

DATA ANALYSIS WITH CHARTS

by

Ujah Oliver Chinedu

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Overview of Charts

- Introduction

- Used to analyze data graphically
- Well created and formatted charts can help people and businesses make decisions
- Microsoft Excel is equipped with a chart wizard
 - Allows one to create and format a chart to suit almost any scenario or need

Overview of Charts

- Introduction cont'd
 - To create a chart, first decide where the data is coming from (i.e. data source)
 - Mostly done with information available on a worksheet
 - Formatted charts come in different flavours for diverse goals
 - From columns to pies
 - Lines to surfaces
 - etc

Overview of Charts

- Introduction cont'd
 - A chart is usually designed on a two-dimension basis
 - Data on columns and rows on a worksheet
 - Note that a 3-dimensional look of chart is possible
 - Accentuate the colours and other graphics effects
 - Shows data and graphics in perspective for an enhanced effective analysis
 - There is a great deal of freedom on the design process
 - You can control what pieces of information on chart
 - How the chart will be displayed
 - Originating worksheet or separate

Overview of Charts

- Introduction cont'd
 - A chart consists of different sections
 - Main area (allows you to view the graphical display of data)
 - The legend (explains the meaning of various colours on the chart)
 - The title (indicates what the chart is used for)

Overview of Charts

- Introduction cont'd
 - Charts in Excel are organized by types
 - Columns
 - Bars
 - Lines
 - Pie
 - etc
 - The kind of information you intend to analyze determines the chart type
 - Use column or bar charts for data that deals with scale numbers, e.g. monthly sales, student grades, etc
 - Use pie or doughnut charts if data is about percentage or fractions

Creating a Chart

■ Introduction

- Make sure the originating data is available on the worksheet
- You will primarily use the Chart Wizard which will take you step by step in creating a chart/object
- To start
 - Select data intended to be analyzed
 - On the formatting tool bar, click the Chart Wizard button, and proceed

Creating a Column Chart

- Introduction

- A column chart renders a very effective result when analyzing data of same category on a defined scale
- It emphasizes high and low values thereby comparing items/issues
- Consists of flat bars which simply illustrate maximal, minimal and in-between values

Creating a Column Chart

- Practical Learning
 - Launch Microsoft Excel
 - Open the “data analysis with charts” workbook
 - Click “oil earnings” worksheet to make it active (if not already active)
 - Select A4:D9
 - Click the Chart Wizard Button on the standard tool bar to display the chart wizard window
 - Select the column category under in the Chart Wizard window and proceed with steps 1-4 in the same window
 - Format chart as desired
 - Save the workbook

Creating a Bar Chart

- Introduction

- Bar chart, just like column chart, is used to compared values of the same category on a common scale
- This time, the chart is drawn horizontally

Creating a Bar Chart

■ Practical Learning

- You create a bar chart using the same process as in the column chart
- Except you have to select the bar in step 1, note that a 3-dimensional perspective is feasible
- Click the “life expectancy” worksheet to make it active
- Select cells A3:D9 and click the chart wizard button
- On the chart wizard window, proceed from step 1-4 as earlier shown
- In step 4 of the chart wizard window, you must click the finish button to produce a chart
- Then save the workbook

Creating a Line Chart

- Introduction

- Used to analyze the ups and downs of a tendency in a range of values
- Can be defined with one series of values where you will judge the evolution of an item over a period
- With more than one series, this chart can be helpful in comparing values of the same category over the same period
- Can also be used to analyze values that do not share the same periodic variable, e.g. library attendance and real population (which could be in thousands or millions)

Creating a Line Chart

- Introduction cont'd
 - If the same axis is used to analyze the latter situation, one category will almost disappear from the chart
 - The alternative is to separate their axis on the same chart
 - To create a line chart, select the values in the category or categories that will be involved
 - After launching the chart wizard, select the line and proceed

Creating a Line Chart

- Practical Learning
 - Click the “Agric gdp” worksheet
 - Select the appropriate data
 - Click the chart wizard button
 - Choose line chart type
 - Follow the steps as usual

Creating a Pie and Doughnut Chart

■ Introduction

- Used to show percentage and/or fraction values
- Choose whenever your analysis involves values that altogether evaluate to a 100%, a 1, a 10, a 100, or a 1000 scale
- Doughnut chart is an alternative to the pie chart
 - It is sometimes a better alternative because it can include more than one series

Creating a Pie and Doughnut Chart

- Practical Learning
 - Click the “agric GDP structure” worksheet
 - Select the appropriate data
 - On the main menu, click insert chart
 - Follow the steps as usual

Chart Formatting

- Introduction

- A chart is normally created with default settings but accomplishes its purpose of helping to analyze data and figures
- But the default features are set only as starting points
- All the formatting and emphasis needs are left to you
- Besides the values and numbers in it, a chart is a graphic object whose characteristics can be enhanced to accentuate special important points of the whole process

Chart Formatting

- Introduction cont'd
 - When you decide to create a chart, specify what kinds of numbers and values your dealing with
 - These numbers/values ought to formatted properly
 - You can reformat your numbers with new settings and the chart will be updated provided the numbers are similarly recognizable
 - You can also change the chart type most of the time and get a new and/or better result

Chart Formatting

- Introduction cont'd
 - Almost any feature on the chart can be changed or reformatted at will
 - You can change the chart background
 - You can reformat the fonts on its axis
 - You can enhance the colour of its columns, bars, cones, etc, through fill effects feature

Chart Formatting

- Introduction cont'd
 - When a chart is selected on the worksheet, a chart menu bar replaces the regular main menu
 - When a chart is selected, the chart toolbar allows you to reformat various characteristics related to the chart
 - The chart menu bar and the chart toolbar work together to offer all formatted features of the chart

Chart Formatting

- Practical Learning
 - Format any of the charts you have created to your taste using all the information you have acquired

End of the Story