often using charts, pivot tables, and visual elements to track performance in real time.
- Dashboards are used for **business reporting, performance tracking, and decision-making.**



Excel Best Practices

Data Dashboard

Steps to Build a Dashboard in Excel:

1. Organize Your Data:

- Start by gathering and cleaning your data, ensuring it's structured properly.
- Use **pivot tables** or summary tables to create the base of your dashboard.

2. Insert Visual Elements:

- Use **Pivot Charts**, **regular charts**, and **conditional formatting** to visualize key metrics.
- Common chart types for dashboards include **bar charts**, **line charts**, and **gauges**.

3. Use Slicers and Filters:

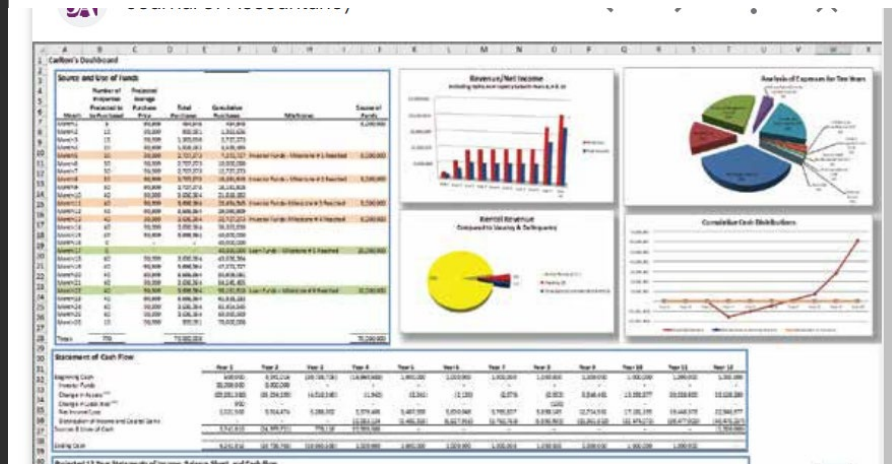
- Add **slicers** and **timeline filters** to allow interactive control over the dashboard, making it dynamic and responsive to user selections.

4. Design for Clarity:

- Arrange charts, tables, and visual elements on a single worksheet or across multiple sheets for clear and logical presentation.
- Use **color coding**, **labels**, and **headings** to enhance readability.

5. Automate Updates:

- Link your dashboard to live data sources, or use **Power Query** to automate data refreshes.
- Ensure that charts and tables update automatically when new data is added.





Limitations of Excel

- Data volume limitations
- Lack of automation
- No centralized audit trail
- Collaboration challenges
- Risk of human error
- Scaling and integration issues



Future of Excel

The Future of Excel and AI Integration

Current Use of AI in Excel

- AI features, like **Microsoft 365 Copilot**, help automate data analysis and generate reports through natural language commands.
- Predictive analytics and AI-driven recommendations are now embedded into Excel, assisting users in making data-driven decisions.
- AI allows users to interact more easily with Excel, helping to streamline tasks and offer quick insights based on data.



The Future of Excel and AI Integration

Future use of AI in Excel

- Increased Automation: AI will increasingly automate data tasks, reducing manual efforts for data cleaning, processing, and report generation
- Smart Analysis: AI will further improve data interpretation, suggesting actions and insights based on patterns
- AI Agents: Future AI agents in Excel will operate autonomously, handling tasks such as data updates and decision-making without human input



Excel Resources



Excel Resources

- Microsoft Excel support and tutorials
- LinkedIn Learning
- Wall Street Prep course
- Instagram and social media learning
 - @ExcelDictionary
 - @MissExcel
- YouTube
 - Visit ExcellsFun channel

Related Course Offerings

- BUSA 2200 - Data Analysis and Presentation
 - This course focuses on using Excel for data analysis and visualization.
 - Students will learn how to organize, analyze, and present data effectively using tools like PivotTables, charts, and statistical functions in Excel.
 - Emphasis on applying these skills to real-world business scenarios to improve decision-making.
- BUSA 381 - Business Intelligence and Information Systems
 - A course designed to teach students how to use business intelligence tools for data management and analysis.
 - Covers topics like data governance, IT risk management, and using tools like Excel alongside BI platforms for deeper data insights.
 - Prepares students to develop IT agility for strategic decision-making and data-driven analysis in a business context.

Questions?

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