

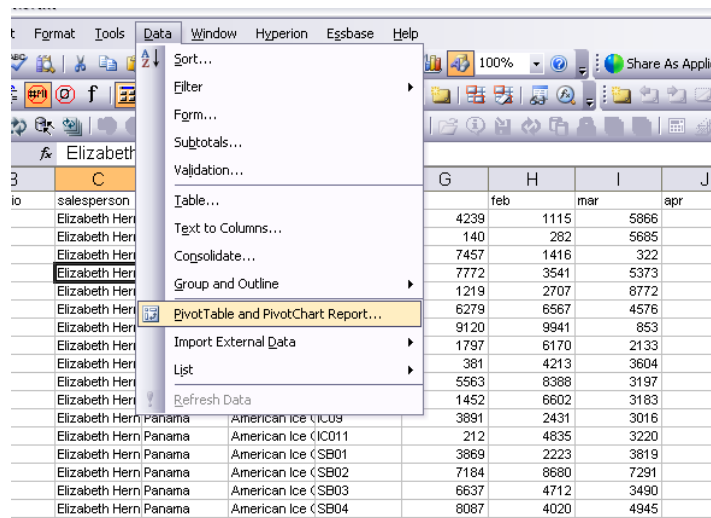
Quick and Dirty Dimensional Modeling Using Excel Pivot Tables

One of the first decisions that confronts Essbase developers is deciding what categories or columns can be modeled as hierarchies and which must be modeled as two separate dimensions. Dimensions are many-to-many relationships. Hierarchies are many-to-one relationships. Modeling a hierarchy as two separate dimensions will produce a larger slower Essbase database. Attempting to model two separate dimensions as a hierarchy will generally result in rejected records during the dimension build.

While the following method has limitations it can be a quick and relatively easy way to analyze a data file or metadata file to identify the relationship between any two columns and therefore what can be modeled as hierarchies in what must be modeled as separate dimensions.

The following example analyzes only two columns. A complete analysis would include each pair of columns in data files and metadata files to detect many to many relationships at upper levels in addition to the level 0 columns analyzed here.

- Open the data file in Excel.
- If the data file is too large, load as much as is practical. Using a partial data file you can't prove that two columns can be modeled as a hierarchy because the many-to-many relationships may not show up in the part of the file you've analyzed. However there's a good chance they will, so you might be able to prove that the columns must be modeled as two separate dimensions.



		feb	mar	apr
4239		1115		5866
140		282		5685
7457		1416		322
7772		3541		5373
1219		2707		8772
6279		6567		4576
9120		9941		853
1797		6170		2133
381		4213		3604
5563		8388		3197
1452		6602		3183
3891	American Ice (IC00)	2431		3016
212	American Ice (IC011)	4835		3220
3869	American Ice (SB01)	2223		3819
7184	American Ice (SB02)	8680		7291
6637	American Ice (SB03)	4712		3490
8087	American Ice (SB04)	4020		4945

- If the pivot table is large it is convenient to add count formulas along the bottom (row 51) and right side (column x) of the pivot table, and maximum formulas to summarize the count formulas (W51 and X51).
- If both maxima are greater than one, a many-to-many relationship exists.

	S	T	U	V	W	X	Y
35				21		1	
36				1		1	
37				38		4	
38				16		1	
39				798		1	
40				113		4	
41				24		1	
42		56	313	369		2	
43				798		1	
44				16		1	
45				243		1	
46				278		1	
47				251		5	
48				531		2	
49	1636	217	314	12502		20	
50							
51	3	4	2		12	6	
52							
53							

	S	T	U	V	W	X
35				21		=COUNT(B35:U35)
36				1		=COUNT(B36:U36)
37				38		=COUNT(B37:U37)
38				16		=COUNT(B38:U38)
39				798		=COUNT(B39:U39)
40				113		=COUNT(B40:U40)
41				24		=COUNT(B41:U41)
42		56	313	369		=COUNT(B42:U42)
43				798		=COUNT(B43:U43)
44				16		=COUNT(B44:U44)
45				243		=COUNT(B45:U45)
46				278		=COUNT(B46:U46)
47				251		=COUNT(B47:U47)
48				531		=COUNT(B48:U48)
49	1636	217	314	12502		=COUNT(B49:U49)
50						
51	=COUNT(S5:S48)	=COUNT(T5:T48)	=COUNT(U5:U48)		=MAX(B51:U51)	=MAX(X5:X48)
52						
53						

Here is what the formulae look like.