**Essential Excel Skills for Data Analysts (80/20 Rule)**

**(Gemini)**

This list combines the most frequently used Excel functionalities by data analysts, allowing them to tackle 80% of their tasks efficiently.

**Core Functions:**

* **Lookup and Reference:** VLOOKUP, HLOOKUP, XLOOKUP, INDEX & MATCH (to find and retrieve specific data points)
* **Logical Functions:** IF, AND, OR, NOT (for creating conditional statements and data manipulation)
* **Text Functions:** LEFT, RIGHT, MID, CONCATENATE (for cleaning and manipulating text data)
* **Math and Statistical Functions:** SUM, AVERAGE, COUNT, SUMIFS, COUNTIFS, VAR, STDEV (for performing calculations and summarizing data)
* **Date and Time Functions:** TODAY, NOW, YEAR, MONTH, DAY, NETWORKDAYS (for working with date and time data)

**Data Exploration and Visualization:**

* **PivotTables and Pivot Charts:**
  + Summarize and analyse large datasets.
  + Group, filter, and sort data to identify trends and patterns.
  + Create visual representations of your data for clear communication.
* **Conditional Formatting:**
  + Highlight important data points and trends through colour coding or formatting.
  + Improve the readability and user experience of your spreadsheets.

**Data Cleaning and Transformation:**

* **Data Cleaning:** Techniques to remove errors and inconsistencies from your data.
* **Data Manipulation:** Transforming data into the format needed for analysis (sorting, filtering, combining datasets).

**Efficiency and User Experience:**

* **Shortcuts and Keyboard Tricks:** Master basic shortcuts (copy, paste, undo, redo) for faster data manipulation.

**Dashboard Creation (Bonus Topics):**

* **Charts and Formatting:** Utilize various chart types (stacked bar, bullet charts, sparklines) for effective data visualization.
* **Sparklines and Conditional Formatting:** Embed tiny charts within cells for quick trend summaries and highlight crucial data points.
* **Slicers and Filters:** Allow users to interactively explore data within the dashboard.
* **Formulas and Dynamic Updates:** Employ formulas that automatically update with changing data for a dynamic dashboard.
* **Layout and Design:** Design clear and organized dashboards with user experience and information flow in mind.
* **Hyperlinks and Navigation:** Incorporate hyperlinks for deeper exploration of specific data points or reports.

By mastering these skills, you'll equip yourself as a data analyst to effectively clean, analyse, and present data using Excel. Remember, focusing on these core functionalities allows you to tackle most data analysis tasks while also having the ability to create insightful dashboards for clear communication.

**ChatGPT**

Certainly! Here's a list of Excel topics that are commonly used by data analysts in industry, focusing on concepts that cover a significant portion of their work, along with topics related to creating dashboards:

**1. \*\*Data Importing and Exporting\*\*:**

- Importing data from various sources (CSV, text files, databases, etc.).

- Exporting data to different formats.

**2. \*\*Data Cleaning and Preparation\*\*:**

- Removing duplicates.

- Handling missing values.

- Text manipulation (concatenation, splitting, etc.).

- Data validation.

**3. \*\*Data Analysis\*\*:**

- PivotTables: summarizing and analysing data quickly.

- Functions like SUM, AVERAGE, COUNT, etc.

- Conditional formatting for visualizing data patterns.

**4. \*\*Data Visualization\*\*:**

- Charts (bar, line, pie, etc.).

- Conditional formatting for visual insights.

- Sparklines for mini-charts within cells.

**5. \*\*Advanced Functions\*\*:**

- VLOOKUP, HLOOKUP, INDEX/MATCH.

- IF statements and nested IFs.

- SUMIF, COUNTIF, AVERAGEIF.

**6. \*\*Statistical Analysis\*\*:**

- Descriptive statistics (mean, median, standard deviation, etc.).

- Correlation analysis.

- Regression analysis.

**7. \*\*Dashboard Creation\*\*:**

- Creating dynamic charts using named ranges.

- Form controls (dropdowns, checkboxes, etc.) for interactivity.

- Combining multiple charts and visuals into a cohesive dashboard layout.

- Using slicers to filter data dynamically.

- Data validation to control inputs.

**8. \*\*Data Modelling\*\*:**

- What-If analysis with scenarios.

- Goal Seek and Solver for optimization problems.

- Power Query for data shaping and transformation.

**9. \*\*Automation and Macros\*\*:**

- Recording and editing macros for repetitive tasks.

- VBA programming for automation and custom functions.

**10. \*\*Collaboration and Sharing\*\*:**

- Protecting sheets and workbooks with passwords.

- Sharing workbooks and managing permissions.

- Tracking changes and comments.

These topics cover a wide range of functionalities within Excel that are commonly used by data analysts in various industries. Mastering these concepts can significantly enhance productivity and efficiency in data analysis and dashboard creation tasks.

**Perplexity**

The Excel topics that are commonly used by data analysts in the industry for their work, focusing on the 20% of concepts that cover 80% of the work, include:

**1. \*\*Pivot Tables\*\*:** Essential for data analysis and summarization.

**2. \*\*VLOOKUP\*\*:** Useful for searching and retrieving data.

**3. \*\*Power Query\*\*:** Enables data import and transformation.

**4. \*\*Forecasting Models\*\*:** Important for predicting trends and future outcomes.

**5. \*\*Data Modelling\*\*:** Involves integrating and visualizing data from multiple sources.

**6. \*\*Interactive Dashboards\*\*:** Combining various elements to create dynamic visual representations of data.

These topics are fundamental for data analysts as they cover a significant portion of the work involved in data analysis and dashboard creation using Excel.

**Citations:**

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**[4]** https://365datascience.com/tutorials/excel-tutorials/10-excel-project-ideas-for-your-data-science-portfolio/

**[5]** https://chandoo.org/wp/excel-dashboards/examples/