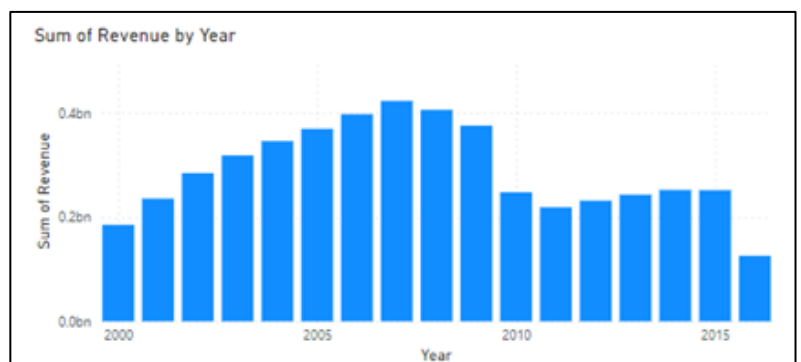# A picture is worth a thousand words...

We have all heard the saying, and for the most part it is so very true. If we use the fact that a "word" is defined as two bytes, then a picture that is worth a thousand words will most likely be a very low-resolution image at 2kb – not a lot of information in that! However, if I use that space to create a chart to display the sum totals of say ten million rows of sales data, I can convey much more than a "thousand words."

We can see the "pattern" in the data, the trends, the minimums, and maximums are all quite evident and easy for our human mind to understand. Our brain is wired to see structure and logic, it is an evolution of our most basic instinct. For example, if we see a pattern of big sharp pointy teeth, we are conditioned to make a very quick decision on whether to run or stay and fight. This is often referred

to as the "fight or flight" response. I have been told it has now known as the "fight, flight or freeze" response - either way, the resulting action is based on the pattern matching routines hardwired into us. So, we have been doing business intelligence ever since the time of being chased by Sabre toothed tigers, we have had plenty of practice.

Psychologists have put forward a few theories on the way we perceive the world, one that comes to mind (pardon the pun) is that which is known as the "Gestalt Principles of Visual Perception." The Gestalt principles are an attempt to explain how the human brain creates structure and logic from patterns of what we see. An example of this is creating animals and other images from the outlines of clouds in the sky, (some say that this could explain the existence of dragons in medieval times, and the combination of highly active imaginations I might add) – I often find inspiration like this by watching the sky with my grandchildren.

Take the following picture as an example:
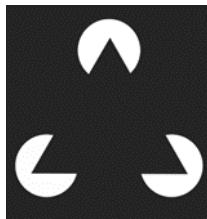
Now if I were looking at a dashboard, I would immediately recognize a set of three pie charts (or Pac-men) – but when you look closer you can also make out a large triangle, some people will focus on the triangle first others on the pie-charts. It is quite important to recognize that there are those of us that perceive the world slightly differently and we need to account for all these different perspectives when we create a visualization from business data. Here is another example,
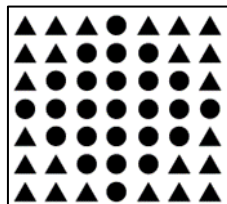
Now if I am in the business of selling triangles and squares, this visualization will take some time to absorb, and hence take a lot longer to make that all important business decision. A more effective way of relaying this information is to provide a summary, just like we did with the chart for the ten million rows of data at the beginning. Like so,
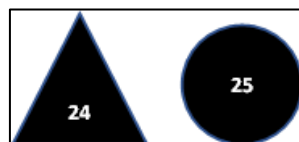
Not as fancy, some might even say boring, but it conveys the message quickly and easily, which is the main idea behind the concept of "Business Intelligence." This type of visual perception has been used a great deal in our development of Business Intelligence, (now Analytics), i.e. the process of turning data into information, or a picture. For our last example look at the following "picture" of dots, to our minds eye it is a dog, (a Dalmatian), because we need to make sense of it and we know what a Dalmatian looks like from our past experience, but really it is just a series of dots.

This dog is called SPOT, and he fits in well with this ideology because he is the Single Point Of Truth, which is what we strive to use to create our pictures for Business Intelligence.

When we are building our pictures to convey business information it is quite important to keep these Gestalt principles in mind (no excuse for the pun now). We all love a good dashboard, but we need to be careful placing different type of graphical elements together as it may detract from our intended meaning or worse even convey the wrong message. We should consider using a variety of design elements like colour and organization to clearly show what story we are trying to tell with our data, because as any good data analyst will tell you it is all about transforming the data into information to provide knowledge of the business which in turn becomes the wisdom to make the best business decisions.

If you want to know more about the art of visualization and how the Gestalt Principles can be used to your advantage to create spectacular reports why not get in touch with one of our ever so friendly Fujitsu Data & AI specialists.

(Nb: No animals were harmed in the creation of this article.)

Contact

Fujitsu Data & AI

+61 3 9924 3000