CHITEST function - The function returns the independence test in Excel

The following article details how to use CHITEST, the function returns independence test.

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Description: The function returns the probability value from the ?2 distribution when squared for statistics. The function is applied to determine whether the hypothesis is executed or not.

Syntax: CHITEST (actual_range, expected_range) .

Inside:

- **actual_range:** The data range contains the values ??to be compared with the expected values, the required parameters.

- **expected_range:** The data range contains the ratio of the sum of the row and column totals to the total.

Attention:

- The ?2 test calculates the ?2 statistic calculated by the formula:

$$\chi^2 = \sum_{i=1}^{r} \sum_{j=1}^{c} \frac{\left(A_{ij} - E_{ij}\right)^2}{E_{ij}}$$

Inside:

+ Aij is the actual frequency in the i th row, j th column.

+ Eij is the expected frequency in the i th row, j th column.

+ r is the number of rows.

+ c is the number of columns.

- If **actual_range and expected_range** have different data points => the function returns the # N / A error value.

- The lower value of the independence, from the formula we see ?2 is always positive and only equals 0 if and only if Aij = Eij.

- CHITEST uses the distribution with degrees of degrees of freedom df. The method of calculating df values ??is as follows:

+ if r> 1 and c> 1 => df = (r-1) (c-1).

+ if r = 1 and c> 1 => df = (c-1).

+ if r> 1 and c = 1 => df = (r-1)

The value of r and c are not equal to 1, so there is no case for r = 1 and c = 1.

- The best CHITEST function should be applied in case the Eij values ??are not too small, the Eij should be greater than or equal to 5 to achieve the most accurate results.

For example:

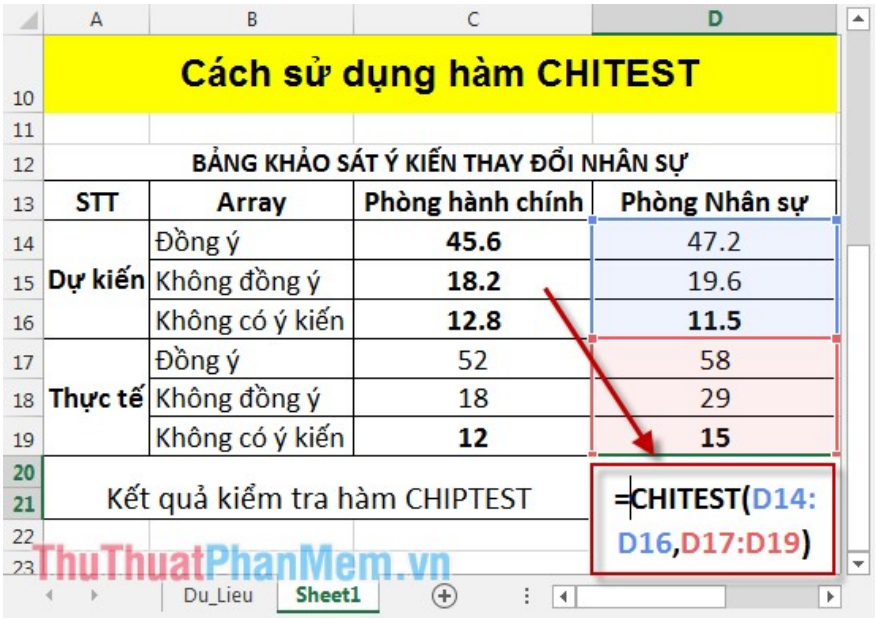
Cách sử dụng hàm CHITEST

BẢNG KHẢO SÁT Ý KIẾN THAY ĐỔI NHÂN SỰ

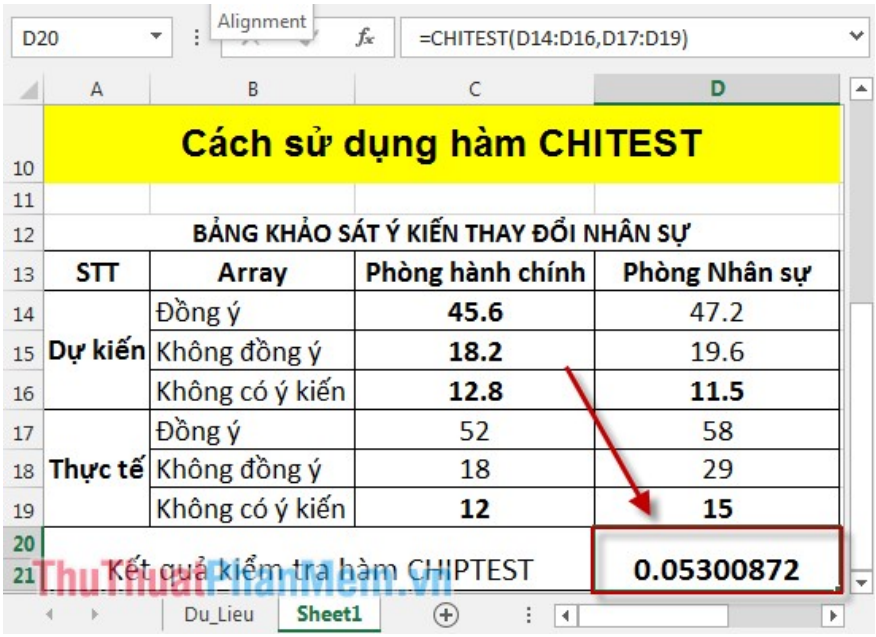
STT	Array	Phòng hành chính	Phòng Nhân sự
Dự kiến	Đồng ý	**45.6**	47.2
	Không đồng ý	**18.2**	19.6
	Không có ý kiến	**12.8**	**11.5**
Thực tế	Đồng ý	52	58
	Không đồng ý	18	29
	Không có ý kiến	**12**	**15**

Du_Lieu Sheet1

In the cell to calculate enter the formula: **= CHITEST (D14: D16, D17: D19)** .



After entering the formula, press **Enter to** get the results:



Thus, the value CHIPTEST = 0.05300872 => The initial expectation is quite close to reality.

Above is a guide to using the CHIPTEST function, hoping to help you apply it a lot in your work.

Good luck!

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