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## How to...

# Count the occurrences of a characteristic relative to one or more other characteristics

BUSINESS INFORMATION WAREHOUSE

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## ASAP How to Paper



**Applicable Releases: BW 2.0B, 2.1C**

**May 2001**

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## 1 Business Scenario

In a report you want to count the occurrences of a characteristic relative to one or more other characteristics. For example, in an InfoCube that contains the number of ordered items per order, order item, material, and customer you would like to know how many different materials were ordered by one customer, or how many different materials were ordered by one customer with a specific order.

## 2 The Result

We will create a calculated key figure that counts the number of different materials per any other characteristic. This key figure can be used in your report.

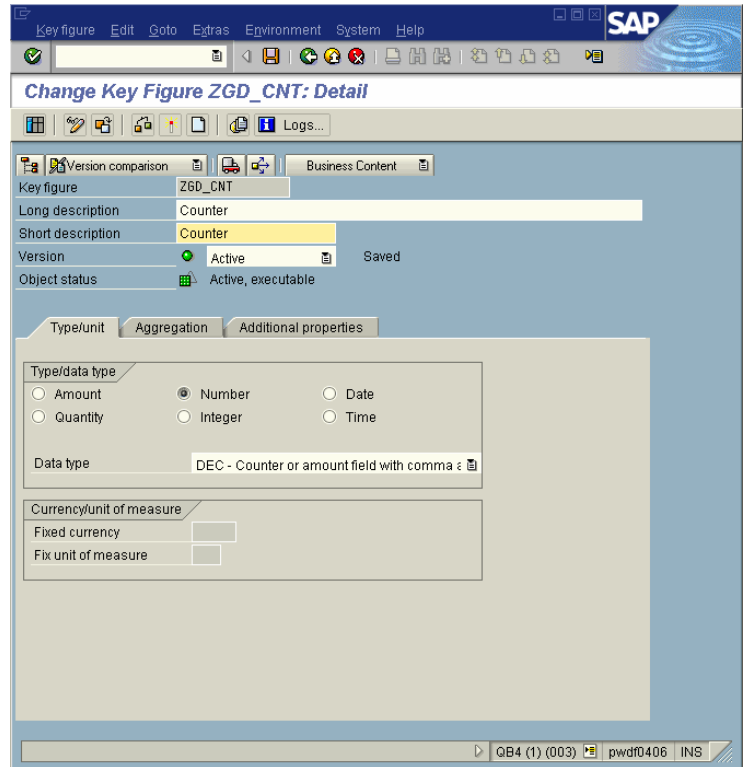
Material	Item no.	Order	Key figures	Customer
			Counter (Material per any other Char.)	
Customer				Counter (Material per any other Char.)
2		Kaufland		2
31		Parcel Express		4
32		AfriCo		3

**Additional information:** The solution described in this How-to... Guide applies for BW 2.0B/2.1C. With BW 3.0 and higher, an additional option for the exception aggregation of a calculated key figure is available: “Counting all values”.

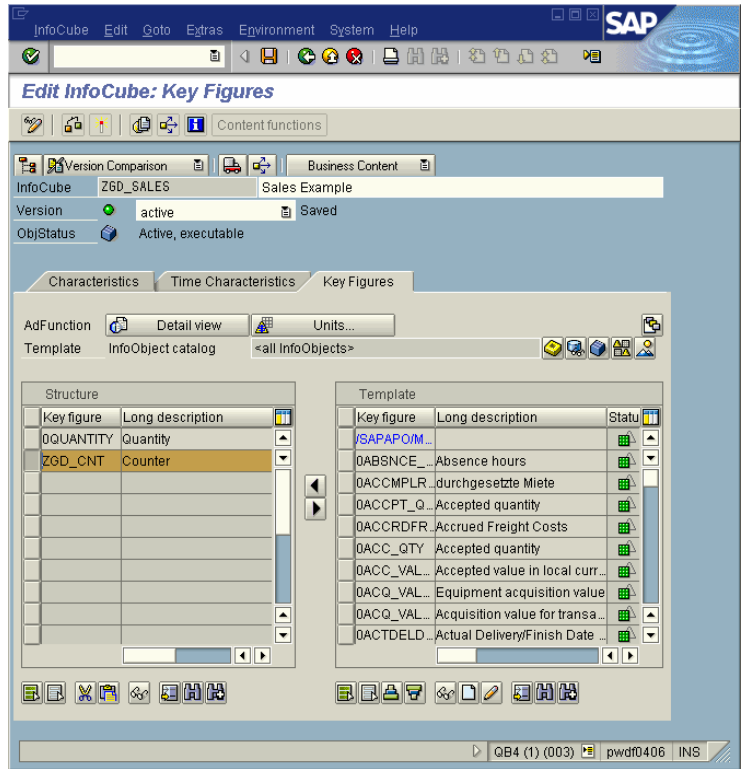
Please check the following path in the documentation to find the details: SAP Business Information Warehouse – Business Explorer – Query Design: BEx Query Designer – Properties of Query Components – Calculated Key Figure Properties

### 3 The Step By Step Solution

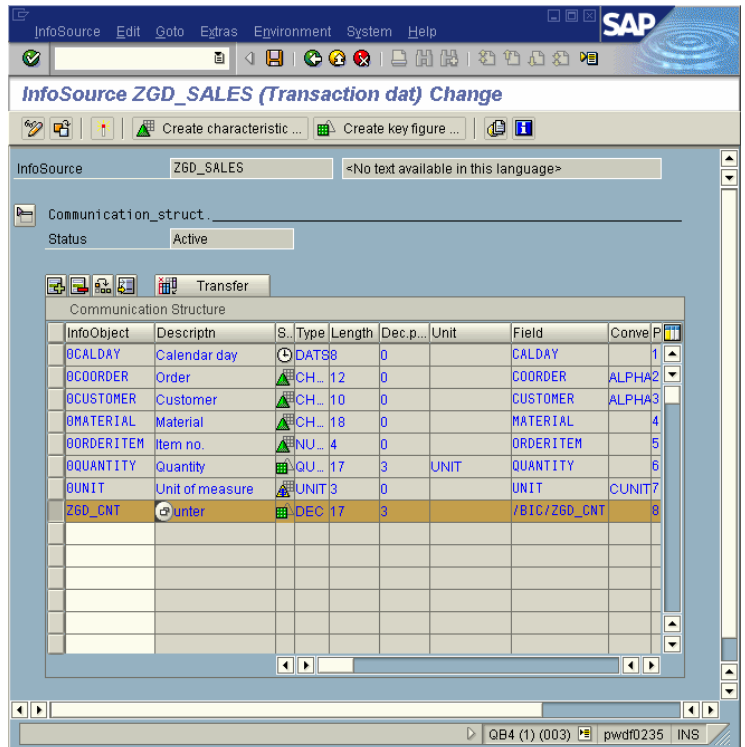
1. Create a Key Figure with name "Counter". It should be of type numeric and the data type should be "Dec".



2. Insert this InfoObject into your InfoCube.

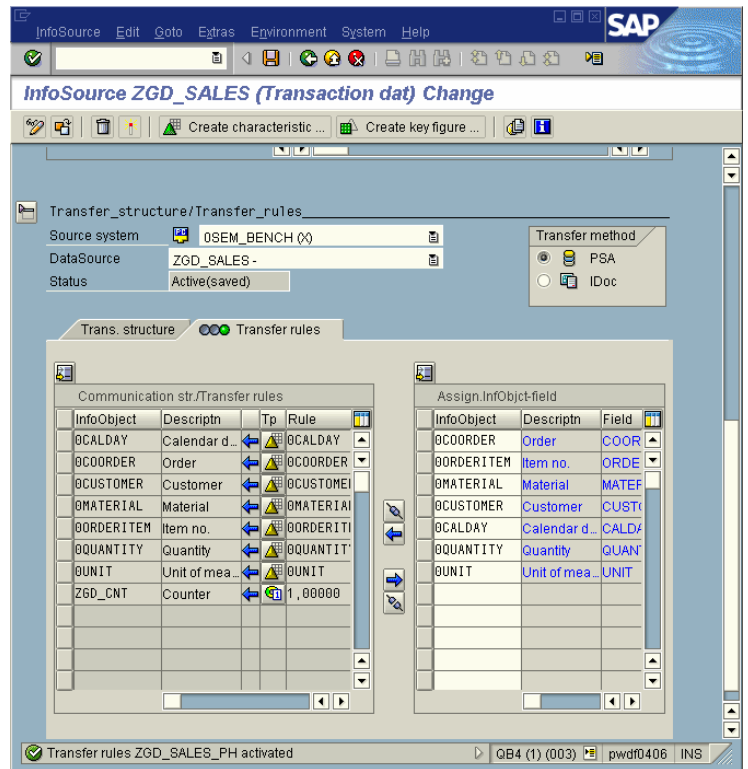


3. Add the InfoObject to the Communication Structure and re-create the Update Rules of the InfoCube.

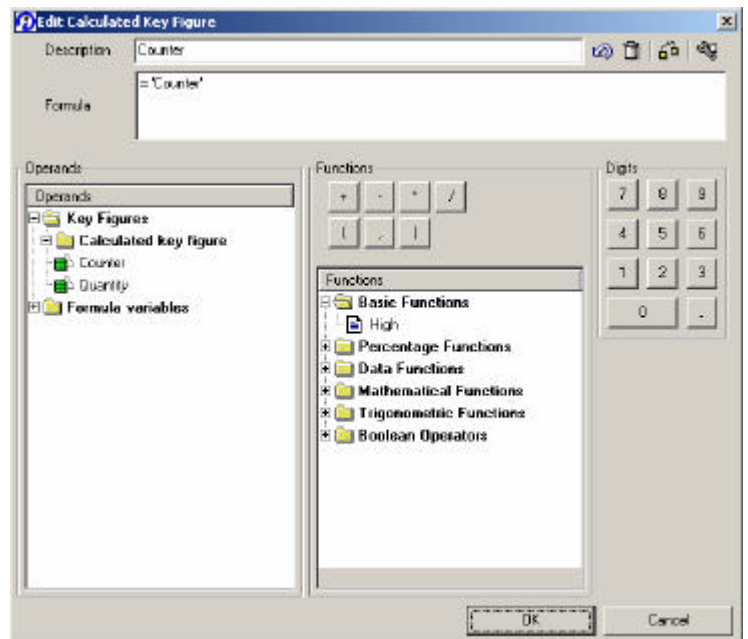


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4. In the transfer rules set the key figure counter to a constant value of 1.



5. In the BEx Query Builder create a new calculated key figure for the InfoCube. The formula should be “=Counter” i.e. simply drag the key figure counter to the formula definition area.



- When you save the calculated key figure you have to provide a technical name and a description "Counter (Average per Material)". Additionally, you have to define the exceptional aggregation behavior of the calculated key figure. On the popup window press the button "Enhance >>>". For Exception Aggregation choose "Average of all values". The reference characteristic should be set to the characteristic that you want to count. This is material in our case.

**Properties of the calculated key figure**

Technical name  
ZGD\_CKYF01

Description  
Counter (Average per Material)

Number format

Scaling factor: (nothing defined) | Number of decimal places: (nothing defined)

Calculations (includes only the displayed data)

Calculate result as...: (nothing defined) | Calculate single values as...: (nothing defined)

Cumulated  
 Also apply to results

Currency translation

Currency translation key: (nothing defined) | Target currency: (nothing defined)

Entry of variables

Last changed

Owner: DANNER; Last changed by: DANNER; Date/time: 14.05.2001 14:57:42

Aggregation

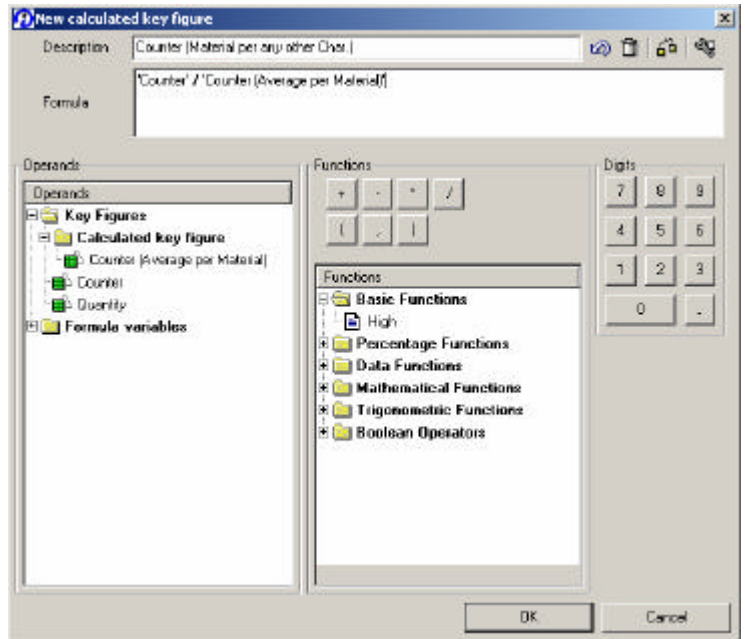
Aggregation: Summation

Exception aggregation: Average of all values | Ref.char. fr excpntn agggrtn: Material

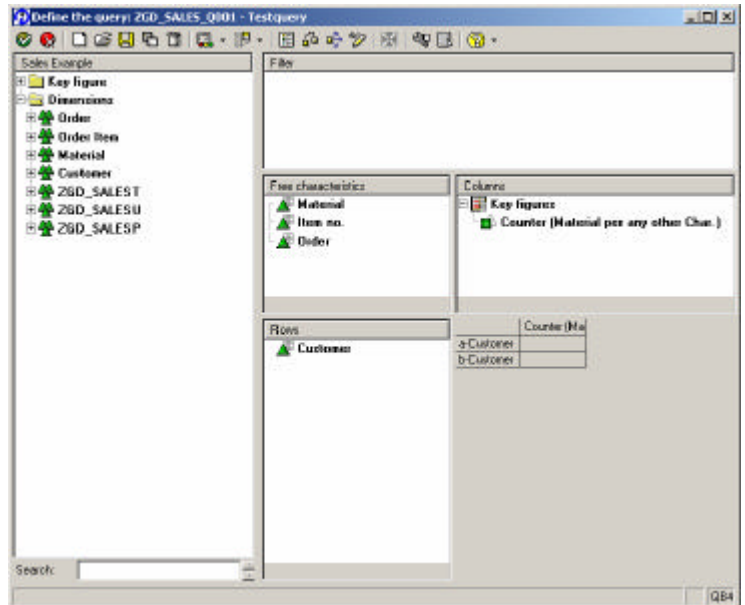
OK | Cancel

7. Create a second calculated key figure. Here you define the formula to be "Counter/Counter (Average per Material)". This calculated key figure now shows you the number of different materials relative to any other characteristic.

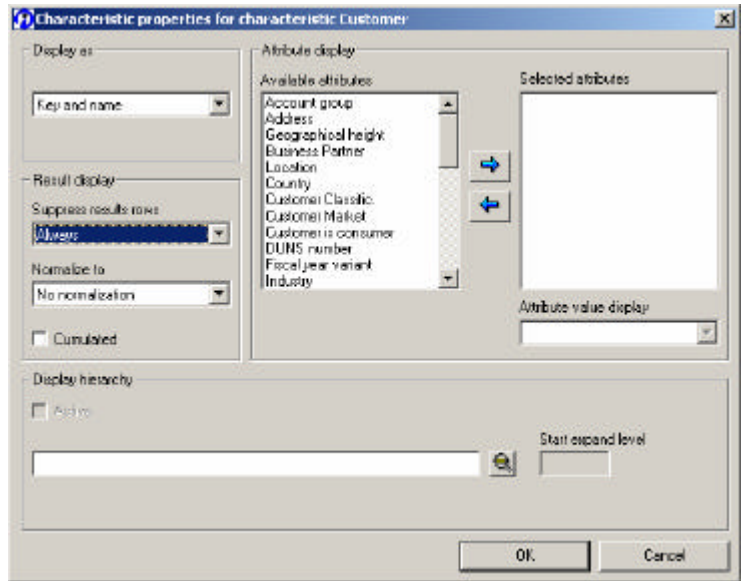
In the properties set the number of decimal places to 0.



8. Define a new Query. In the columns use the key figure "Counter (Material per any other Char.)". In the rows insert a drill down with characteristic customer. Add the remaining characteristics to the free characteristics.



- In the properties for characteristic customer you should set Suppress result rows to "Always".



- Run the query. The result will be the number of different materials per customer.

Customer	Counter (Material per any other Char.)	
2	Kaufland	2
31	Parcel Express	4
32	Africo	3



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11. By setting a filter on order you now get the number of different materials per customer and order.

The screenshot shows a pivot table in SAP Business Explorer. The pivot table is titled 'Research & Development Laser' and is filtered by 'Order'. The pivot table has three columns: 'Material', 'Order', and 'Counter (Material per any other Char.)'. The data is summarized by 'Customer'.

Customer	Material	Order	Counter (Material per any other Char.)
2	Kaufland		2
31	Parcel Express		1
32	Atrico		3