Beautiful Reports:







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INTRODUCTION

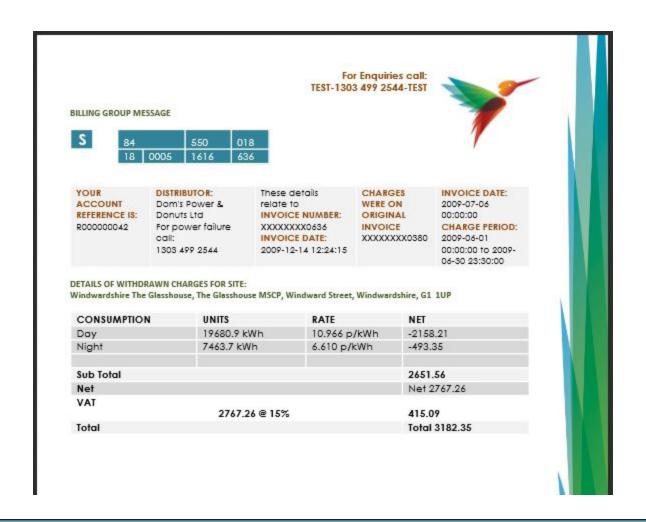
Congratulations. You've gotten the data you need and placed it into a well-organized report. Your job is done, right?

Not quite.

As any chef will tell you, it's all about presentation. When creating any "composition," whether it be a gourmet meal or a business document, providing the basics isn't enough. The output must look appetizing, as well.

We designed this e-book to help you create scrumptious reports. In it, we serve up tips and techniques on how to design documents that wow your customers, your colleagues and your bosses.

Let's begin by looking at how to use text to make a beautiful report.





CHAPTER 1: TEXT

Fonts

Serif and Sans Serif

Every piece of text is displayed in a **font**, the complete assortment of type of a particular style and size. Fonts reflect the mood and tone of your document.

(NOTE: If you're sharing this e-book with your graphic designer friends, they may tell you what we're really talking about is **typeface**, not font – and <u>technically they'd be correct</u>. But these days the two terms are used interchangeably, and we call them fonts here in part because the Windward design tool, Microsoft® Office, refers to them as fonts.)

Fonts can be classified into two main categories: serif and sans serif.

Serifs are those little lines attached to characters. If a particular font has those lines, it's called a serif font. If it doesn't, it's called sans serif (sans is French for "without").

This is typed in a serif font, Times New Roman.

This is typed in a sans serif font, Arial.

In general, serif fonts make words easier to read (readability) and sans serif fonts make individual letters easier to discern (legibility).

The Big Myth: Serifs Affect Readability on Computer Screens

So what font should you choose?

Until recently, accepted practice had been:

- For print, use a serif font. The exception is headlines, which are large enough that it was considered okay to use a less "readable" but more "legible" font.
- For online, use sans serif. Computer screens have difficulty accurately displaying serif fonts.

But common wisdom is changing.

The quick brown fox jumps over the lazy dog. The quick brown fox jumps over the lazy dog. The quick brown fox jumps over the lazy dog. The quick brown fox jumps over the lazy dog. The quick brown fox jumps over the lazy dog. The quick brown fox jumps over the lazy dog.

A variety of serif and sans serif fonts.



Jakob Nielsen, a well-respected computer usability expert, notes that with the rise of bigger, more high-def screens, it's time to change the guidelines. Choosing a font for readability or legibility is no longer the most important concern. Instead, you should choose a font consistent with the document's contents. This includes looking at:

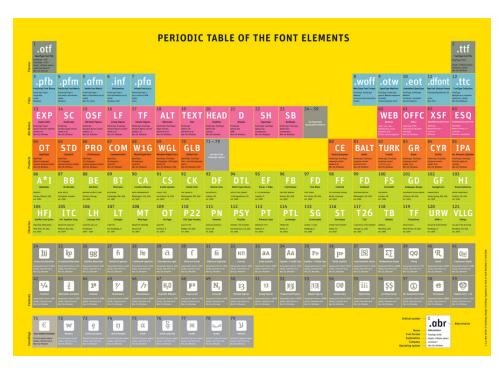
- **Tone and mood.** If the output is a serious document, you'll want to choose a classic font with clean lines, such as Garamond, as opposed to a decorative font such as *Monotype Corsiva*, which mimics handwriting.
- Branding and logos. Is this a company report that includes a standard company logo? The rest of the report
 doesn't need to use the exact font contained in the logo, but you should choose one that goes well visually
 with the logo or other elements.

For a comprehensive look at font and tones, with plenty of examples, we highly recommend you visit the Purdue Owl's <u>Using Fonts with Purpose</u> page.

One Final Font Note: Money Matters

There's an added benefit to actively choosing a font rather than letting your system's default values reign. If you're producing a large amount of print documents, the right font choice could save your organization big bucks.

Text Blocks



What makes a font a font?

Photo credit: FontShop

Forget what your high school teachers taught you. The satirical publication The Onion got it right when it wrote readers shudder when confronted with long blocks of text, and long paragraphs don't make a document – or you – sound more educated or important.

Yes, it's okay to write onesentence paragraphs.

Take a look at each paragraph of your current report. Each should have just one main thought. If you identify more than one, start a new paragraph.



It's amazing how a few blank lines make a document easier to read and more beautiful.

Spacing between Text Elements

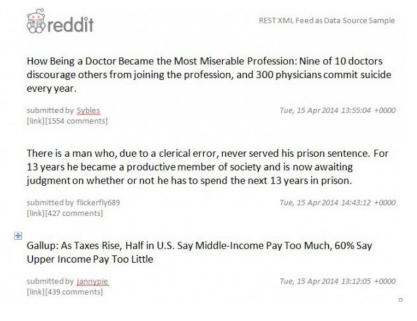
Did you know there are commonly accepted ratios for spacing of text elements?

Here are guidelines for:

- Characters. The spacing for characters within words is taken care of by the font's built-in spacing, so you don't need to concern yourself with this.
 (But if you're curious about how typographers adjust this manually, check out this quick intro to kerning and letter spacing.)
- Words. Unless you see a compelling reason to do otherwise, align text to the left. This is easiest on the eyes of the person reading the report. You can also justify text – aligning it to both left and right margins – but this can lead to too much extra space between words, so it should be used sparingly.
- Lines. Most report and document template interfaces automatically adjust the amount of space between lines of text. This is known as leading, or the amount of space between the invisible lines upon which letters sit. If you have the ability to change the leading, a good rule of thumb is to set the leading to approximately 20 to 30 percent bigger than the type size. For example, if you're using 10-point type, the line spacing would be 12 or 13 points.
- Paragraphs. As with leading, most reporting software automatically adjusts the amount of space between paragraphs. Unlike with leading, however, there is no commonly accepted rule of thumb as to how much space is optimal. Plus, "optimal" varies depending on whether the document is viewed online or in print. The important thing is to take a hard look at the final spacing and if the paragraphs seem too squished or too spread out, experiment with adjusting the spacing.

Visual Aids

We read by scanning, so **use visual clues** to help your readers quickly grasp the content of a report (see what we just did there?).



This sample report from Windward shows how well-spaced text can be beautiful to read.



Separate out key sections with subheads, such as the four main ones (Fonts, Text Blocks, Spacing and Visual Aids) you see in this chapter.

If you need to put text in one area, use visual clues such as:

- Bullets
- Numbered lists
- Bold text

TIP: Do not use underlining purely as a visual cue, such as for emphasis. The person viewing the document, even when it is in print, will expect the underlined text to link to another page.

Woodgrove Bank American Mutual Fund Class F-2 Data Updated as of 6/30/2012 Investment Objective Morningstar Category Large Value The investment seeks current income, growth of capital and conservation of principal. Investment Strategy Benchmark The fund invests primarily in common stocks of companies that are likely to participate in the Russell 1000 Value growth of the American economy and whose dividends appear to be sustainable. It invests primarily in securities of issuers domiciled in the United States and Canada. The fund may also Risk Level invest in bonds and other debt securities, including those issued by the U.S. government and by federal agencies and instrumentalities. Principal Risks Less reward More reward Risks may include Long-Term Outlook and Projections, Loss of Money, Not FDIC Insured, Growth Funds classified as Growth are broadly diversified but are subject Investing, Active Management, Income, Market/Market Volatility, Fixed-Income Securities. to wide fluctuations in share price because they hold virtually all of their assets in more volatile investments. These funds may be appropriate for investors who have a long-term investment horizon (ten years or longer). Performance Overview Fund Overview 10 Yr. 5 Yr. Ticker Symbol ABCDE 15.28% 5.11% Web Site www.windward.net Inception Date 8/5/2008 -2.19% 8.68% 3.01% 15.80% 5.28% Benchmark Total Net Assets \$20,770.5 mil in an index. Indexes have no fees, Indexes have certain limitations. Cur names quoted, Not FDIC Insured * May Lose Value * Not Bank Guaranteed Turnover 23% Yield - 30 day SEC 2.39% Hypothetical Growth of \$10,000 Initial Investment Manager Name Team Manager Tenure 6.5 yrs Fees & Expenses \$12,000 \$10,000 0.42% Operating Expense \$8,000 Per \$1,000 \$4.20 \$6,000 Max Front Load \$4,000 Max CDSC \$2,000 Max Redemption Fee

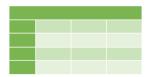
Well-placed subheads makes a report easier to scan.



CHAPTER 2: TABLES

"Beautiful" probably isn't the first word that comes to mind when you think about tables in a report. They're great for displaying data, but they aren't in the same class as images or other more exciting visual elements.

But don't overlook them. Beautiful tables enhance the look of that key document you've worked hard to create.



Tables Versus Charts

Before you read any further, you have a key decision to make: whether to use a table or a chart to display the information. You can usually arrive at that decision quickly by asking yourself one question:

"Am I conveying many individual data points, or am I trying to show an overall trend instead?"

If it's important that the report reader see individual data points, go with a table. If not, you'll likely want a chart.

For example, if you're designing an invoice, you'd want a table – a list of each item with its price, quantity, etc. But if you're building a graphic for your sales team that shows categories a particular customer is buying, you'd generate a chart showing the most purchased category, the next most purchased, and so on.

Here we've created a basic table of employees:

ID	Last Name	First Name	Title	City	Country
1	Davolio	Nancy	Outside Sales Representative and Manager	Seattle	USA
2	Fuller	Andrew	Vice President, Sales	Tacoma	USA
3	Leverling	Janet	Sales Representative	Kirkland	USA
4	Peacock	Margaret	Sales Representative	Redmond	USA
5	Buchanan	Steven	Sales Manager	London	UK
6	Suyama	Michael	Sales Representative	London	UK
7	King	Robert	Sales Representative	London	UK
8	Callahan	Laura	Inside Sales Coordinator and Manager	Seattle	USA
9	Dodsworth	Anne	Sales Representative	London	UK



Now we have a functional table with the desired information, but no one would call it beautiful. Let's walk through how to make it easier on the eyes.

NOTE: We generated the examples we'll be using throughout this book with the Microsoft add-in <u>Windward AutoTag</u>. The design tools we use are all available in the Microsoft Word ribbon.

Optimal Cell, Row and Column Dimensions

Okay, that was a trick subhead. There are no "optimal" dimensions.

As much as we'd love to give you a formula for calculating the height and width of each cell, column and/or row, there is none. It all depends upon the data you're including in the table. Generally the cell with the most content will determine the height and width of the adjacent cells. There are a couple general guidelines, however.

- The larger the cell contents, the more space you'll want between rows. As we discussed in our previous post, viewers tend to want space between lines of text to be slightly larger than the font of the text. So if the text is, say 11 points, you'll want at least 13 points from one horizontal line to the next. And with tables, you also need to account for the size of the cell borders.
- Let the program you're using do as much of the work as possible. If you can allow that table-creation tool to automatically set the dimensions according to the cell content, you lessen the risk of data that's squished into too small an area or lost in a sea of blank space.

And the most important guideline: Remember to view the output and then try a few adjustments. Here's our table after we tweaked the column sizes through trial and error:

ID	Last Name	First Name	Title	City	Country	
1	Davolio	Nancy	Outside Sales Representative and Manager	Seattle	USA	
2	Fuller	Andrew	Vice President, Sales	Tacoma	USA	
3	Leverling	Janet	Sales Representative	Kirkland	USA	
4	Peacock	Margaret	Sales Representative	Redmond	USA	
5	Buchanan	Steven	Sales Manager	London	UK	
6	Suyama	Michael	Sales Representative	London	UK	
7 King		Robert	Sales Representative	London	UK	
8 Callahan		Laura	Inside Sales Coordinator and Manager	Seattle	USA	
9	Dodsworth	Anne	Sales Representative	London	UK	



Justifying Data in Rows and Columns

Should your data be aligned to the left in a cell? The right? The center? The top? The bottom?

It depends.

Horizontal Alignment

In general, left-justified text is the most natural for the reader. It allows you to quickly scan a table and grasp the information the table contains. Center-justified text should be used sparingly, perhaps for elements you want to stand out from the rest, such as column headers and subheads.

One major exception to this rule is when the data is currency or other numbers. You'll likely want to right justify content so decimal points or base digits line up vertically in each cell, making it easy to scan and compare data.

Vertical Alignment

Also, don't forget to consider how text is aligned vertically within a cell. **Vertically, center-justified text typically is the easiest to read.** The major exception here is when cells in one row contain significantly different amounts of information; as in our example when the first three cells in row1 contain one line each and the fourth cell has a lengthier description. In this case, top-justified text tends to be the most readable.

ID	Last Name	First Name	Title	City	Country
1	Davolio	Nancy	Outside Sales Representative and Manager	Seattle	USA
2	Fuller	Andrew	Vice President, Sales	Tacoma	USA
3	Leverling	Janet	Sales Representative	Kirkland	USA
4	Peacock	Margaret	Sales Representative	Redmond	USA
5	Buchanan	Steven	Sales Manager	London	UK
6	Suyama	Michael	Sales Representative	London	UK
7 King		Robert	Sales Representative	London	UK
8	Callahan	Laura Inside Sales Coordinato and Manager		Seattle	USA
9	Dodsworth	Anne	Sales Representative	London	UK

Here we've aligned most of the text to the top and the left of each cell, instead of the earlier center and bottom alignment, for easier scanning. The one exception is the column of numbers.



Visual Interest

Line after line of black and white data in a table can wear down the reader, so show a little mercy by adding a few visual elements.

Color

One common technique is to add background color to your chart. Choose two complementary colors, light enough so they don't interfere with the text readability, and alternate colors for each row. You can add a third color to the title row of your table.

You can also use color to help best represent the data. For instance, if a chart contains numbers, you can display negative numbers in red. Or a table of worldwide employees might use various background colors to indicate regions.

ID	Last Name	First Name	Title	City	Country
1 Davolio		Nancy	Outside Sales Representative and Manager	Seattle	USA
2	Fuller	Andrew	Vice President, Sales	Tacoma	USA
3	Leverling	Janet	Sales Representative	Kirkland	USA
4	Peacock	Margaret	Sales Representative	Redmond	USA
5	Buchanan	Steven	Sales Manager	London	UK
6	Suyama	Michael	Sales Representative	London	UK
7	King	Robert	Sales Representative	London	UK
8			Inside Sales Seattle Coordinator and Manager		USA
9	Dodsworth	Anne	Sales Representative	London	UK

What a difference color makes! We also bolded column headers, readjusted horizontal cell size and removed vertical borders.

Borders and Subheads

Cell borders are another way to add visual interest. This is another area where there are no hard and fast rules, so experiment with the size of borders both horizontally and vertically.

Also, don't be afraid of using subheads within a table. If a table contains a large amount of data that you can sort easily into logical groups, use subheads to allow readers to quickly jump from group to group.

Avoid Temptation

A word of caution when it comes to visual interest. You don't want the enhancements to interfere with the purpose of the table: displaying information so that it's easy for the reader to grasp.



This means avoid any funky shadows, shapes, textures, etc. that detract from the look of the table. The visual elements should make the table easier to read, not more difficult.

TIP: w3Schools.com has a great tutorial page showing how you can improve an HTML table with CSS.

Ordering Data in a Table

Lastly, be sure to give some consideration to the data when determining how to organize it in a table. There are almost as many ways to order data as there are tables, but here are a few examples to help you think about what makes the most logical sense. This may not add to the aesthetic beauty of the document, but it can make the report significantly more readable. And readable = beautiful.

Is the data showing change over time? If so, your readers are most likely interested in seeing the most recent data first, so order your table thus.

Will a reader want to search for a particular entry? Then consider organizing the table alphabetically or by date. And if the answer is alphabetical, think about placing the appropriate column first. For example, although we call someone by their first name first and last name last, we typically search by last name, so place that column first.

Does that table contain data showing various quantities for comparison purposes? If so, you may want to sort the columns in ascending or descending order.

ID	Last Name	First Name	Title	City	Country
5	Buchanan	Steven	Sales Manager	London	UK
8	Callahan	Laura	Inside Sales Coordinator and Manager	Seattle	USA
1	Davolio	Nancy	Outside Sales Representative and Manager	Seattle	
9	Dodsworth	Anne	Sales Representative	London	UK
2	Fuller	Andrew	Vice President, Sales	Tacoma	USA
7	King	Robert	Sales Representative	London	UK
3	Leverling	Janet	Sales Representative	Kirkland	USA
4	Peacock	Margaret	Sales Representative	Redmond	USA
6	Suyama	Michael	Sales Representative	London	UK

Finally, since users will likely be using this table to search for employees by last name, we sorted that column alphabetically.

Remember at the beginning of the chapter when we asked if, in a given situation, you should create a table or a chart? Now let's turn our attention to when the answer is the latter.



CHAPTER 3: CHARTS

Charts can be some of the most beautiful elements of a report, especially when compared to plain black and white text or tables that are jam-packed with data.

So why is that too often, charts are so darn ugly?

It doesn't have to be this way. Even if your strength is data and not report design, you can create informative, beautiful charts that wow your audience.

Before You Begin

Step away from the keyboard and ask yourself two important questions.

ONE: Am I conveying individual data points or am I trying to show an overall trend instead?

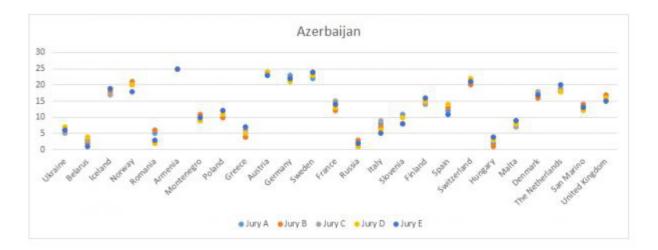
As we discussed in the previous chapter, if it's important that the report reader see the individual data points, go with a table. If not, you'll likely want a chart.

The illustration below shows a clear example of when you might prefer charts to tables. First, a table showing 2014 Eurovision voting from the Azerbaijan jurors (view original post):

Azerbaijan Jury	Juror 1	Juror 2	Juror 3	Juror 4	Juror 5	Average	Std. Deviation
Russia		3	1	1	2	1.8	0.89
Belarus	3	2	3	4		2.6	1.14
Hungary	2	1	4	3	4	2.8	1.30
Romania	- 5	6	2	2	3	3.6	1.82
Greece	4=	4	6	5	7	5.2	1.30
Ukraine	- 6	5	5	7	8	5.8	0.84
Italy	8	7.	9	. 6	5	- 7	1.58
Malta	7	9	7	8	9	8	1.00
Slovenia	- 31	- 3	8	10	8	9	1.41
Montenegro	9	11	10	9.	10	9.8	0.84
Poland	10	10	12	11	12	- 11	1.00
Spain	12	13	11	14	11	12.2	1.30
San Marino	13.	14	13	12	13	13	0.71
France	15	12	15	13	14	13.8	1.30
Finland	14	15	34	15	16	14.8	0.84
United Kingdom	16	17	16	16	15	16	0.71
Denmark	17	18	18	1.7	17	17	0.71
Iceland	19	18	17	19	19	18.4	0.89
The Netherlands	18	19	19	18	20	18.8	0.84
Norway	20	21	20	20	18	19.8	1.10
Switzerland	21	20	21	22	21	21	0.71
Germany	23	22	22	21	22	22	0.71
Sweden	22	23	24	23	24	23.2	0.84
Austria	24	24	23	24	23	23/6	0.55
Armenia	25	25	25	25	25	25	0.00

Can you immediately spot any trends? Probably not. But it's a lot easier to see with the data laid out in a chart:



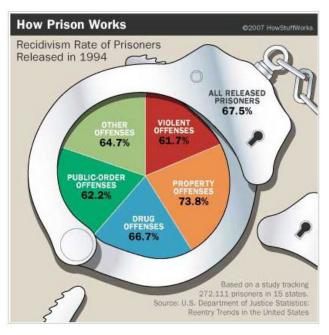


The chart makes it readily apparent that the five jurors appear to show voter collusion, as evidenced by the tight grouping of the data. (View the original post, written by Windward's founder and CTO, David Thielen.)

TWO: What is the purpose of my chart?

Is it to enable the report viewer to identify one key trend? Compare a variety of information points? Allow for many layers of data or just a single one? Once you've figured out the chart's purpose, you're ready to dig into designing beautiful charts.

Choose the Correct Chart Type



A misleading pie chart.

Take a look at the chart on the left. Notice anything odd about it?

That's right. The values don't add up to 100%.

This violates a basic principle of chart design, where viewers expect pie charts to show how large a slice of one pie – what percentage of the whole – a particular data group "eats." In this case, a bar chart would have been more appropriate.

Hubspot's fantastic guide <u>Data Visualization 101: How to Design Charts and Graphs</u> provides details on when to use each chart type and offers some design best practices for each.



Place Elements Appropriately

There are standard conventions for placing elements on a chart. For example:

- Numbers along axes typically go from small to large, or from oldest to newest in the case of dates.
- For pie charts with dozens of tiny slices, **group the tiny slices into an "other" category** so as not to overwhelm the reader with irrelevant information.
- When labeling data points, don't show them all; show just a few where notable events happened.

When you don't follow these conventions, bad things happen.

Check out the chart below. At first, you likely think that gun deaths in Florida went down after Florida enacted the "stand your ground" law. But look again at the Y axis, and you'll see a different story.

For more on misleading charts, check out this excellent article, <u>How to Lie with Data</u> Visualization.

Think Small

Data geeks – we get it. You love data and you love showing lots of facts and figures. But sometimes, you need to hold yourself back.

This is often the case with chart size. Bigger charts aren't more impressive; they're just bigger. With a smaller chart, the person viewing the document can pick up key information and see the chart in context with other report elements around it.

A good rule of thumb is to make the chart as large as it needs to be in order for the text to be legible and not much larger.

Number of murders committed using firearms 200 2005 Florida enacted its 'Stand Your 400 Ground' law 600 800 1,000 2010s 1990s 2000s Source: Florida Department of Law Enforcement C. Chan 16/02/2014 REUTERS

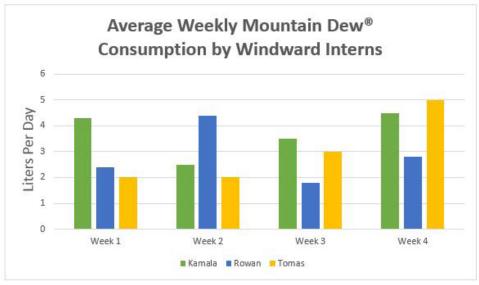
A misleading line chart.

Use Effects Sparingly

You're probably using some sort of reporting software to generate your charts, which means you have some cool visual effects you can apply with a button push. And you probably have.

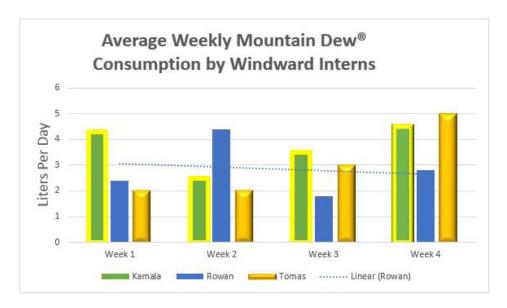
Whoa, Nelly. Before you choose the next effect to "spice" up your chart, remember what mama used to say: just because you can doesn't mean you should. Bevel effects, shape outlines and trend lines may sound good in theory, but look what happens when you put them into practice. You go from this:





to this:

Remember that visual effects should enhance your numbers, not detract from them.

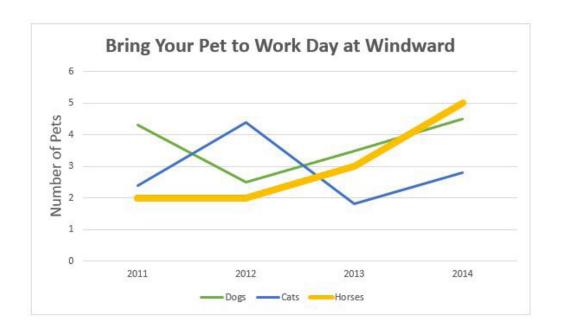


Highlight Key Data

A chart, just like a paragraph, should focus on one main idea. If that idea can be conveyed in one sentence, great. If not, **use visual cues to highlight key information**. (See what we just did there?)

For instance, you can add "weight" (aka thickness) to a set of data points in a line graph when you want to call out a particular series, such as we do in the chart below:





Pay Close Attention to Color

There are millions of colors out there, which means either:

- A. You have zillions of wonderful possibilities to create (for you glass-half-full types), or
- **B.** You have zillions of ways to screw it up (for you glass-half-empty types).

Fortunately, there are several principles to help guide your color choices. Here are three key ones:

- 1. Conventional color combinations. Data can immediately convey information based solely on color choice. "Red light, green light" ring a bell? When used together, green means go, yellow means slow and red means stop. Red and black ink when used with numbers/currency is another charts convention. (But remember that those with color blindness may have difficulty with certain combinations, especially red/green, so use helpful cues such as text.)
- 2. Predetermined color combinations. The software you are using to create your chart likely offers a range of options you can choose from. Spend a couple minutes trying a few out for size, and if they all look the same to you, ask a colleague for a second opinion.
- 3. Company logos. Ever wonder what your marketing department does all day? We don't know either, but one thing they've likely done is create a company logo and they paid very close attention to colors and color combinations when doing so. Take advantage of that knowledge by using those colors, when appropriate, in your charts to reinforce your brand.

By now, you may be asking yourself where you should place these awesome charts in your reports. So let's move on to document layout.



CHAPTER 4: LAYOUT

The right report layout does more than make the output beautiful; it also makes the data and information contained within much easier to grasp.

But for a data reporting expert such as yourself, the thought of trying to lay out a good-looking document can be — let's face it – distasteful. You're no graphic designer, so the theory goes, so your reports are destined to be limited to a basic layout aesthetic.

Not so. Release your inner designer with the help of the following tips.

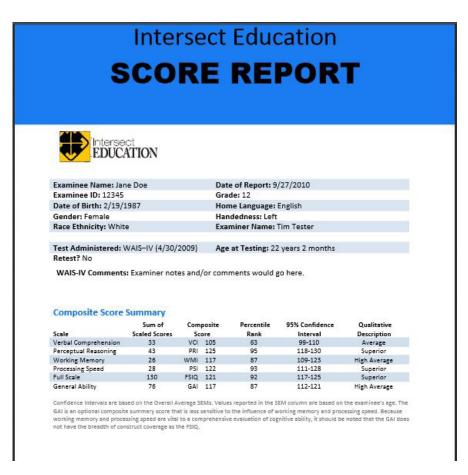
Create Beautiful Report Margins

Yes, you need margins. They help focus the reader on the document's content and make for clean, more readable reports.

Unfortunately, no mathematical formula can tell you exactly what size your document margins should be. Entire chapters lay out rules on book page margins (there's even something as impressive-sounding as the "canons of page construction"), but there's no corollary for reports that we know of.

Still, there are some accepted guidelines, and you will find them as close as the word processing program on your desktop.

For standard reports – printed on an 8.5 by 11" paper or viewed onscreen – in many cases the output will look great with Microsoft Word's default values of 1" margins for top, bottom, left and right.



An example of how adequate report margins allow the reader to focus on key content.



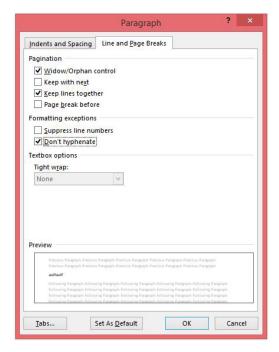
We prefer this to Microsoft Excel's default values of 1" for top and bottom and 0.75" for left and right, because multiple elements on a page can make a document look too busy; a wider margin helps make the content it contains easier to view.

Three notable exceptions to these guidelines:

- Reports with elements that need more space. If you have content that you're trying to fit on a single page such as a table or chart, for example you may want to shrink the margins. We recommend you keep them at least 0.5 inches, however.
- **2. Onscreen documents.** If you know your report or document will be viewed onscreen and not printed, you can sometimes safely shrink the horizontal margins a bit, to around 0.75 inches.
- 3. Bound reports. If you're compiling multiple pages into a bound (stapled, VeloBind, etc.) report, you'll probably want to use more margin space for the inside margins so that binding doesn't obscure the elements. The spacing will depend upon the type of binding, but it will likely be between 1.25 and 2 inches.



Lay Out Individual Elements Properly



Report layout tools in Microsoft Office.

One of the biggest mistakes we see in report layout is when individual elements break in awkward places, such as when one row of a table is placed on the next page, when a paragraph of text has a hyphen on nearly every line, or when a caption is on a different page from the image it describes.

Your template software likely has some built-in tools, so take advantage of them to eliminate these problems. Tools like:

- **Keep Lines Together.** This tool allows you to keep lines of a paragraph together on a page or in a column.
- **Keep With Next.** This is useful for keeping paragraphs or other items together on a page or in a column.
- Widow/Orphan. Use this to ensure that if a paragraph breaks across a page or column, at least two lines will be kept together at the beginning and the end.
- **Hyphenation.** Choose whether to allow hyphenation at all or only in some instances. Some software even lets you dictate how many lines in a paragraph are allowed to have hyphens.



- Allow Row to Break Across Pages. Control where a table is divided and prevent it from breaking across pages by configuring this command.
- **Header Row Repeat.** If a table absolutely must break across a page, use this tool to give context to data on the subsequent page.
- Hard Page Breaks. You can insert a hard page break just before an item to ensure its placement at the top of a page. This may help keep a longer item all together on one page.

You can set these tools to apply globally across your document, but that won't guarantee you the best report layout. Be sure to tweak the output afterward. For example, if your report has a chart followed by a table, you might shrink the chart slightly so that the table does not break across two pages.

NOTE: The names above are the names of the tools in Microsoft Office; your template-design software may give different names to these tools.

Accurately Space and Align Elements with One Another

Remember earlier when we said you don't have to be a graphic designer to create beautiful layouts?

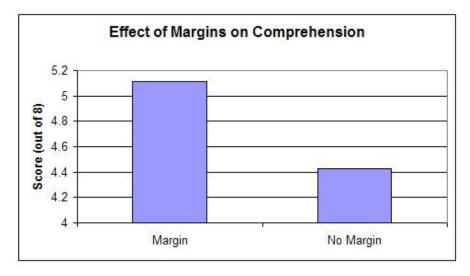
That's true, but alignment and space among elements is one area where many of us struggle when laying out reports. Graphic designers have extensive training and experience in learning what looks best on a page, and you won't be an expert after simply reading this blog post.

But take heart; you can fool just about anyone by employing a couple techniques.

Technique #1: Use white space to increase comprehension.

Study after study has shown that adequate space between and among elements of a Web page, printed report or other type of material leads to the reader's increased comprehension.

As with margins, there's no exact mathematical formula for determining "adequate" space, although we have



A Wichita State study showing the effect of white space on comprehension.

seen a credible project that suggests a page should be about 50% type and 50% white space. This project is referring mainly to text-heavy pages instead of pages with charts, tables and other visual elements, however, so you'll need to experiment to find the best layout for your documents.

TIP: When in doubt, follow this rule: err on the side of adding white space.



Technique #2: Deliberately align elements to increase page balance.

Take a look at your reporting software to see what sort of grids and guides it offers. Some programs let you extend element borders (even invisible ones) to the edge of the report so you can more easily line up multiple elements.

You may also be able to place the elements on a grid. This allows you to align center points or borders, and you can use the grid to ensure balanced spacing among three or more elements.

If you don't have access to grids or guides, no worries. You can create borderless tables to contain elements and then align the items using table properties. (And if you don't have access to borderless tables, do yourself a favor and talk your boss into springing for some new software. You clearly deserve better.)

Make the Report Skim-able

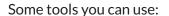
The bad news: Despite all your hard work, few people will actually read your document.

The good news: They will skim it instead.

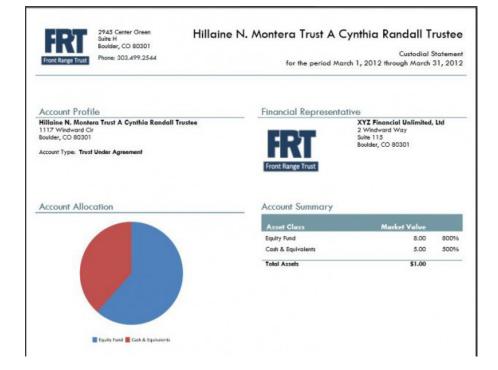
Skimming lets readers jump to the parts that interest them AND it helps them get an understanding of the overall report before they decide which portions to go back and scrutinize.

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We've already spent a little time on how to use visual aids when working with text blocks, and the same principles apply to making the overall layout "skim-able."



- Headlines
- Subheads
- Bullets
- Numbered lists



A nice use of subheads for "skim-ability" and individual report element alignment.



- Bold text
- Titles for tables and charts
- Numbers instead of words (e.g., 10, not ten)

Get Rid of Unnecessary Distractions

When laying out a document, include the elements that need to be included and don't include the elements that don't need to be included.

Sounds simple, right?

It's simple in principle, but in practice it's tempting to spice up a report by adding background images and other distracting elements. Just as we talked about using effects sparingly when creating charts, the same is true for the overall report. Skip the bling.

And while you're at it, don't forget to turn off grid lines in your final output.

Use Conditional Visibility When Appropriate

Here's one layout technique that, when done right, your report recipient may not even be aware you've used.

Conditional visibility is when items in a document display only under certain conditions. These can be user-driven, such as when a user chooses to drill down to see more detail, or content-driven, when certain content displays only under certain conditions.

An example of this from one of our own customers is that of South Sound 911, a public safety organization in Pierce County, Washington. Police officers use Windward software when filling out incident reports. If a section doesn't apply to a particular incident, the officer leaves it blank and the section does not appear on the final report. This cuts down on paper waste and is much easier on the person viewing the report.

Create a Master Template

Lastly, if your template-design tool allows you to create some type of master slide or master template, be sure to take advantage of it when possible. You can set some of the layout properties once (such as margins and footers) and apply them to the entire document, giving it a cohesive, polished look.

There's another way to add polish to a document. And this leads us to our next chapter, on images.



CHAPTER 5: IMAGES

Ahh, images: the quickest and easiest way to add beauty to a report.

We're not talking about charts or tables (although those also add visual appeal). We're talking about logos, screen shots, photos and the like. They're often colorful, usually informative, and always wise to consider.

The idea of using images in your report or document may not thrill you, however, especially if you consider yourself a "data" or "just-the-facts" kind of person. But we encourage you to use images because they:

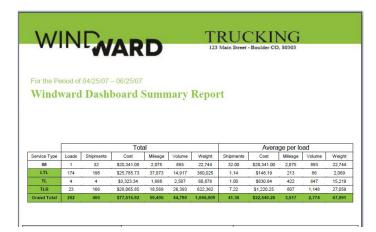
- Enhance the look of your reports
- Convey information quickly
- Improve information processing

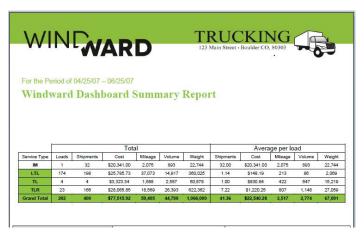
-when done right, that is.

A Simple Image Example

Before we get into the what, how to and where of including document images, let's look the "why."

Consider two nearly identical reports:





The small addition of a clean and simple image in the header captures the user's eye and makes the document more beautiful, illustrating (heh!) that images in your report don't have to be mind-blowing to be effective.

Another benefit of using images is that they can entice your readers to pay closer attention to the content. The Nielsen Norman Group, experts in eye-tracking studies, found that people "pay close attention to photos and other images that contain relevant information." The study was focused on websites, not reports, but the message extends to other documents, especially if they are viewed online.



Finding Images

If you (or your marketing team) already have images at your disposal, great. You probably don't have to look far to find appropriate company logos, product photos or screen shots, employee and office life photos, and images of events relevant to the document's content.

You can also find and easily download images from the Internet, but a couple words of caution:

- Keep your images real. Not all images add to a report or document; some can detract from its impact. The aforementioned study found that users ignore "big, feel-good" images and stock photos of models.
- Pay attention to copyright. It exists for a reason: to protect the person who created the image. Just because you can right-click and grab an image from the Internet doesn't



mean you should. Instead, consider purchasing images from a site such as <u>iStock</u> or <u>Shutterstock</u> or using images from Flickr, which clearly spells out the copyright of each work via a <u>Creative Commons license</u>.

Storing Images

When it comes to images in reports, the most important decision you'll make is WHERE to store them.

Embedded Document Images

One option is to embed the images into the document. A copy of the image is stored in the document, so it is always available. The bad news is that it's always available – even when you don't want it to be.

Best Use Case

For example, suppose you're generating hundreds of different documents that display your company logo. If the logo changes, you have to go into each individual report that includes the logo and change it. Plus, this increases the size of the report definition, which may be cumbersome.



An Oracle building shaped like a database. Photo Credit: Hakan Dahlstrom, Creative Commons License

Images Stored in a Database

That's why it's often preferable to store the images elsewhere. One option is to store them in your database. This limits the size of the report definition, allows you to change an image once and have the change replicated across all reports, and lets you keep records together.

And if you do store images in a database, you may decide to store them as BLOBs, or Binary Large Objects. (NOTE: This video shows how to use Windward to insert BLOBs stored in a database into your report.)



Best Use Case

For example, we see customers use this process for keeping track of defects on an assembly line. The customer needs to associate a defect with a time and put it in a final report, so they maintain a separate file system with the images for ease-of-use purposes but store them in a BLOB in order to allow the report process to be fully automated.

But (yes, this is a big "but") images stored in databases work best when they are not too big. As they get larger in size, queries slow down, performance degrades and images take up much more space than text. Migrating to another database platform or even the same platform but a different version becomes more difficult if images are handled differently in the target platform or version.



File server. Photo credit: Justin Ruckman, Creative Commons License

Images Stored in a File System

Therefore you should strongly consider a third option: store images on a file server. File systems are great for storing images because you can easily back them up, update and manipulate the images, and move them to a bigger hard drive if you need more disk space.

For more on the database vs. file server debate, check out this great conversation on StackExchange: What are the best tips for storing images in a database?

And remember, if your images are stored anywhere other than in the template, be careful how you reference them. You'll need to

give as much of a complete path to the image as necessary.

That's why it's great if your image is stored on the Web; you can simply give the HTTP address, and it will always be available to your document (provided the Web server doesn't go down!)

TIP: Generating an Excel spreadsheet with images? See "Insert picture into Excel cell" on Stack Overflow.

Sizing Images

Obviously, images don't do much good in a report if they're blurry or much too small, so let's talk for a second about resolution. Here are a couple general guidelines:

- If the document is printed, images should be at least 300 dots per inch (dpi).
- If the document is online, you can get away with a much lower dpi, such as 72 dpi.

Also, when possible, use vector images instead of non-vectored ones. Vector images, such as .EPS (Encapsulated PostScript) or AI (Adobe Illustrator), scale much better in the output and typically give you a better resolution. If your company has an art or creative department, they may be able to help you out with this.



Positioning Images

When working with a dynamic reporting solution, positioning becomes crucial. You don't want to end up with images pushed off the page or in another funky spot.

So at first glance, "pixel-perfect," **absolute positioning**, where you place an image at a specific point on the report, sounds great. And when the image is in a header or footer, where you can be certain the object will appear, it's often your best option.

But as your report expands and you get a waterfall effect, images in the body of the document can end up in places you don't expect – or want.

That's why we recommend you use **relative positioning** for most images. Here you use some part of the image (top, bottom, left or right) to align the image with a specific element or point on a page.

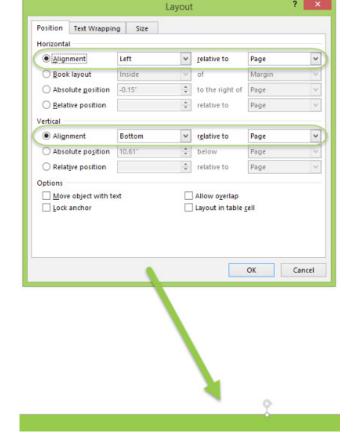
Another consideration with images is that you may want to keep another item – specifically, a caption – with them. How you do this will depend upon your reporting solution.

(This is another reason we advocate avoiding tools like Crystal Reports, because they don't include the critical "keep together" or "keep with next" command.)

Windward, for instance, allows you to keep images with captions, and you can use borderless tables to position the images relative to other elements.

Final Image Tips

Before we move on to discuss colors, we leave you with a couple tips:



Relative positioning, as shown here in the Windward AutoTag software, allows you to precisely place images and other objects.

Tip #1: Use non-traditional images. Basic shapes, stylized text, etc. are also images. Keep in mind that images don't have to be big and colorful to add beauty to your document.

Tip #2: Follow your brand guide. If your company has a brand guide, it likely has a section on using colors that "match" your brand. A simple change to an image — such as editing the color of an icon in the report — can tie the entire report together beautifully.



CHAPTER 6: COLORS

There's no rule that says your business report or document has to be boring in order to be professional. Using color is a fairly simple and quick technique that will give your reports the brilliance they deserve.

Where to Use Color

First, keep in mind that you don't need to go overboard. Just a touch of color here or there can add needed "oomph" to your output.

Fact #1: It's getting easier to build software... but harder to sell it.

However you define yourself — software provider, solution developer or OEM — there's no denying that:

- Companies with SaaS and mobile tools are upending established software businesses.
- The Internet is boosting the exposure of lower-quality challengers in your space, and
- Advances in development tools and languages mean smart competitors are not only quicker to market but are copycatting many of your coolest features.

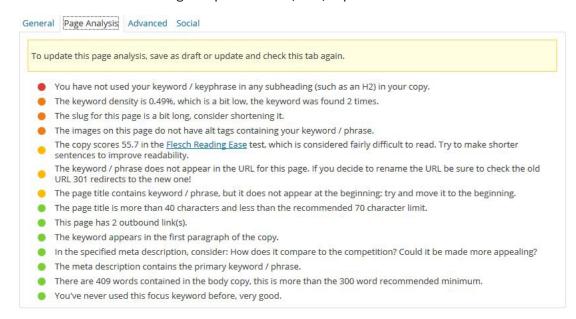
A report displaying touches of color.

Obvious places for color include table rows and chart data. You can make a document more impressive with background colors in headers and footers. And inserting a company logo is another great way to insert a splash that isn't overwhelming.

Take a look at non-traditional spots for color, too. Document broken into sections? Add subheads with colored text. A long list of bullet points? Set them off with colored bullets. A paragraph or two that could benefit from extra emphasis? Draw attention to it with a special text box with colored background.

Colors and Their Meanings

Check out the colors in this search engine optimization (SEO) report:





It's no coincidence that the designer chose red for warnings, amber for items that need attention, and green for acceptable practices, because most of the world associates these colors with the lights on the ubiquitous traffic signal. As any kindergartner will happily tell you, red means stop, yellow means caution, and green means go.

When using colors in a report, think about how to best represent the data through commonly associated colors. Along with the red/yellow/green example above, you might consider, say, red for losses in a financial report.

Less well-known are business color associations, but they can be just as powerful. Color psychologists – yes,

folks make entire careers out of this – have studied the effects of specific colors and how to best use them in business. Did you know that blue represents financial security and stability? We recommend "Your Brand's True Colors" in Entrepreneur magazine for more info.

Tips for Color Combinations

One of the biggest objections we hear from customers is along the lines of "I can't use colors in my reports because it's too difficult to get the color combinations right." Here is some guidance to help you get past this seemingly tough obstacle:

- 1. Use colors consistently throughout a document. Ask What colors say about your business. yourself if a particular color is being used to represent more than one thing in a single report. For example, did you use green to represent a competitor's market share in an internal document? Check to make sure you don't use that same green for text emphasizing recommended courses of action for your company.
- 2. Monochromes are your friend. You know those paint color sample strips on display in home improvement stores? They often are "monochromatic": colors of the same hue but with different tints, tones, and shades.



Monochromatic green

Monochromatic colors are great for indicating intensity – think shades on a weather map representing temperature – and for alternating row background colors in a table, among other things.

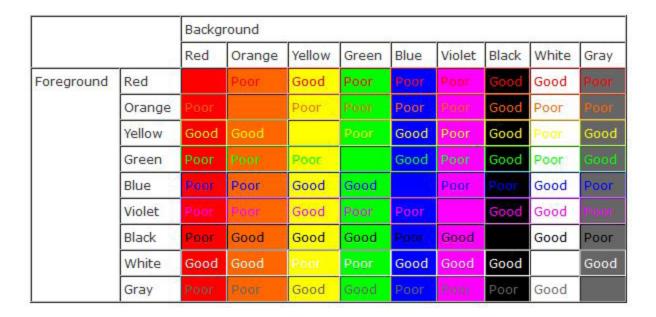
NOTE: Windward customers can find many monochromatic options for charts and tables right within Microsoft Office.

- 3. **Emphasize your company colors.** Your hard-working marketing team has researched colors that combine well and represent your brand. You can use these colors with confidence and get the added benefit of some subliminal messaging. (Did you notice that this paper includes blue heading text and green bullets that match the blue and green of the Windward logo?)
- 4. Be understated. Please, don't confuse "color" with "colorful." Bright yellows, pinks and oranges have their place, but perhaps not in your document. Adding color via muted tones can make your point without overwhelming the report viewer.





5. Use logical and readable combinations. If you're using colored text on colored backgrounds, keep this basic principle in mind: In general, the lighter the background and the darker the text, the better the contrast — and the easier it will be to read. The chart's background colors in this About.com "Contrasting Foreground and Background Colors" article are fairly dark, but it's a good general guide to readable color combinations:



Color and Print

If your report will be printed instead of read onscreen, remember that color can get expensive. You may want to cut down on that cost by using fewer colors in your document. One recommendation is to use colors that work well in various shades, such as darker and lighter blue, to give you more flexibility in design.

Also keep in mind that the color you see on the screen is not the exact color you will see in print. Clearly, part of the reason is that your monitor may distort colors. Another factor is that computer applications such as Microsoft Office use RGB (red, green, blue) to describe colors, but printing presses use CMYK (cyan, magenta, yellow, black) instead. There's a great explanation of RGB vs. CMYK colors on the Printernational website.

You may also run into the case of print designers referring to Pantone colors, which they use for ink printing. These don't match exactly match RGB or CMYK indexes. If you're planning to print and are working with a designer, you may want to check on the color index they're using and whether or not Pantone equivalents need to be estimated.

Final Notes on Color

Lastly, one piece of advice: **Don't rely solely on color to convey information.**



No matter how clear and consistent your document colors are, some readers are bound to ignore or misinterpret them. About 8-10% of the U.S. male population has some form of color blindness, so these readers may not be able to see the colors. Older readers tend to struggle with pale blue. Even those with "perfect" eyesight may be viewing your report as a black and white photocopy.

So our final recommendation is to use text and shapes to give context to any color information.

Text, tables, charts, layout, images, color – it seems like there's a lot you need to take into account when creating a stylish report. We have just one final item to add to the list: navigation.



CHAPTER 7: NAVIGATION

Navigation is the final touch that can turn your informative document into an informative *and* beautiful one. And the beautiful report is the one that is more likely to be shared, remembered and the cause of wild praise for the creator (that's you!).

Subheads/Section Titles

We mentioned this concept in our earlier chapter on text, but it's so important that it's worth mentioning again:

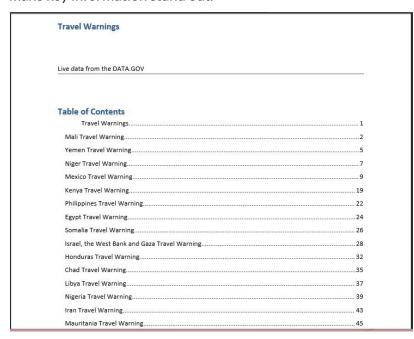
We read by scanning, so use visual clues to help your readers quickly grasp the layout content of a report.

This means separating out key sections with subheads or section titles, such as the four main ones (Subheads, Tables of Contents, Page Numbers and Appendices) you see in this chapter. You allow readers to quickly get a sense of the entire report and to easily navigate to the data or sections that most interest them.



Navigation aids help users quickly grasp a report's contents.

You can also use other "signposts" throughout your report, such as **bold text**, *italics*, • bullets and the like to make key information stand out.



A Windward sample report includes a table of contents for easy navigation.

Tables of Contents

Tables of contents are for books and not business reports, right?

Not so fast. We're big fans of tables of contents when used in appropriate cases, such as when the report is on the longer side or the reader might want to skim to see what it contains.

Our developers did this in Windward's sample report "<u>United States Travel</u> <u>Warnings</u>," which displays live data from the federal government.



The sample template's table of contents allows readers to instantly grasp which countries have alerts at any point in time and pinpoint the alerts that may directly affect them.

A table of contents is especially useful when the report is viewed online and the reader can click on each listing to jump directly to the content.

TIP: If you're designing your report in Microsoft Word, you can use subheads (Heading 1, Heading 2, Heading 3) to <u>automatically generate a table of contents</u>, and you can <u>change how "deep" the table of contents goes</u>.

Page Numbers

Page numbers resemble tables of contents in that it's easy to overlook including them when designing your document, but in some situations they can greatly improve that report.

Consider using page numbers for long documents, especially if the report is to be printed and shared in a large group meeting.

This way everyone can easily be on the same page – literally – when discussing the document.

Appendices (and a Note on Footnotes)

You've worked hard to collect meaningful data, but sometimes the best place for your data isn't actually in the report; it's after the report.

If that massive data table is more likely to overwhelm than to inform, look at placing it in an appendix and summarizing its contents within the main report body.

Appendices are also great places for supporting information that is too large for a footnote (did someone just mention footnotes? See <u>Enhance Your Reports with Footnotes and Linked Text Boxes</u>) and for information that is outside the scope of the report but still useful.



YOUR REPORT DESIGN TOOLBOX

We hope you've found these tips useful. As you put them to use, remember to let your template creation software do as much of the work for you as possible.

If you find that your current reporting software makes for a clunky design experience, we invite you to see how easy it is to design reports in Windward.

At Windward Studios we believe that reporting and document generation should be simple—not overly complex, tedious and technical. Your reports deserve to look as impressive as the information they contain.

About Windward

For businesses in document-intensive industries, Windward Studios is the document generation and reporting software company that empowers business professionals to create beautiful, professional reports.

Windward OEM and enterprise customers span over 70 countries and all industries, including financial services, insurance, energy healthcare, HR and technology. We've been delighting customers since 2004.

Our primary products are AutoTag, a design tool that creates custom templates with Microsoft Office, and a Java or .NET engine that connects to virtually any data source.

Windward delivers exceptional support, training, and documentation, with a 98% satisfaction rating from our customers. We're a Microsoft Gold Partner and an Oracle Gold Partner.

Why can't designing documents linked to your data sources be as easy as creating a Word document, Excel spreadsheet or PowerPoint deck?

It can. Windward creates software applications that simplify how businesses design and generate professional reports and documents. Windward provides a unique experience using Microsoft Office to format and edit report templates, and the sophisticated engine pulls data from multiple sources and merges that data into those documents. It's a hassle-free experience that can actually make generating reports fun.

For details about the technology, its applications, and how it has been successfully deployed to create beautiful reports, please visit the <u>Windward Studios website</u>.

Improve Your Software Product's Reporting and Document Generation

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