Frequently Asked Questions

1. What is area chart?

Answer: An area chart is based on a line chart. It is also called an area graph. It is used to display quantitative data graphically. Area charts are similar to line charts but the area below the lines is normally marked or shaded using different colours.

2. What does the area in area chart represent?

Answer: The area in an area chart represents the amount or quantity of data for a particular time period or at a particular point in time.

3. Explain the construction of area chart with an example.

Answer:

Years	X Comp	Y Comp	Z Comp
1-1-2005	1	1.5	1.75
1-1-2006	1.5	2	1.5
1-1-2007	2	1.75	3.5
1-1-2008	3	2.5	3.1
1-1-2009	4	3.5	3.8

Step 1: Identify the range of data that is to be graphically represented.

In this example, the sales figures of a company are presented. We can see the years under our study are 2005,2006,2007,2008 and 2009 and the corresponding sales figures for each of these years. 2005- Rs 1 crore for company x 1.5 crores for company y and 1.75 crores for company and so on for the other years.

Hence, we can see the range of years is 2005 to 2008 and the range of sales figures is between 1 and 4 crores.

Step 2:



Plot the ranges on a graph sheet- The x-axis will have the independent variable i.e. the years and the y-axis will have the dependent variable the sales figures. Choose a suitable scale to represent the data. A scale of 2 Cms for each year is used on the x axis and 2 Cms for every Rs 50 lakhs is used on the y axis.





Plot the data within the graph and construct line charts. In our example, we will have three line charts. One for company x, one for company y and one for company Z.

Till this point, what we do is similar to constructing line charts.



Step 4

In step 4 we will shade the area between each of the lines we constructed and thus get an area chart. When shading the area in between lines different colours are used to highlight the area represented by different data. Thus a stacked area chart is constructed to shows the relationship of various parts to a whole.

In our example the entire sales of 3 companies together forms the entire data. Individual sales figures for each company form parts of the entire data. Stacked area charts show the trend of contribution for each value over a period of time. Thus area charts are useful in depicting incremental data and for comparisons between series of data.

4. Why do we use line chart to construct three-dimensional area charts?

Answer:

When constructing three-dimensional area charts it is advisable to use a line chart instead of a non-stacked area chart because if a non-stacked area chart is used, data from one series may be hidden by data from another series.

5. What is the essential information to be presented in area charts?

Answer:

• The Title:

The title offers a short explanation of what is in your chart. This helps the reader identify what they are about to look at. It can be creative or simple as long as it tells what is in the chart.

• The Legend:

The legend tells the reader what each shaded area represents. Just like on a map, the legend helps the reader understand what they are looking at.

• The Source:

The source explains where you found the information that is in your chart. This is especially important when using secondary data. It is important to give credit to those who collected your data.

• Y-Axis:

In area graphs, the y-axis runs vertically (up and down). Typically, the y-axis has numbers for the amounts being measured (the dependent variable). The y-axis usually starts counting at 0 and can be divided into as many equal parts as you want to.

• The Data:

The most important part of your graph is the information, or data, it contains. Area graphs can present more than one group of data at a time.

• X-Axis:

In area graphs, like the one in our example, the x-axis runs horizontally (flat). Typically, the x-axis has numbers representing different time periods or names of things being compared.

6. List the advantages of area chart.

Answer: The advantages of area chart are:

- The area chart scores over the line chart by virtue of the fact that it is more pleasing to the eye and this helps the viewer capture the trend faster than when viewing a line chart
- It is visually more effective than the line chart as it uses colour shading of area to highlight data represented
- Area charts are very useful to study incremental data for similar subjects
- Area charts are useful in giving the viewer the big picture or macro view of data
- 7. List the disadvantages of area chart.

Answer: The disadvantages of area chart are:

- When we have to compare a large number of variables area charts may not be as suitable as line charts
- Area charts are not able to give the viewer specific details very easily
- 8. Highlight the practical use of area chart.

Answer:

Area charts are very useful for presenting economic and financial data. They are also useful in presenting comparative and trend analysis.

9. What is bubble chart?

Answer:

A bubble chart is a type of chart where, each plotted entry is defined in terms of three distinct numeric parameters.

10. Mention the three sets of values used to construct bubble chart.

Answer:

A bubble chart is constructed using three sets of values:

- One value is represented by the bubble's location on the x-axis
- One by its location on the y-axis
- The third by its value as represented by its relative size

11. Highlight the main concern that has to be taken care while constructing a bubble chart.

Answer:

The main concern when using data to construct a bubble chart is that the area of the bubble or circle should be proportional to the square of the radius. Hence, if when constructing a bubble chart the scale used is the radius as your third data point, you will disproportionally emphasize the third factor. To get a properly weighted scale, one should take the square root of the magnitude of this third metric. However, many bubble charts are rendered without this correction.

12. When do we use a bubble chart?

Answer:

Bubble charts are often used to present financial data. This is because multiple criteria can be displayed like revenues and income over a period of time. We use a bubble chart when we want specific values to be visually represented in a chart. We achieve this by constructing bubbles of different sizes.

13. Construct a bubble chart for the data given in the following table.

	А	В	С
1	Number of Products	Sales	Market Share %

2	14	\$12,200.00	15%
3	20	\$60,000.00	23%
4	18	\$24,400.00	10%

Answer:

The bubble chart looks like this:



14. List the advantages of bubble chart.

Answer: The advantages of bubble chart are:

- Though bubbles do not add new information, however being able to see the magnitudes of the differences in size helps the viewer sort through information
- These charts display three variables without using 3D graphs
- The visual size makes it very easy to make relative comparisons
- These charts convey more information than a line graph
- Different colours can be used to differentiate between different types of data

15. List the disadvantages of bubble chart.

Answer: The disadvantages of bubble chart are:

- Due to circle sizes, it can be difficult to ascertain actual values (at best the circle sizes represent estimates)
- Improper scaling can easily skew graph
- Circles may clutter graph this makes this type of chart difficult to read and understand
- Bubble charts cannot be used to display a lot of data