

# Creating Double Doughnut Charts in Excel: A Comprehensive Tutorial

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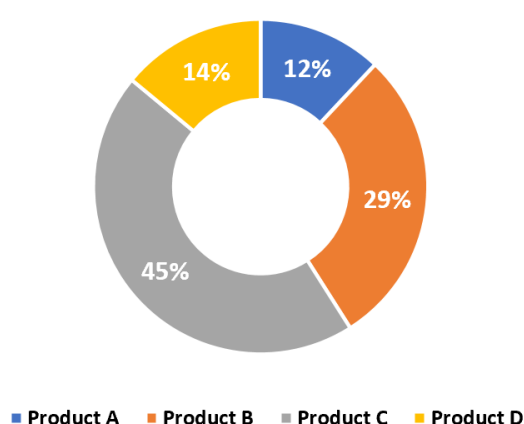
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## RECOMMENDED CITATION

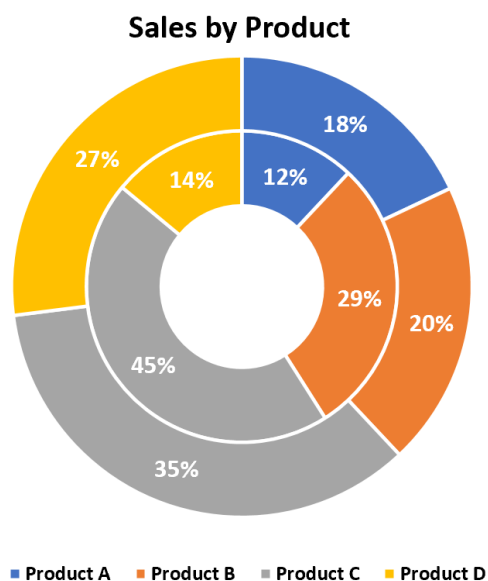
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The **doughnut chart** stands as an exceptionally clear and compelling form of [circular chart](#) specifically engineered for the compelling representation of categorical data in terms of their relative proportions. Fundamentally, it operates on principles similar to the traditional [pie chart](#), but it distinguishes itself through a deliberate central void or cutout. This architectural feature not only gives the chart its distinctive namesake appearance but also provides a strategic area that is frequently leveraged to display critical summary statistics, key performance indicators, or explanatory text, thus significantly amplifying the overall communicative power of the resulting [data visualization](#).

**Sales by Product**



Building upon this foundation, the **double doughnut chart** elevates the complexity and utility of the visualization by meticulously incorporating two distinct, nested layers or rings. This sophisticated chart type is indispensable in scenarios requiring the simultaneous comparison of two related, yet separate, sets of proportional data across identical categories. By displaying both datasets concentrically, viewers are empowered to immediately discern subtle or significant changes, trends, or disparities between the two measured groups. For instance, this technique is ideally suited for contrasting complex metrics such as sales performance across two consecutive fiscal quarters, comparing budget allocations from the current year against the previous year's figures, or tracking market share evolution over time.



This comprehensive, expert tutorial provides a detailed, step-by-step methodology for constructing a robust and highly informative double doughnut chart utilizing **Microsoft Excel**, which remains the industry standard tool for both routine business intelligence tasks and sophisticated statistical analysis. Mastering this technique is crucial for anyone seeking to transition from simple reporting to advanced comparative data presentation, ensuring that complex proportional relationships are communicated with maximum clarity and precision.

## The Principles of Comparative Proportional Visualization

While basic visualizations excel at illustrating a single dataset's distribution, the demands of modern business and research frequently necessitate the simultaneous comparison of two related proportional distributions. A standard single [doughnut chart](#) efficiently visualizes one data series by allocating segment slices based on their percentage contribution to the total. However, when the analytic goal shifts to comparative analysis--such as assessing performance metrics before and after a key strategic intervention, or measuring outcomes across two distinct time periods--a singular layer proves structurally insufficient for direct visual comparison.

The specialized structure of the double doughnut chart elegantly resolves this limitation by introducing a second, independent data series that is strategically nested around the first. Crucially, each concentric layer rigorously maintains its own proportional integrity, meaning the slices in the inner ring sum to 100%, and the slices in the outer ring also sum to 100%. However, their close physical proximity within the chart perimeter facilitates an effortless visual comparison of corresponding segment sizes, allowing the viewer's eye to easily track changes in proportion from the inner period (Series 1) to the outer period (Series 2).

This layered methodology significantly enhances the chart's capacity to communicate complex comparative information both clearly and concisely, establishing the double doughnut chart as a profoundly powerful technique in advanced [data visualization](#). To successfully implement this sophisticated visualization, meticulous attention must be paid to the precise structure and organization of the source data within the [Excel](#) environment. The following sections will provide a practical, detailed example, guiding you through the creation process from the initial raw data entry to the final customized chart presentation.

## Structuring Source Data for Double Doughnut Charts in Excel

The bedrock of any successful and accurate visualization is meticulously structured source data. For the creation of a double doughnut chart, the input data must be systematically arranged to include three core components: the distinct categories (which will define the individual slices), and at least two corresponding sets of proportional values (which will form the inner and outer rings, respectively). We will utilize a standard business scenario that tracks the proportional product [revenue](#) generated by a company across two distinct sales quarters (Quarter 1 and Quarter 2) to illustrate this process.

The subsequent steps detail the necessary organization and entry of these source figures directly into your spreadsheet environment, emphasizing the required alignment between the datasets. It is paramount that the data is entered precisely as shown to ensure the charting functions correctly map the corresponding segments.

### Step 1: Enter the data.

Enter the precise data displayed below into your designated [Excel](#) worksheet. This table clearly illustrates the percentage contribution to the company's total [revenue](#) made by four different products (A, B, C, D) during two measurement periods. A crucial structural requirement for this chart type is that the percentages for Quarter 1 must collectively sum to 100%, and, independently, the percentages for Quarter 2 must also sum to 100%. This ensures that both rings accurately reflect a proportional whole.

|    | A              | B                        | C                        | D |
|----|----------------|--------------------------|--------------------------|---|
| 1  | <b>Product</b> | <b>Quarter 1 Revenue</b> | <b>Quarter 2 Revenue</b> |   |
| 2  | Product A      | 12%                      | 18%                      |   |
| 3  | Product B      | 29%                      | 20%                      |   |
| 4  | Product C      | 45%                      | 35%                      |   |
| 5  | Product D      | 14%                      | 27%                      |   |
| 6  |                |                          |                          |   |
| 7  |                |                          |                          |   |
| 8  |                |                          |                          |   |
| 9  |                |                          |                          |   |
| 10 |                |                          |                          |   |
| 11 |                |                          |                          |   |
| 12 |                |                          |                          |   |
| 13 |                |                          |                          |   |
| 14 |                |                          |                          |   |
| 15 |                |                          |                          |   |
| 16 |                |                          |                          |   |

Maintaining the categorical integrity is absolutely critical: the categories (Product A, B, C, D) must be listed in exactly the same sequential order for both time periods. This stringent alignment enables [Excel](#)'s charting engine to accurately map the segments of the inner ring to their corresponding segments in the outer ring. This synchronization is the fundamental principle that guarantees the comparative integrity and accuracy of the final double doughnut chart visualization.

## Constructing the Initial Visualization: Creating the Base Ring

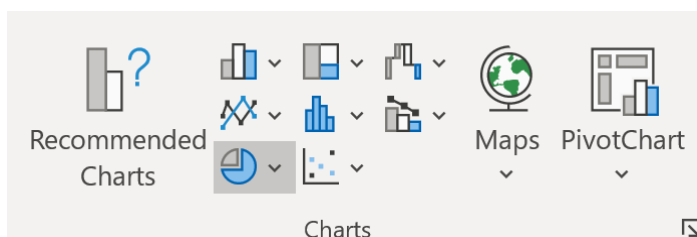
The creation of a functional double doughnut chart must strategically begin by establishing the foundational visualization using only the first set of proportional data. This essential initial action serves to generate the inner ring, which will act as the stationary anchor point for the subsequent addition and layering of the second, outer data series.

### Step 2: Create a doughnut chart.

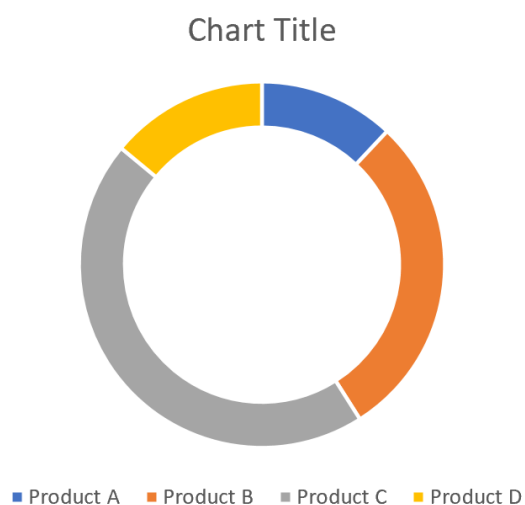
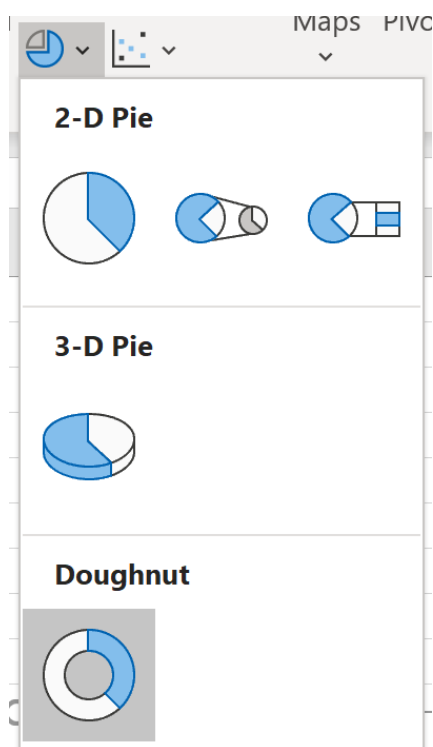
To initiate the charting process, begin by meticulously selecting the appropriate data range that includes both the product categories and the proportional values corresponding to the first quarter. In the context of our running example, this involves highlighting the data range that encompasses the Product names (A through D) and the associated Quarter 1 percentage values. This specific selection clearly signals to [Excel](#) precisely which figures should be incorporated and proportionally represented in the first, innermost ring of the resulting visualization.

|    | A         | B                 | C                 | D |
|----|-----------|-------------------|-------------------|---|
| 1  | Product   | Quarter 1 Revenue | Quarter 2 Revenue |   |
| 2  | Product A | 12%               | 18%               |   |
| 3  | Product B | 29%               | 20%               |   |
| 4  | Product C | 45%               | 35%               |   |
| 5  | Product D | 14%               | 27%               |   |
| 6  |           |                   |                   |   |
| 7  |           |                   |                   |   |
| 8  |           |                   |                   |   |
| 9  |           |                   |                   |   |
| 10 |           |                   |                   |   |
| 11 |           |                   |                   |   |
| 12 |           |                   |                   |   |
| 13 |           |                   |                   |   |
| 14 |           |                   |                   |   |
| 15 |           |                   |                   |   |

Once the data is selected, navigate to the dedicated **Insert** tab located on the Excel ribbon interface. Within the logical grouping labeled **Charts**, locate and click the specific icon designated as **Insert Pie or Doughnut Chart**. This action will deploy a dropdown menu presenting various options for circular visualizations, including both pie and doughnut formats. From the comprehensive menu that appears, select the icon explicitly representing the **Doughnut** chart type. This decisive action immediately generates the initial chart object, visually displaying the proportional breakdown of Quarter 1 [revenue](#) as the first data series.



Upon its insertion onto the worksheet, the chart will display a single, complete ring, effectively visualizing the first [data series](#). This initial visualization is typically rendered complete with default color assignments and an automatically generated legend. This foundational chart is now structurally sound and prepared for the essential next step: the integration and layering of the secondary dataset.

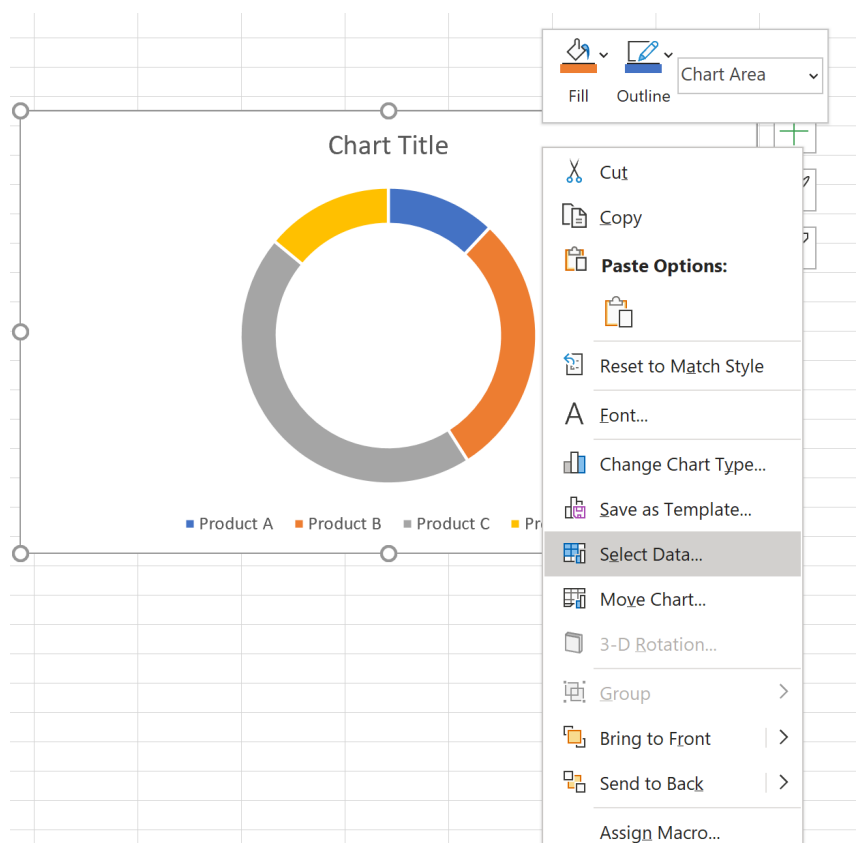


## Integrating the Second Dataset: Achieving the Double Layer Effect

The defining characteristic and functional utility of the double doughnut chart is inherently realized through the seamless addition of the second concentric ring, which serves the critical purpose of facilitating direct, visual comparison between the two time periods. This pivotal step requires the utilization of Excel's 'Select Data' feature, which allows for the careful integration of the Quarter 2 data without inadvertently replacing or corrupting the existing chart structure established in the previous section.

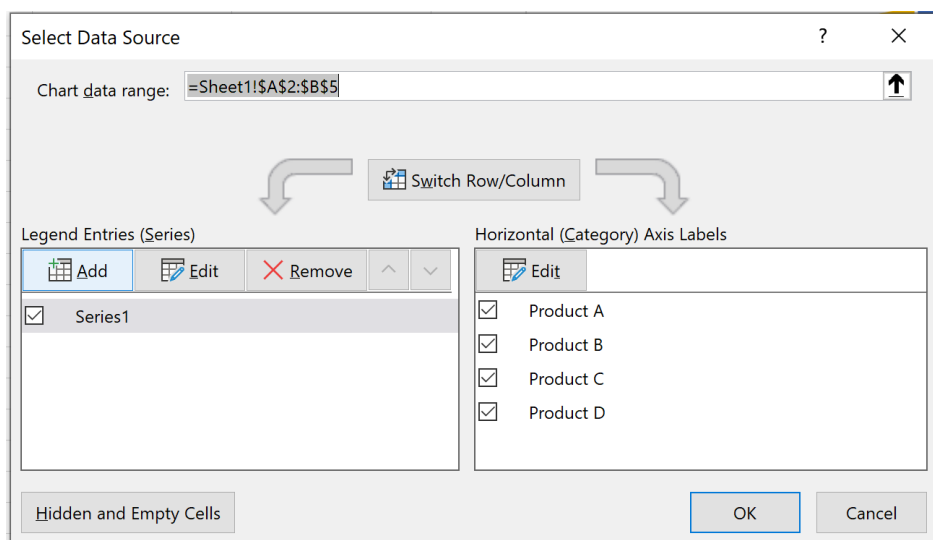
### Step 3: Add a layer to create a double doughnut chart.

To successfully integrate the second set of comparative data, initiate the process by right-clicking directly on the existing doughnut chart visualization. This action will summon the context menu from which you must select the crucial command labeled **Select Data**. Executing this opens the 'Select Data Source' dialog box, which acts as the central management hub for all currently linked [data series](#) associated with the current visualization.



Within the 'Select Data Source' window, direct your attention to the left-hand section which lists the current legend entries (Series). Click the **Add** button to formally introduce a new [data series](#) to the chart structure. This action will automatically prompt the appearance of the 'Edit Series' dialog box, requiring specific input regarding the secondary data source. In this 'Edit Series' window, you must precisely define the values that will populate the new outer ring. For the required **Series values** field, input or select the exact cell range corresponding to the Quarter 2 revenue percentages (e.g., typically \$C\$2:\$C\$5). Furthermore, it is highly recommended to define a descriptive **Series name** (such as "Quarter 2") to ensure comprehensive clarity within the chart's generated legend.





After confirming the entries by clicking **OK** in both the 'Edit Series' and subsequently the 'Select Data Source' windows, the doughnut chart will undergo an immediate and automatic transformation. Due to its internal logic, [Excel](#) recognizes that a second proportional series has been appended to a circular chart type and intelligently renders it as a distinct outer ring. This process successfully culminates in the generation of the completed double doughnut visualization, ready for final formatting and analysis.

|    | A         | B                 | C                 | D |
|----|-----------|-------------------|-------------------|---|
| 1  | Product   | Quarter 1 Revenue | Quarter 2 Revenue |   |
| 2  | Product A | 12%               | 18%               |   |
| 3  | Product B | 29%               | 20%               |   |
| 4  | Product C | 45%               | 35%               |   |
| 5  | Product D | 14%               | 27%               |   |
| 6  |           |                   |                   |   |
| 7  |           |                   |                   |   |
| 8  |           |                   |                   |   |
| 9  |           |                   |                   |   |
| 10 |           |                   |                   |   |
| 11 |           |                   |                   |   |
| 12 |           |                   |                   |   |
| 13 |           |                   |                   |   |
| 14 |           |                   |                   |   |
| 15 |           |                   |                   |   |
| 16 |           |                   |                   |   |
| 17 |           |                   |                   |   |
| 18 |           |                   |                   |   |
| 19 |           |                   |                   |   |
| 20 |           |                   |                   |   |

Edit Series

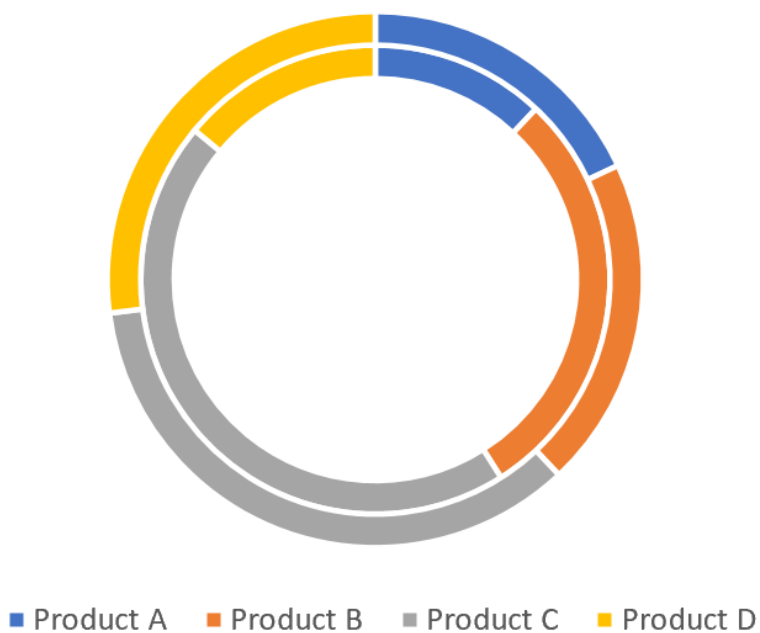
Series name:

Series values:

=Sheet1!\$C\$2:\$C\$5

OK Cancel

Chart Title



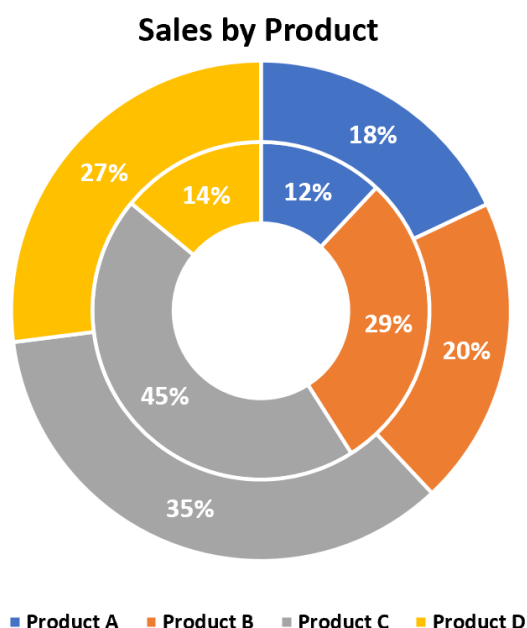
## Optimization and Presentation: Customizing the Final Data Visualization

Although the double doughnut chart is structurally complete following the layering of the second series, optimization is absolutely essential to ensure maximum readability, professional polish, and analytical effectiveness. Visual refinement is not merely aesthetic; it critically ensures that the target audience can swiftly and accurately extract the intended comparative insights and meaningful conclusions from the complex [data visualization](#).

### Step 4: Modify the appearance (optional).

Several optional but highly recommended modifications can dramatically enhance the efficacy of the double doughnut chart. First and foremost, ensure the chart is assigned a clear, descriptive title (e.g., "Product Revenue Comparison Q1 vs Q2") that immediately conveys the chart's purpose. Furthermore, a clear and non-ambiguous legend must be present to successfully distinguish between the two proportional layers (Q1 and Q2) and the four distinct products (A, B, C, D) that form the segments.

Secondly, careful consideration should be given to adjusting the Doughnut Hole Size. By default, Excel often allocates an overly large central hole, which results in relatively thin rings that can obscure subtle proportional differences. To provide more substantial visual weight to the data and make the proportional differences between segments more immediately obvious, right-click on one of the data rings, select **Format Data Series**, and purposefully decrease the Doughnut Hole Size percentage. A reduction from the typical default of 75% down to a range of 50% or 60% often yields a superior visual balance. Finally, the inclusion of precise data labels positioned directly on the segments is crucial, particularly for the outer ring, as they provide exact percentage figures, eliminating any guesswork regarding the segment values. These cumulative modifications ensure that the resultant double doughnut chart is not only fundamentally accurate but also highly informative, visually appealing, and optimized for comprehensive comparison of the two quarters' performance metrics.



## Expanding Your Data Visualization Toolkit

Mastering the creation of complex chart types, such as the comparative double doughnut chart, represents a pivotal skill for any professional engaged in advanced [data visualization](#) and statistical reporting. To further solidify and expand your analytical capabilities within the [Excel](#) environment, it is highly beneficial to explore and integrate other essential visualization techniques into your reporting repertoire.

The following tutorials provide valuable guidance on how to construct and refine other common and highly effective visualizations within Excel, enabling you to select the optimal chart type for any given analytical task:

Tutorial on creating **dynamic charts** that automatically update based on user input or external data changes.

Guide to building **clustered bar charts**, which are highly effective for multi-variable comparisons across discrete categories.

Instructions for generating frequency **histograms**, essential tools for visualizing the distribution of continuous numerical data.