Business Central Introduction Dimensions

(ERP=Microsoft Dynamics 365 Business Central)

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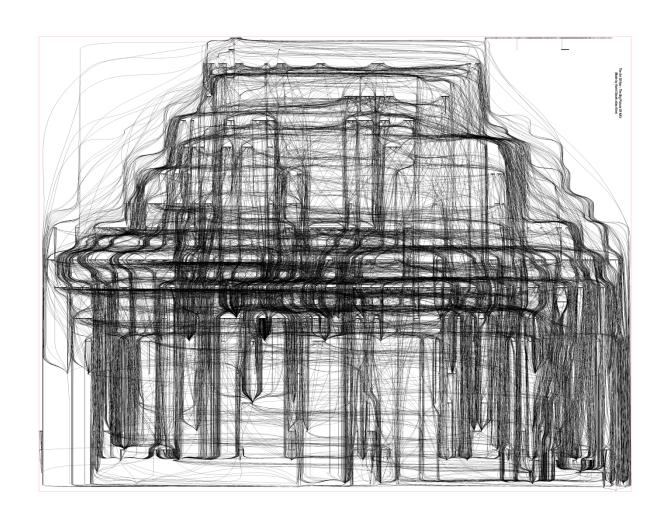
Business Intelligence

- Processing large volumes of data so that the result of this action helps managers to make decisions in process management
- The result of the processing must be relevant information that managers receive at the right time
- The primary source of data that is often stored in data warehouses is ERP systems (relational DB)
- Information retrieval as a result of structured queries must be fast (short response time)
- Used for management at the strategic, tactical, and operational level

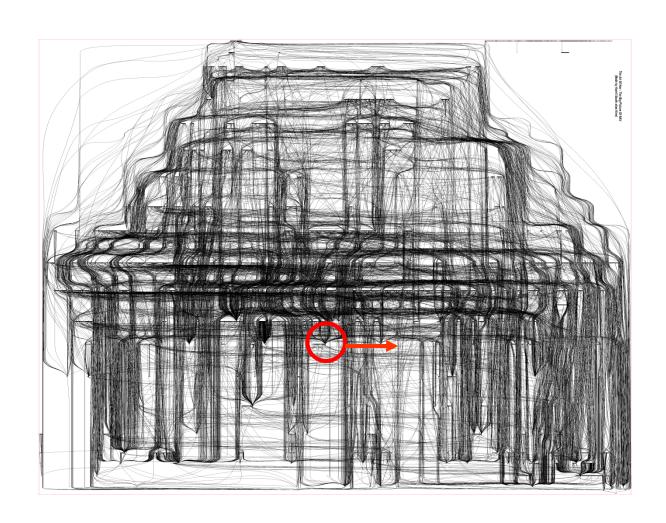
Limitations of ERP as a data provider

- They do not allow quick and flexible changes to the selection criteria
- No immediate user access to large volumes of aggregated data
- The volume of data doubles every five years in every enterprise, which of course also means that the system is overwhelmed with redundant data
- Dimensions are values that categorize entries so you can track and analyze them on documents, such as sales orders. Dimensions can, for example, indicate the project or department an entry came from.
- So, instead of setting up separate general ledger accounts for each department and project, you can use dimensions as a basis for analysis and avoid having to create a **complicated chart of accounts**.

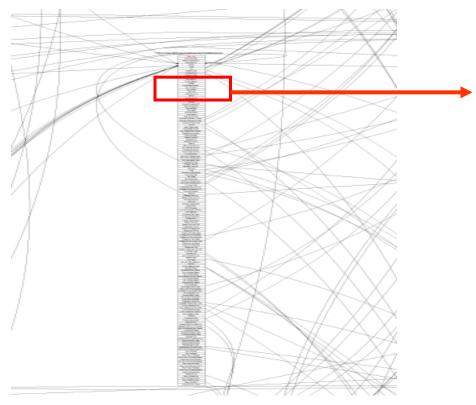
Relations among tables I



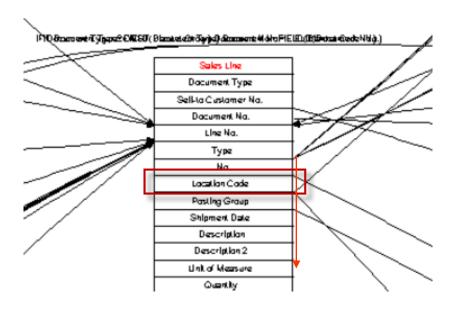
Relations among tables II



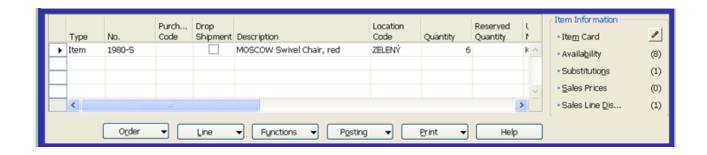
One table and its relations I



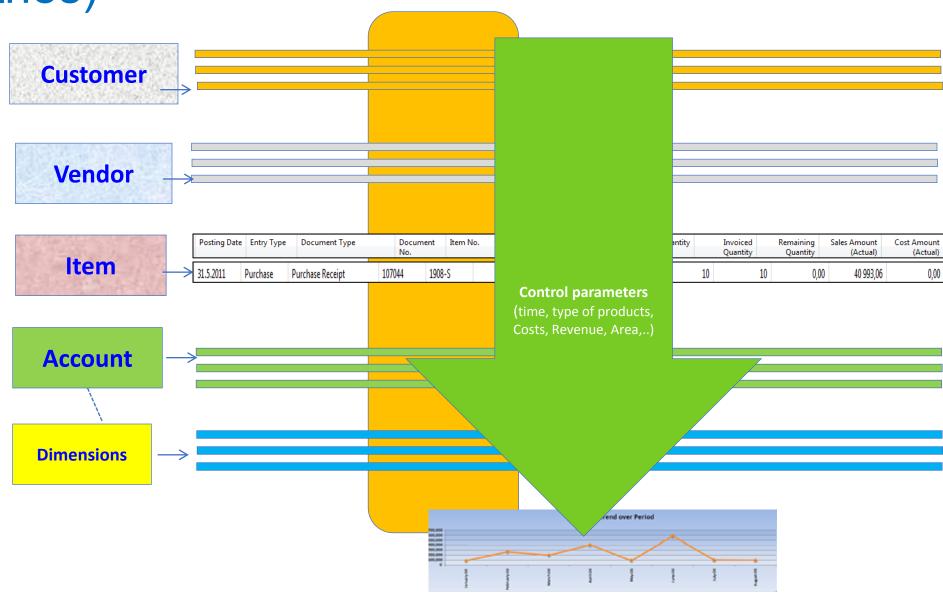
One table (Sales Line) and its relations II



ERP NAV (very similar to Business Central)



Main principles (source tables and their entries)

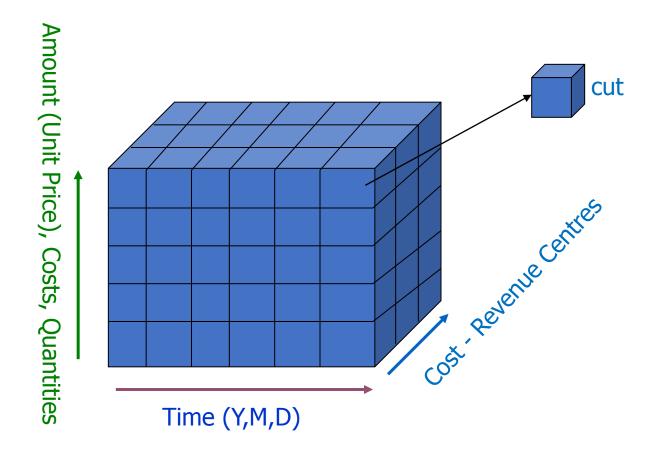


Some chosen analysis

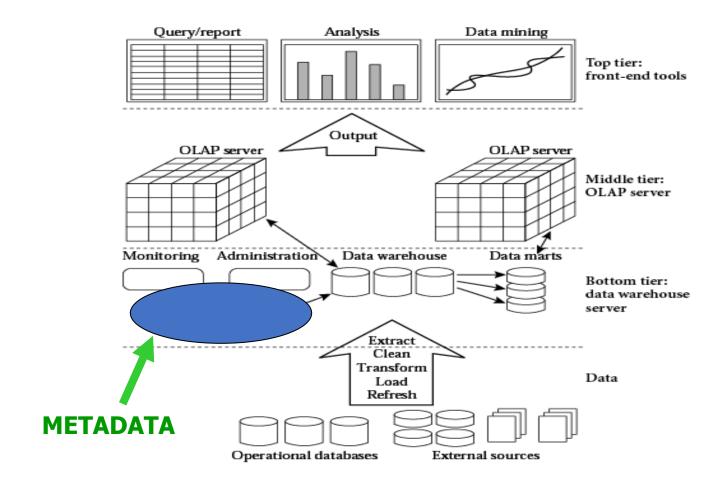


OLAP cube -adhoc definition of queries

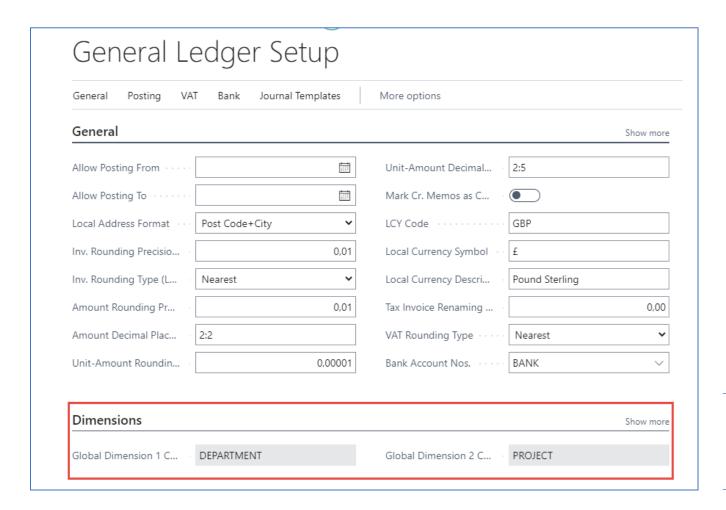
http://www.databaseanswers.org/designing_olap_cubes.htm



OLAP architecture



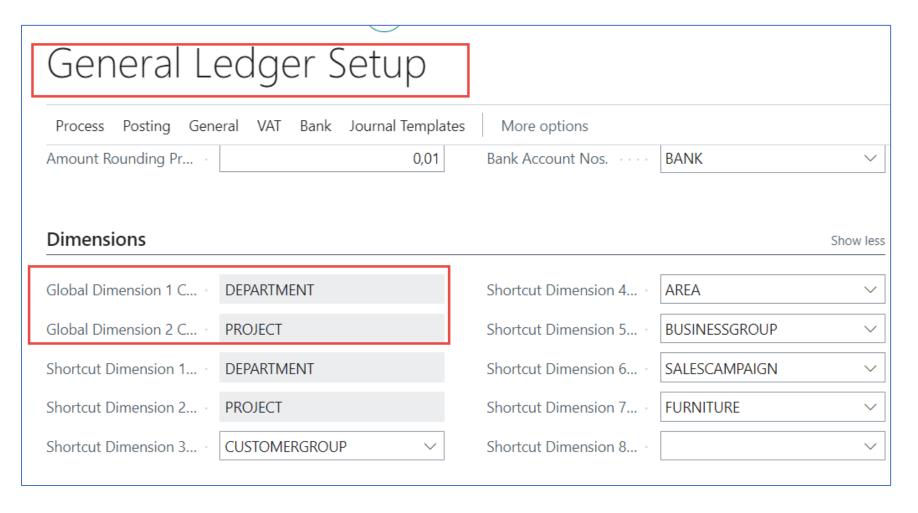
Dimensions –global and shortcut



Global dimenions codes

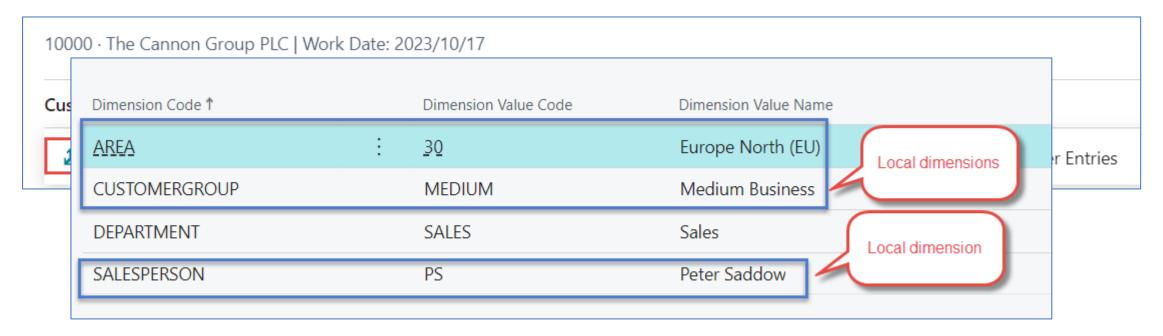
these are always part of the entries

Global and Shortcut dimensions and entries

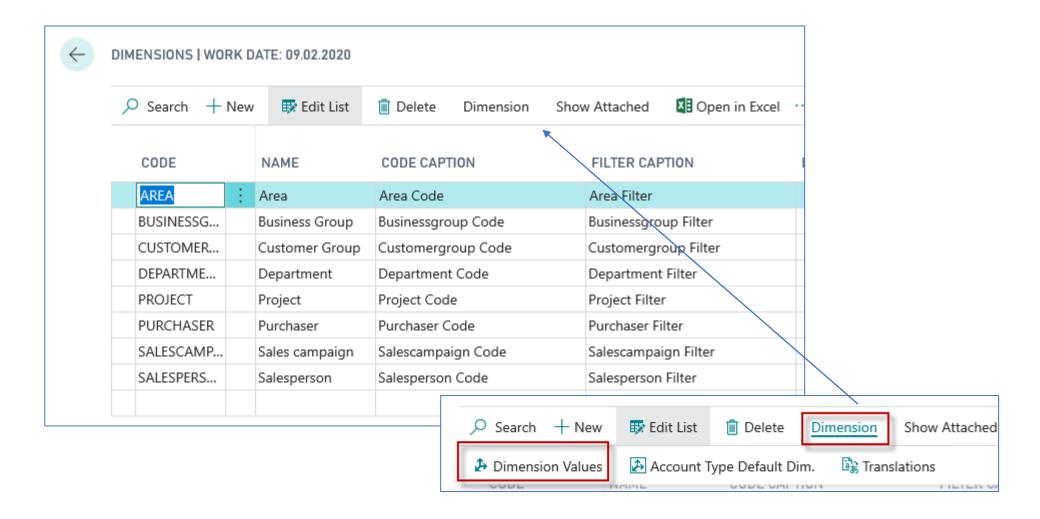


Global and Shortcut dimensions and entries

	Posting Date ↓		Document Type	Document No.	Customer No. ↓ ▼	Description Global dimension	Department Code	Project Code	Cι↓
\rightarrow	2023/10/17	:	Payment	G00083	10000	The Cannon Group PLC	SALES		
	2023/10/17		Invoice	103257	10000	Order 1342	SALES		

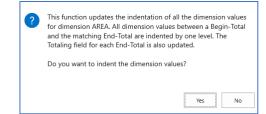


Dimensions (cost centers, income centers)



Dimension values (we created here three new areas with values 91-93)

CODE		NAME	DIMENSION VALUE TYPE	TOTALING	BLO
10		Europe	Begin-Total		
91		Johannesburg	Standard		
92		Durban	Standard		
93		Cape Town	Standard		
95		SA, Total	End-Total	9095	
20	1	Europe North	Begin-Total		
30		Europe North (EU)	Standard		
40		Europe North (Non EU)	Standard		
45		Europe North, Total	End-Total	2045	
50		Europe South	Standard		
55		Europe, Total	End-Total	1055	
60		America	Begin-Total		
70		America North	Standard		
80		America South	Standard		
85	1	America, Total	End-Total	6085	
90		South Africa	Begin-Total		



∮ Functions ∨

★ Indent Dimension Values

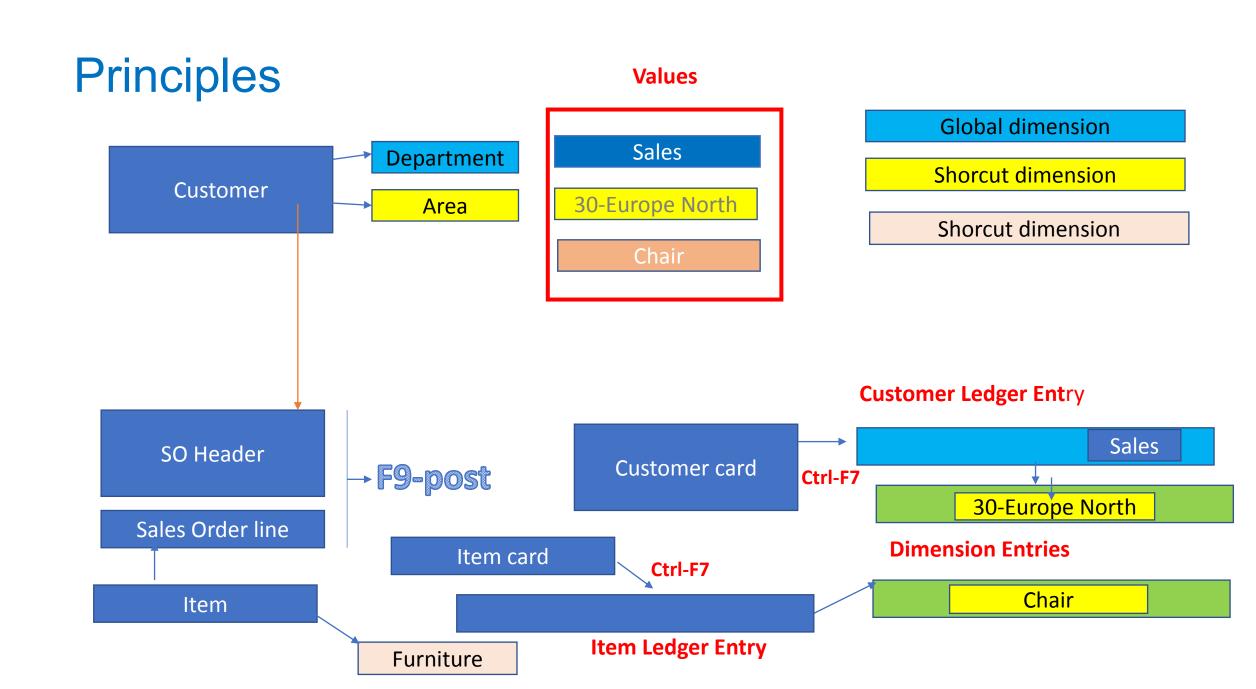
After dimension value indent-1st example

CODE	NAME	DIMENSION VALUE TYPE	TOTALING	BL
10	Europe	Begin-Total		
20	Europe North	Begin-Total		
30	Europe North (EU)	Standard		
40	Europe North (Non EU)) Standard		
45	Europe North, Total	End-Total	2045	
50	Europe South	Standard		
55	Europe, Total	End-Total	1055	
60	America	Begin-Total		
70	America North	Standard		
80	America South	Standard		
85	America, Total	End-Total	6085	
90	South Africa	Begin-Total		
91	Johannesburg	Standard		
92	Durban	Standard		9095
93	Cape Town	Standard		
95	SA, Total	End-Total	9095	

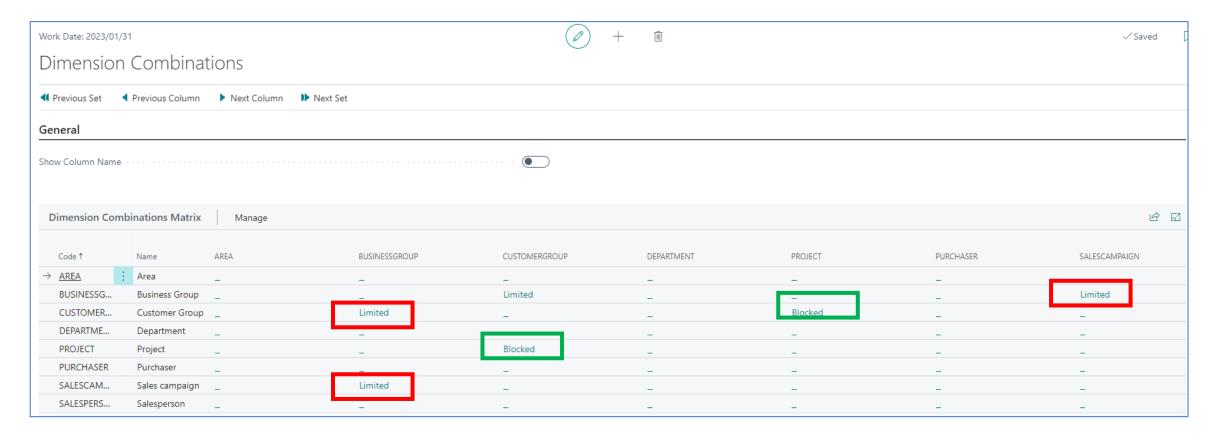
These dimensions might be used in our examples

After dimension value indent-2nd example

Code		Name	Dimension Value Type	Totaling	
10		Europe	Begin-Total		
20		Europe North	Begin-Total	2045 4655 1056	
30		Europe North (EU)	Standard		
40		Europe North (Non EU)	Standard		
45		Europe North, Total	End-Total		
46		Europe South	Begin-Total		
50		Europe South	Standard End-Total End-Total		
55		Europe, Total			
56		Europe South, Total			
60	America		Begin-Total		
70		America North	Standard		
80		America South	Standard		
85		America, Total	End-Total	6085	
90		South Africa	Begin-Total		
95		Joburg	Standard		
96	:	Durban	Standard		
97		SA,Total	End-Total	9097	



Dimension combinations



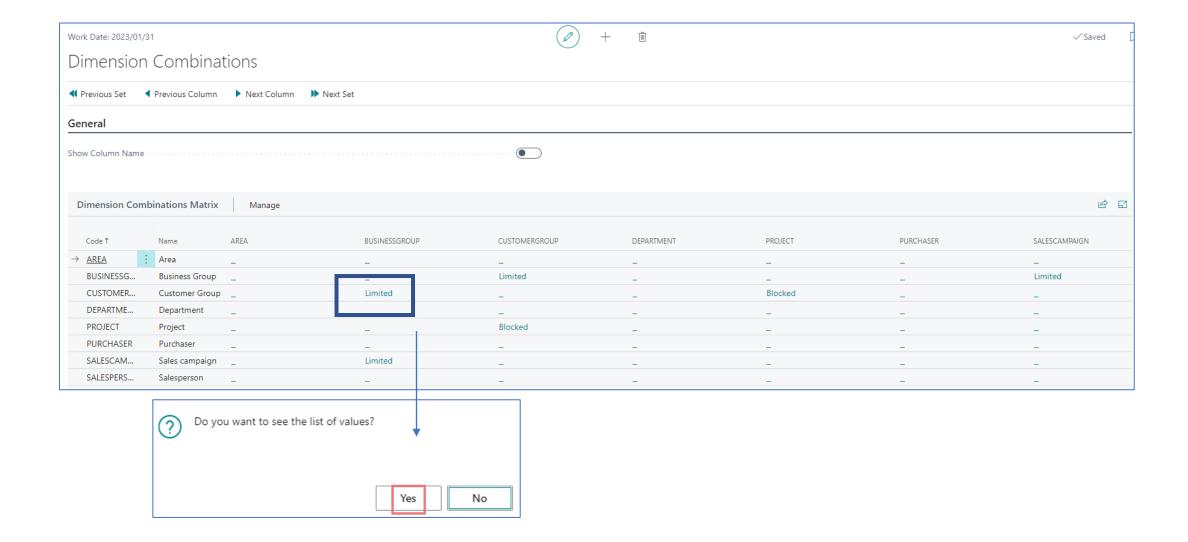
A **blocked dimension** combination means you cannot post both dimensions on the same entry regardless of what the dimension values are.

In contrast, a **limited dimension** combination means you can post both dimensions to the same entry, but only for certain combinations of dimension values.

Dimension combination

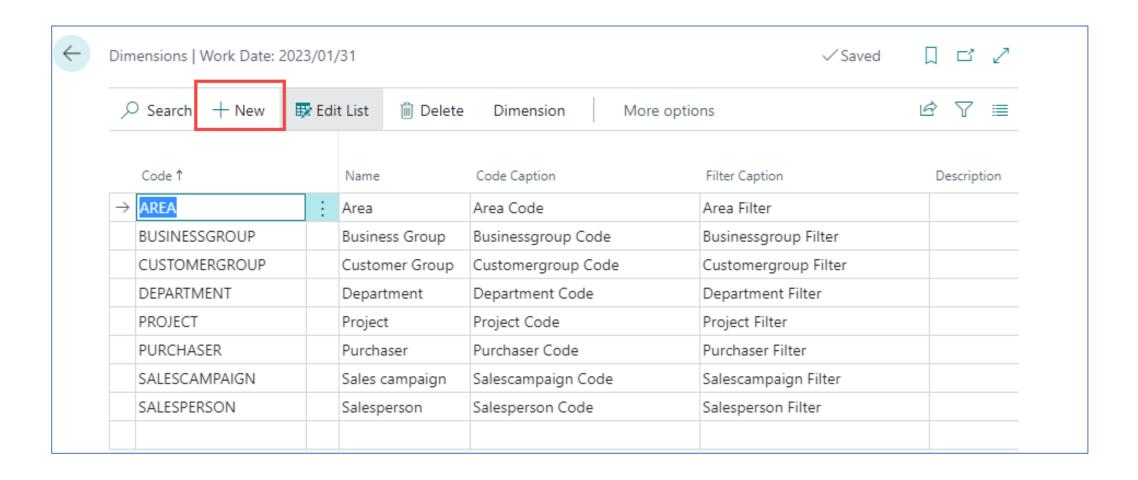
Field	Description				
No limitation	This dimension combination has no restrictions. All dimensions values are allowed.				
Limited	This dimension combination has restrictions depending on which dimension values that you enter. You must define the limitations on the Dimension Value Combination page.				
Blocked	This dimension combination is not allowed.				

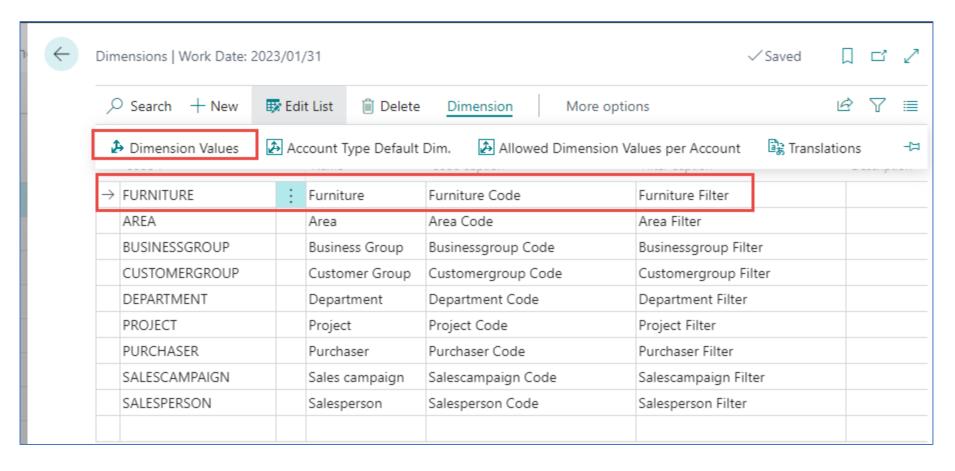
Dimension combination



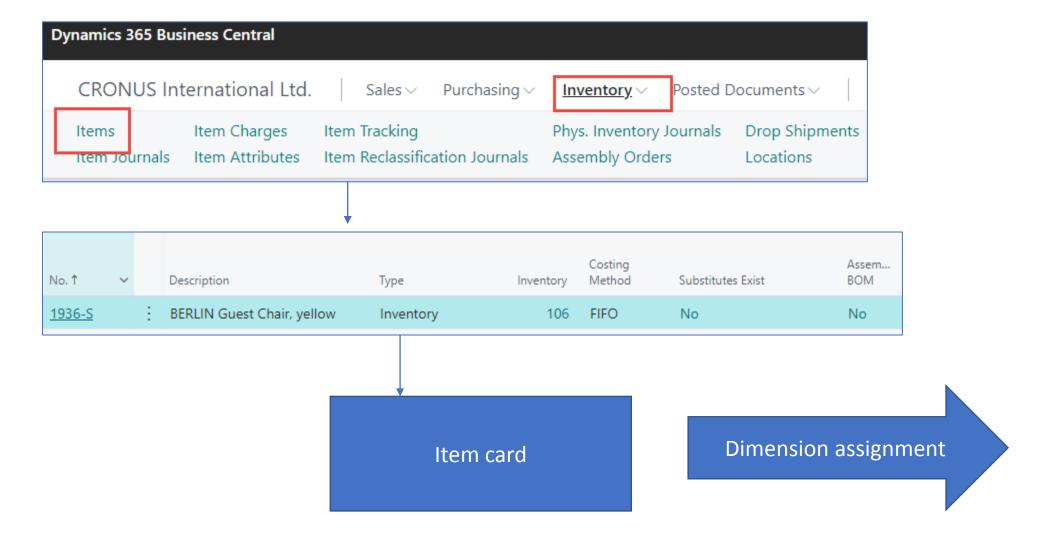
Dimension combination

Dii	Dimension Value Combinations Matrix Manage								
	Code ↑		Name	HOME	INDUSTRIAL	INTERCOMPANY			
\rightarrow	INSTITUTION	:	Institution	Blocked	_	_			
	INTERCOMPANY		Intercompany Customers	_	<u>-</u>	_			
	LARGE		Large Business	_	_	_			
	MEDIUM		Medium Business	_	_	_			
	PRIVATE		Private	_	-	_			
	CMAN		C 11D :						

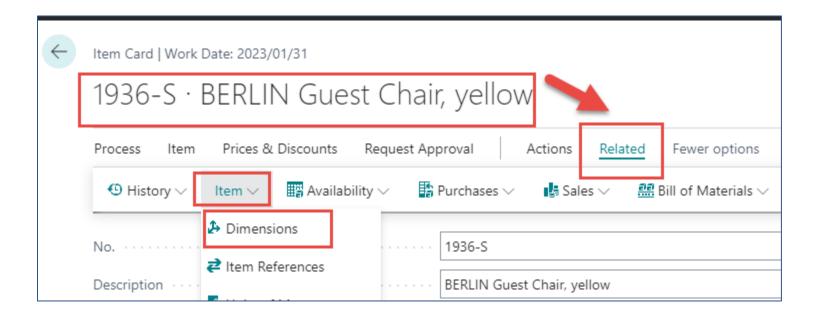




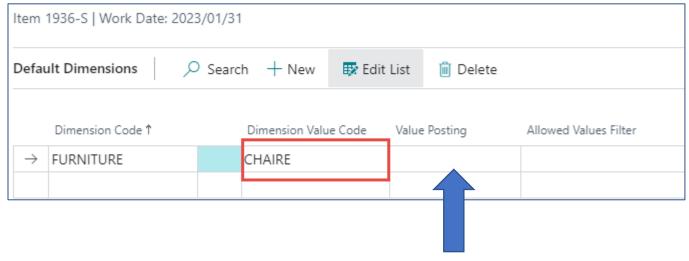
FURNITURE · Furniture Work Date: 2023/01/31									
Dimension Values		Edit List	📋 Delete						
Code	Name		Dimension Value Type						
CHAIRE	CHAIRE		Standard						
TABLE	Table		Standard						
→ CUPBOARD	CUPBOARD		Standard						



Dimension value to item card



Dimension for our item card setup

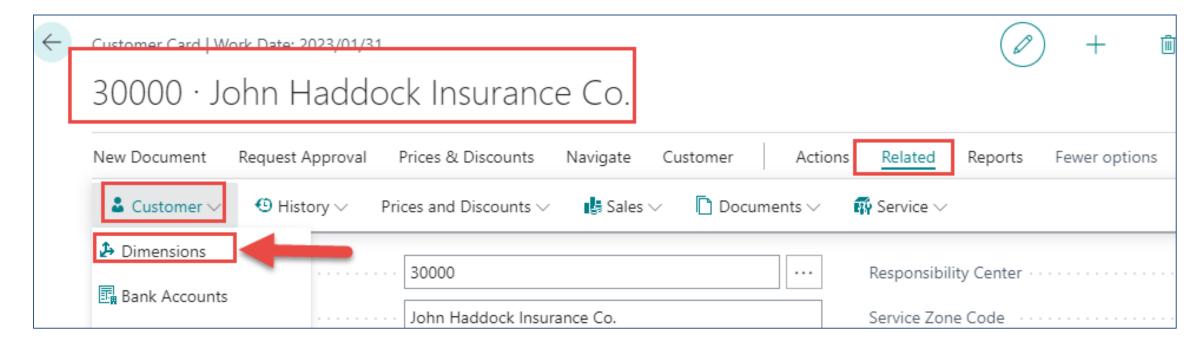


Mandatory - when posting (before posting,) it is necessary to select a dimension value appropriate to the specific business case (e.g.when you create Sales Order)

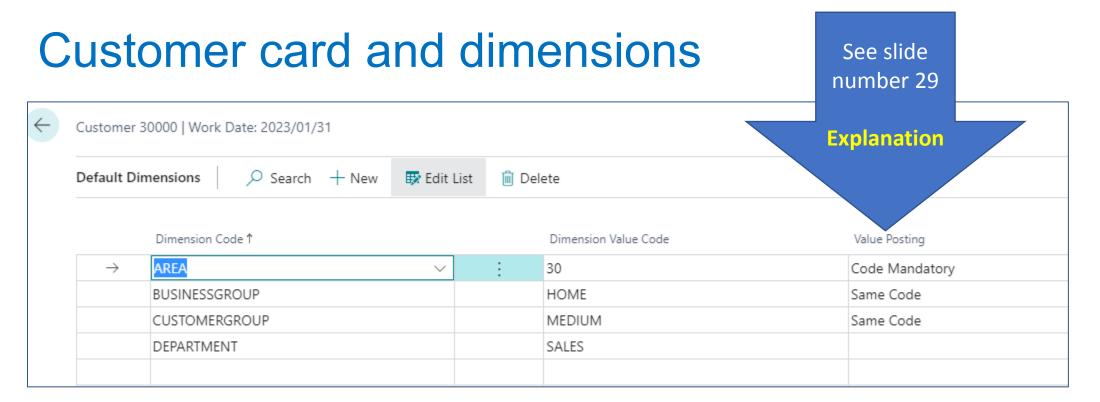
Same Code - you must have a pre-selected preset value . This value is always the same. So, for example, CUSTOMERGROUP cannot be other than MEDIUM.

Dimension Code ↑		Dimension Value Code	Value Posting
AREA V	:	30	Code Mandatory
BUSINESSGROUP		HOME	Same Code
CUSTOMERGROUP		MEDIUM	Same Code
DEPARTMENT		SALES	-

Customer card and dimensions



OR use Customer icon - > Dimensions

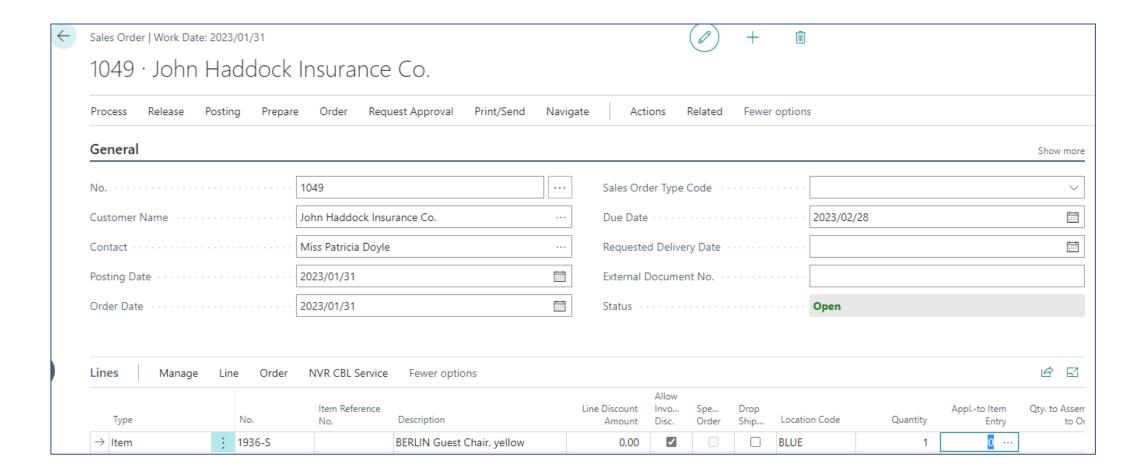


If you want to make a dimension **required**, but you do not want to assign a **default value** to the dimension, leave the **Dimension Value Code** field blank and then select **Code Mandatory** in the **Value Posting** field. Afterwards, however, the areas must be delivered manually

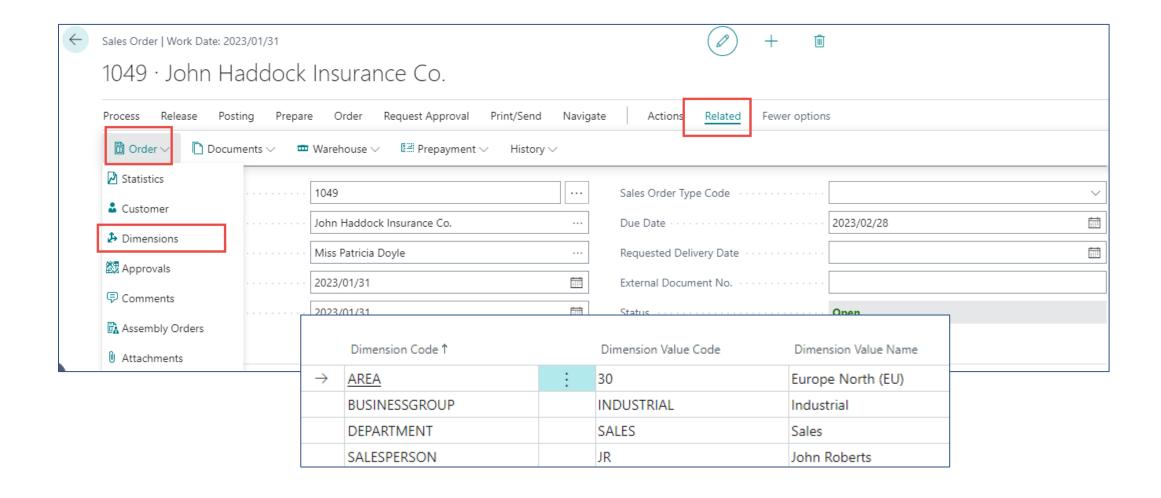
Dimensions Value Posting statements

- If you want to require a dimension but don't want to assign a default value to the dimension, leave the **Dimension Value Code** field blank, then select **Code Mandatory** in the **Value Posting** field.
- If an account is used in an **Adjust Exchange Rates** or **Post Inventory Cost to G/L batch job**, do not select Code Mandatory or Same Code. These batch jobs cannot use dimension codes.

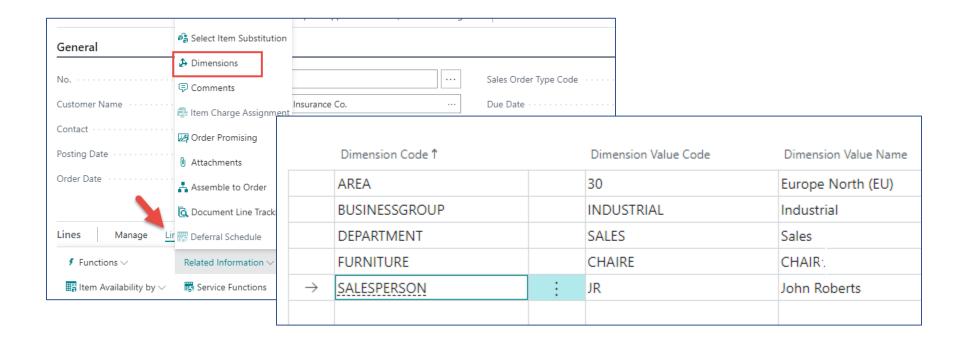
Sales Order and Dimensions



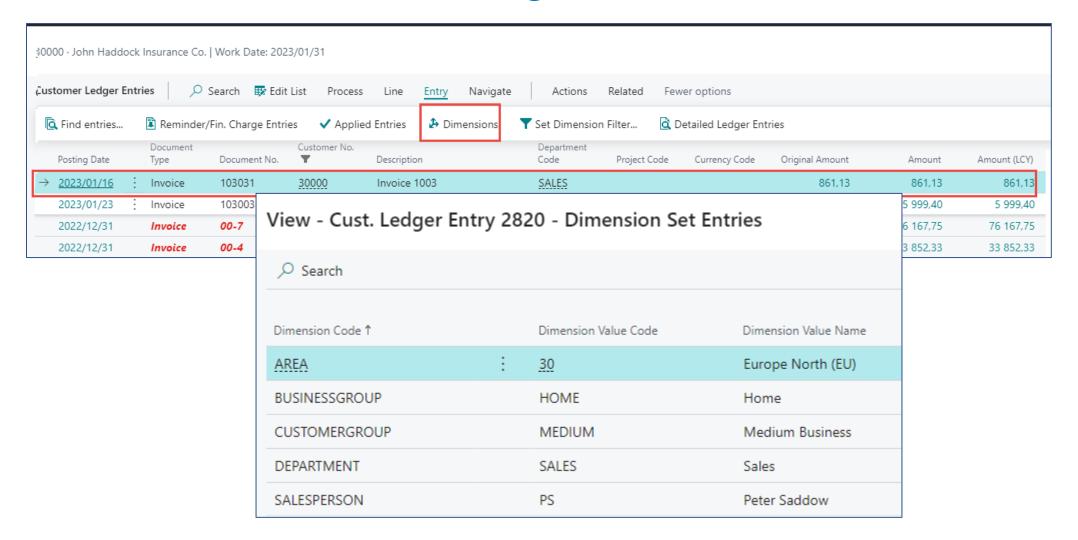
Dimensions in Sales Order Header



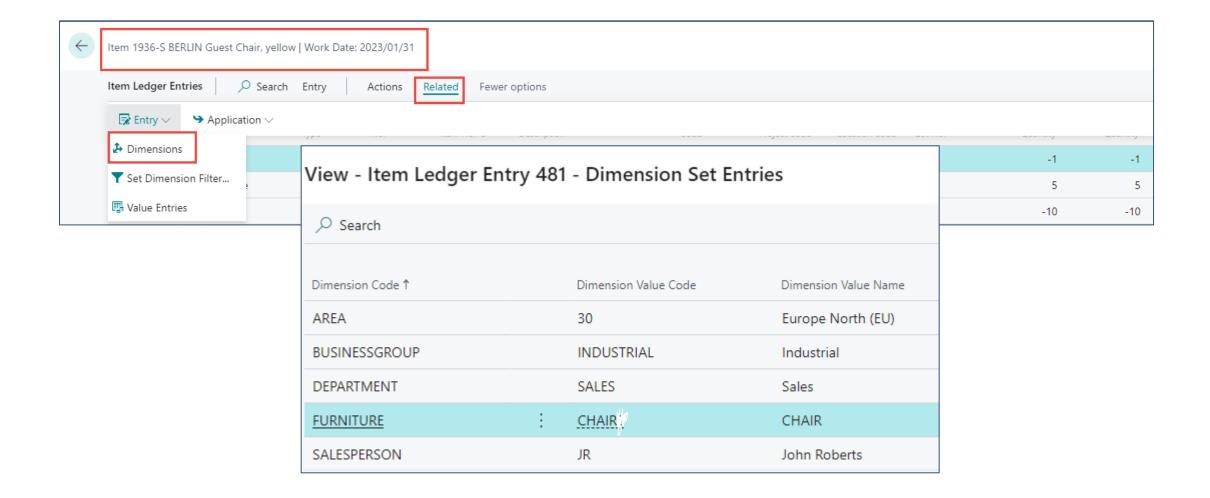
Dimensions in Sales Order Lines

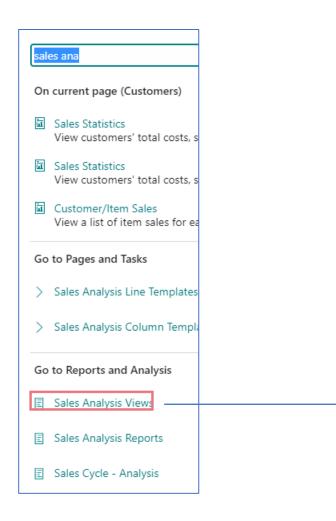


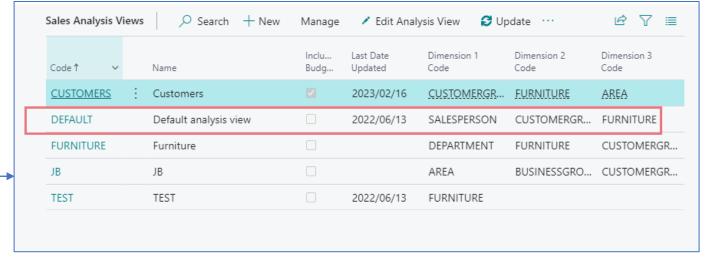
Created Customer Ledger entries

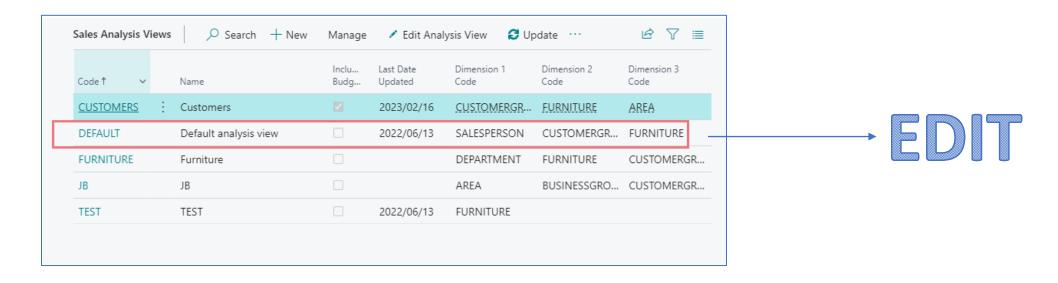


Created Item Ledger entries

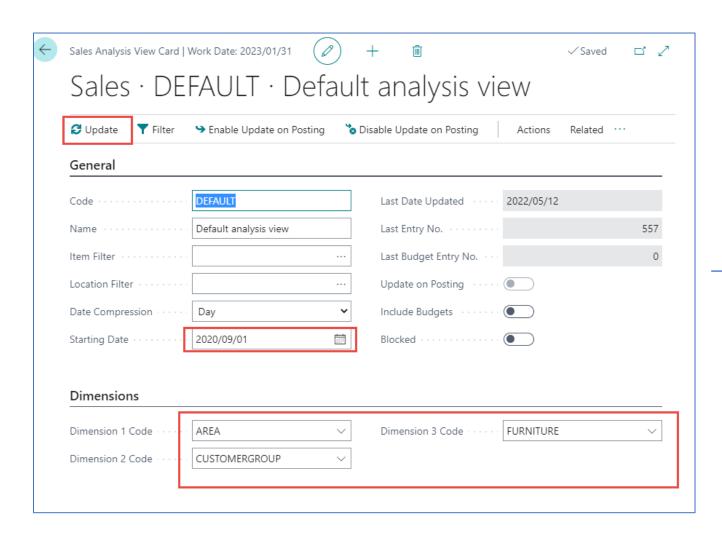






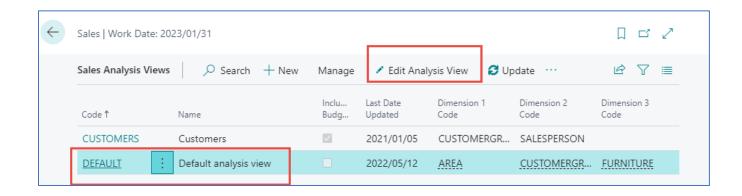


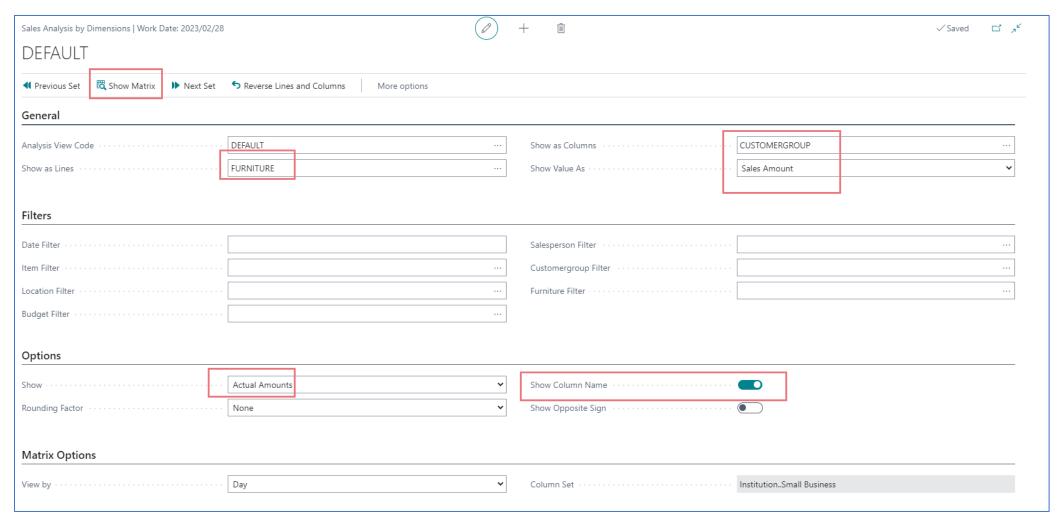
Analysis by Dimensions – view



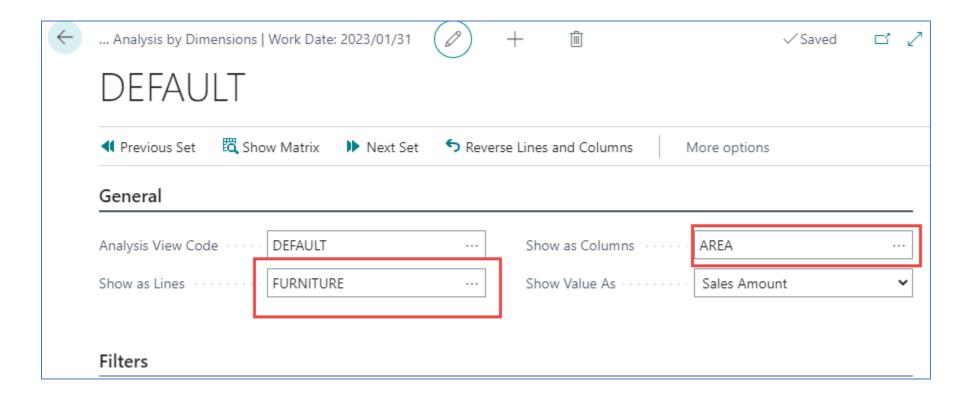
* UPDATE

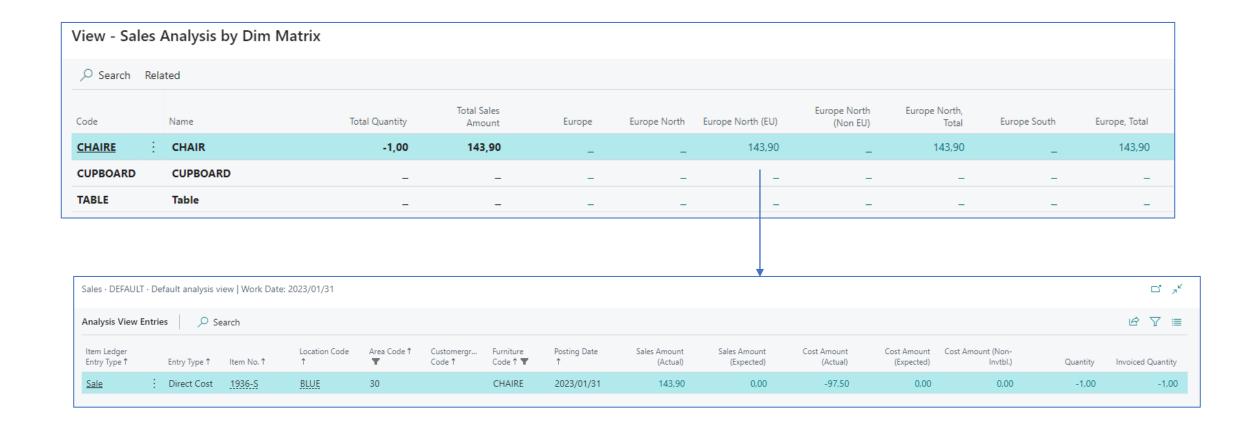
Update allows all entries set in filters to be included in the analysis view





View - Sales Analysis by Dim Matrix											
	I								Ė		
Code	Name	Total Quantity	Total Sales Amount	Institution	Intercompany Customers	Large Business	Medium Business	Private	Small Business		
CHAIRE	CHAIR	-83,00	10 840,66	-	_	2 392,30	4 439,62	-	1 268,04		
CUPBOARD	CUPBOARD	-2,00	1 949,61	_	_	_	1 949,61	_	-		
TABLE	Table	-2,00	819,78	_	_	_	819,78	_	_		
WHITBOARD	WHITBOARD	-26,00	24 169,76	_	_	2 631,96	5 848,80	_	5 848,80		





Another type of analysis – Customer type

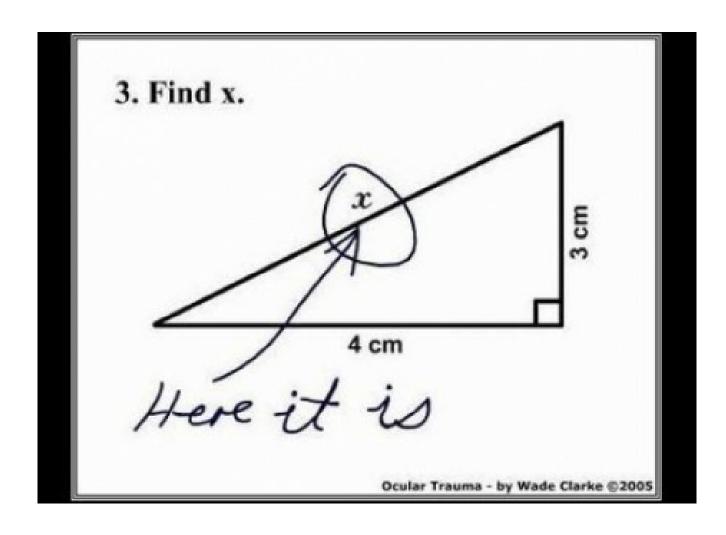
View - Sales	s Analysis by Dim Matrix						7 ^k ×
∠ Search Re	elated						ıŝ
Code	Name	Total Quantity	Total Sales Amount	CHAIR	CUPBOARD	Table	WHITBOARD
<u>10</u>	Europe	_	-	-	-	-	-
20	Europe North	-	_	_	-	_	-
30	Europe North (EU)	-287,90	73 347,05	8 106,42	1 949,61	819,78	14 329,56
40	Europe North (Non EU)	-22,00	5 446,07	137,44	_	_	_
45	Europe North, Total	-309,90	78 793,12	8 243,86	1 949,61	819,78	14 329,56
50	Europe South	_	-	_	_	_	_
55	Europe, Total	-309,90	78 793,12	8 243,86	1 949,61	819,78	14 329,56
60	America	_	-	-	_	_	-
70	America North	-28,00	3 112,04	-	_	_	_
80	America South	-	-	-	_	_	-
85	America, Total	-28,00	3 112,04	-	_	_	-
90	SA	-	_	_	_	_	_
91	Durban	-	_	_	_	_	_
92	Total SA	_	_	-	_	_	_

Dimensions play an important role in business intelligence, such as when defining analysis views. For more information, see <u>Analyze Data by Dimensions</u>.

Analyze Data by Dimensions - Business Central | Microsoft Docs

An analysis by dimensions displays a selected combination of dimensions. You can store and retrieve each analysis you have set up. The information for setting up an analysis is stored on an Analysis View card to simplify future analysis.

- 1. Choose the icon Searching window, enter **Analysis Views**, and then choose the related link.
- 2.On the **Analysis View List** page, choose the **New** action.
- 3. Fill in the fields as necessary. Hover over a field to read a short description.
- 4.To add other dimension codes in addition to the four on the **Dimensions** FastTab, choose the **Filter** action, fill in the fields, and then choose the **OK** button.
- 5.To update the view, choose the **Update** action.



$$a^2 + b^2 = c^2 \rightarrow 4 * 4 + 3*3 = 25 \rightarrow c = 5$$

