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Visual Information Design

Presentation of Tables in Reports

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In the first edition of our series "Visual Information Design – How to Create Meaningful Reports" we dealt with the meaningful use of pie charts. In the present and second publication we shall highlight the presentation of tables and deal with the following issues:

- When is the use of tables meaningful and useful?
- What do you need to pay attention to when using tables?
- How is the information in a table well structured?

The table is the oldest form of presentation of structured information.

The table is the oldest of all forms of presentation of structured information. Tables and reading them are common knowledge. The reason for this is that we were familiarised with them at school and also come across them in everyday working life. Tables are helpful when the information is displayed in a structured form and the readers grasp the desired information quickly and correctly.

With this whitepaper we would like to help you to create good tables and show you what steps need to be considered. Here we concentrate on tables in reports.

When is the use of tables sensible and useful?

In times of Industry 4.0 and Big Data graphical display formats seem to be more common than tabular formats. This has its place as visualised information is more rapidly recorded by the eye. However, the table can be drawn on as an alternative form of presentation. It can even display precise information in some cases.

Tables are recommended when the values are to be displayed individually and/or accurately.

But where and when are tables used? If you consider classical monthly reports, quarterly reports or annual financial statements, in each of these documents you will find tables that present the information in a structured form. In addition, texts are often added as an explanation. In a table are the exact values for the individual cross-over points of the row and column. For the use of tables this means: tables are meaningful if the individual figures are to be viewed and displayed accurately.

What do you need to pay attention to when using tables?

After we have now found out when it is helpful to use a table, we would like to show you what you need to pay attention to in this form of presentation.

In general care must be taken that there are not too many lines and columns. So that the exact value continues to be easy to read, we recommend using a small number of columns (maximum 7, preferably 5) and rows (maximum 15, preferably 10). However, this depends on what content the table is to give. If for example a P&L under the IFRS Standard Accounting Practice or the German Commercial Code is required, 10 rows are not enough.

Together with the number of rows and columns, it is important to design the table to be readable. Let us look at an example of a presentation in table form in which we present the figures for the individual months (columns) for various products (rows). In addition, the total amount of the products is recorded in the bottom row.

Product	Jan	Feb	Mar	Apr	May	Jun
Product 01	93,993	84,773	88,833	95,838	93,874	83,994
Product 02	87,413	78,839	82,615	89,129	87,303	78,114
Product 03	90,036	81,204	85,093	91,803	89,922	80,458
Product 04	92,737	83,640	87,646	94,557	92,620	82,872
Product 05	83,733	75,520	79,137	85,377	83,627	74,826
Total	447,912	403,976	423,324	456,704	447,346	400,264

Fig. 1: Presentation in table form of individual monthly values for various products – poor readability.

Because of the highlighted figures and the broad black frame in Figure 1, it is difficult to read the individual values of one row or column smoothly. The eye "flits" from data cell to data cell. At this point it is advisable to avoid highlighting as the use of bold face does not add anything and the frame gives the effect of "hard" lines.

As made clear in Figure 2, the readability is increased because the frame lines are drawn with grey instead of black. To make it more easily comprehensible, only the headings and total sums may be highlighted.

Product	Jan	Feb	Mar	Apr	May	Jun
Product 01	93,993	84,773	88,833	95,838	93,874	83,994
Product 02	87,413	78,839	82,615	89,129	87,303	78,114
Product 03	90,036	81,204	85,093	91,803	89,922	80,458
Product 04	92,737	83,640	87,646	94,557	92,620	82,872
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Total	447,912	403,976	423,324	456,704	447,346	400,264

Fig.2: Presentation in table form of individual monthly figures for various products – improved readability.

By means of the example of Figure 2 it can be seen that the column heading is aligned left, the numerical data however aligned right. For even better readability this should be adjusted.

In addition, for the display of tables, as also for any other presentation, it helps if there is a table title so the reader can assign the information. Below you can see in Figure 3 an example that has been created with the points given above.

Tabular representation						
Measures : **Umsatz**			Years : **2016**			

Sales in € of all products in the first halfyear 2016 on monthly level

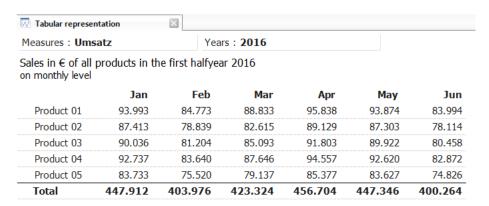|	Jan	Feb	Mar	Apr	May	Jun
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Total	**447.912**	**403.976**	**423.324**	**456.704**	**447.346**	**400.264**

Fig. 3: Presentation in table form of individual monthly values for various products – good readability.

We would like to give you the following rule of thumb as assistance: A table is completed when the essential information is easy to grasp.

So-called in-cell graphics are seen with increasing frequency. As the name implies, in-cell graphics are graphics in a cell of the table representing a historical development. This is mostly used when Target/Actual comparisons are viewed on an annual basis and simultaneously the development of the Actual values displayed with them. In-cell graphics help you to get more context into the table.

In the following example, alongside the recommendations already addressed, you will see further tips for presentation in table form. A good presentation includes both standard abbreviations, symbols and indents such as with a P&L. Colour marking is to be used when the reader can derive a recommended course of action.

		Actual		Budget	Δ Plan	Δ Plan %
		Fin. year	Year To Date	Year To Date	Year To Date	Year To Date
		Sparkline	Dec	Dec	Dec	Dec
Colours	Craftsmen		5,572	5,062	510	110 %
	Purchasing Association		9,887	9,358	529	106 %
	Building center		2,883	2,430	453	119 %
	Customers		18,341	16,849	1,492	109 %
Wallpapers	Craftsmen		1,723	1,563	160	110 %
	Purchasing Association		3,098	2,736	363	113 %
	Building center		7,371	5,153	2,218	143 %
	Customers		12,192	9,452	2,740	129 %
Carpets	Building center		3,098	1,971	1,127	157 %
	Customers		3,098	1,971	1,127	157 %
Tools	Craftsmen		55	62	-7	89 % ◄
	Purchasing Association		97	109	-12	89 % ◄
	Building center		101	77	24	131 %
	Customers		253	249	4	102 %
Product	Craftsmen		7,350	6,687	663	110 %
	Purchasing Association		13,081	12,202	879	107 %
	Building center		13,453	9,631	3,822	140 %
	Customers		33,885	28,521	5,364	119 %

Fig. 4: Presentation in table form with in-cell graphics and colour indication for recommended course of action – here implemented with cubus EV Analytics.

Conclusion

In times of Big Data and Industry 4.0, tables continue to have their place and should be used when the exact and individual values are necessary. It is advisable to keep the number of columns and rows low but this must depend on the content. In general you should be careful with formatting and options that offer you various tools. A table is successful when the essential information is easy to grasp. Apart from that, for rapid comprehension of the content, use a table title and use standard abbreviations and symbols.

You can find further helpful tips for representing information better in our Visual Information Design series.

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