



# Macro Programming

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## Selecting Visualizations and Interactive Controls

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## Why Visualization Matters

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**Raw data → difficult to interpret**

**Visuals → highlight trends, patterns & comparisons**

Decision-making becomes **faster and more accurate**

Example:

- A table of monthly sales (numbers) vs.
- A line chart showing **growth trend**



### 1. Comparison Charts

- Column / Bar Chart → Compare sales across regions.
- Stacked Column → Show breakdown within categories.

### 2. Trend Charts

- Line Chart → Sales over months (time series).



### 3. Distribution Charts

- Histogram → Customer frequency distribution.
- Scatter Plot → Relationship between Profit % and Sales.

### 4. Proportion Charts

- Pie / Donut Chart → Market share of products.



## When to Use Each Chart

**Column/Bar** → Compare categories side by side (e.g., Region-wise sales).

**Line** → Continuous trends (e.g., Sales Jan–Dec).

**Pie/Donut** → Proportions ( $\leq 5$  categories only).

**Stacked** → Parts + Whole (e.g., Regional contribution to total).

**Scatter** → Correlation (e.g., Profit % vs New Customers).



## Interactive Controls in Excel

Two main controls to make dashboards dynamic:

1. **Slicers** → Filter data by fields (Region, Month, Category).
2. **Timelines** → Special slicer for Date fields (Year, Quarter, Month).

They help users:

- Quickly switch views
- Avoid manual filtering
- Make dashboards **self-service**



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## Understanding Objectives

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Before creating a dashboard:

- Define **purpose** clearly
- Identify **business questions** to answer
- Align with **organizational goals**
- Consider **target audience's expectations**



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## Using Slicers

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- Select a PivotTable.
- Go to **Insert → Slicer**.
- Choose fields: Month, Region, Product Category.
- Resize and align slicers neatly.
- Connect slicers to all PivotTables/Charts (**Right Click → Report Connections**).



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## Using Timelines

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- Select PivotTable with a **date field**.
- Go to **Insert → Timeline**.
- Choose *Month* or *Year*.
- Drag the slider to filter specific ranges.
- Combine with slicers for **multi-level filtering**.

Example:

- Select *North Region* (Slicer) + Q2 2024 (Timeline).
- Dashboard instantly shows **North Region Q2 Sales**.



## Key Takeaways

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- Choose visualization **based on purpose** (Comparison, Trend, Proportion, Correlation).
- Use **Slicers & Timelines** for interactivity.
- Keep design **clean, consistent, and user-focused**.
- Goal = Dashboard should **tell a story with data**.



**THANK YOU**

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