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Power BI: Reporting and Dashboards Taken to the Next Level

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BUSINESS INTELLIGENCE AT YOUR FINGERTIPS

There's a certain irony about having something "at your fingertips." While the corporate jargon implies that it's always accessible and easy to use, let's be honest, how much control do you really have on something with just your fingertips?

With that said, let's get it out of the way—Power BI is business intelligence at your fingertips; at least, those fingertips that are gently balanced on your computer mouse. Those fingertips that click and drag and point at things on a screen. Or the ones that tap on your phone or tablet touch screen. If a seven-year-old can use it to build a reporting dashboard, I'm pretty sure that we can justifiably say that it's easy to access and easy to use.

This is the third and final part of the series on the Power BI suite of tools (the first two articles on Power Pivot and Power Query were in the last two newsletters, available online).

WHAT IS POWER BI?

BI stands for business intelligence and Power BI is a business intelligence tool designed to quickly take data from a range of sources, rearrange and transform the data if necessary, generate reports and distribute them to stakeholders. Historically, the challenge to do this effectively has been in overcoming the wide range of sources, data transformation tools and reporting capabilities that businesses have had at their disposal. (See Figure 1 below)

MONTH-END REPORTING

Consider a traditional business reporting framework: business data is stored across several SQL databases. These are either worked on by IT teams to create a single output to be exported into Excel or several files are exported and combined in Excel instead. There may even be an interim Access database to perform transformation and linking in between.

Once in Excel, an analyst will run calculations over the data, arrange it into tables and export these back into Hyperion or some other cube software, which may have a bespoke or other third-party add-on interface that allows management to look at the underlying report numbers.

Alternatively, charts are created in Excel that are then saved as PDFs, which are either emailed to management, or printed and put into a reporting pack, completing the gruelling two-week
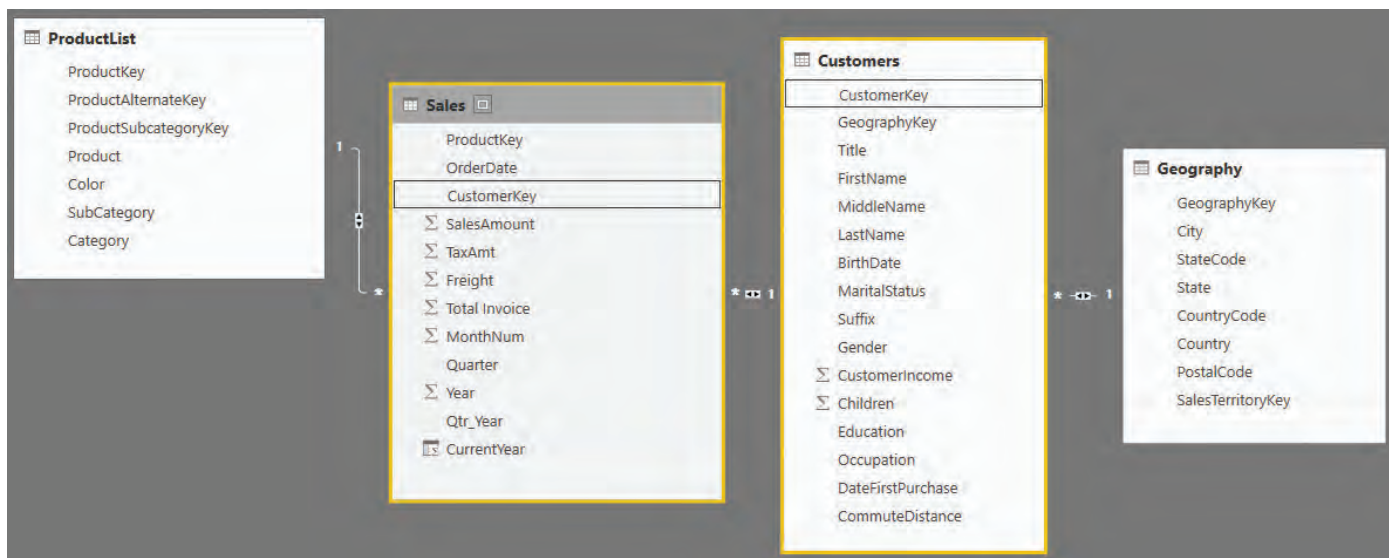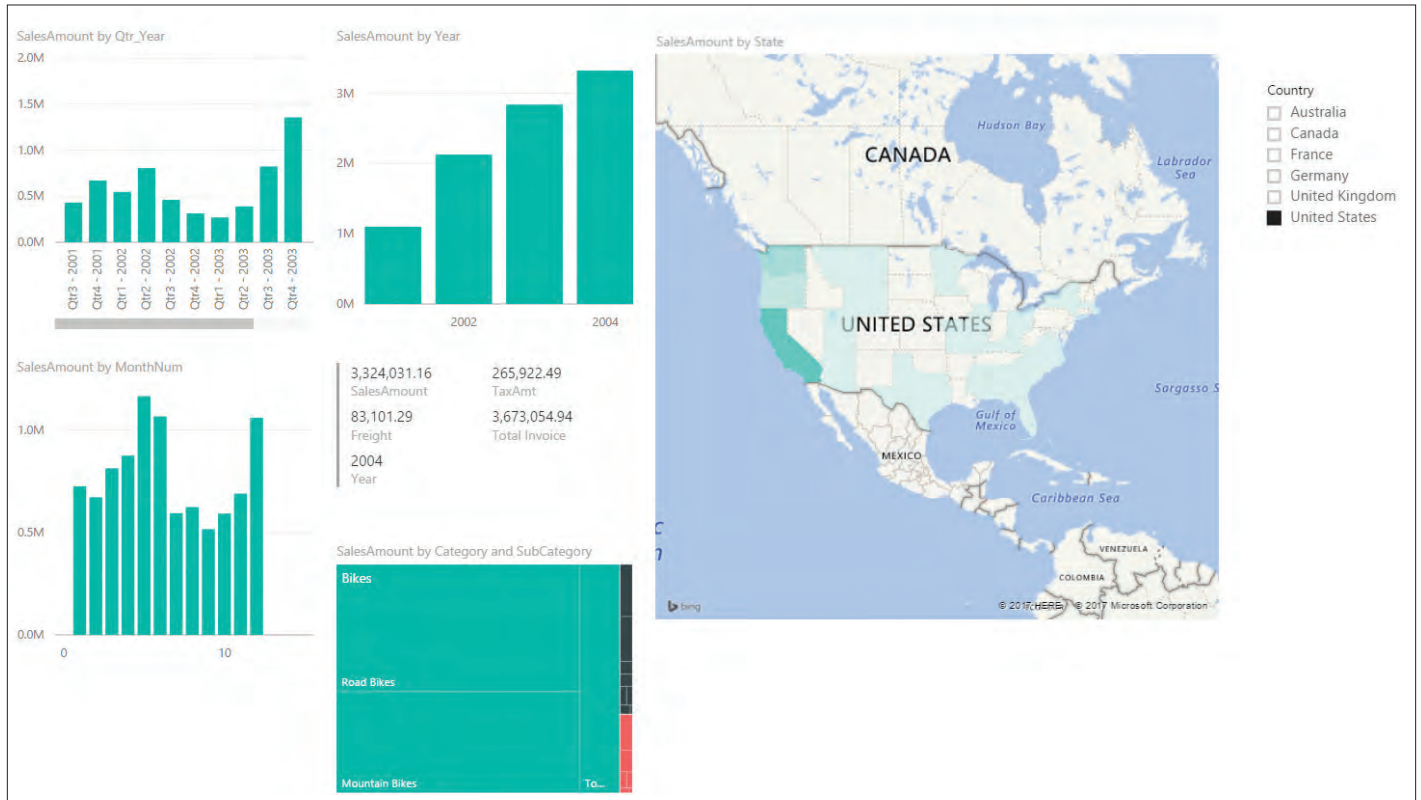
Figure 1

Figure 2

reporting process. Finally, this reporting process is repeated two weeks later, at the start of the next month.

KISS 2: KEEPING IT STREAMLINED, SMART

The challenge to streamline reporting processes is generally focused around removing the human interaction around reporting. By minimizing what people have to do, you're improving not only the speed and timeliness of producing the reports, but you're also reducing the risk of errors. Generally speaking, the human parts of the reporting process have always been around getting data from A to B (moving data between systems) and processing dynamic and changing datasets using static spreadsheets that need to be updated and adjusted each month as new data comes in.

Figure 3
Quick Insights for Clean Power BI Data

Now, how does Power BI help this process? Well, firstly, it doesn't need the specialized IT skills that database work usually requires to extract and/or combine the data you need. Secondly, by establishing a direct connection that can be scheduled to refresh, we limit the need to "export to Excel" that slows down the process. Finally, by having calculations and reports that automatically scale to size and don't require people-interaction to create or distribute, this drastically reduces the time from data being available to information being consumed by stake-holders. In fact, due to the real-time information flow, there is nothing stopping businesses from developing on-demand dashboards, rather than historical monthly dashboards. (See Figure 2, pg 5)

CLOUD ANALYTICS

The bonus to all of this is the ability to load your data up to PowerBI.com and let Microsoft's servers at it. There are two game-changing tools Power BI has at its disposal: the first is Quick Insights and the second is Q&A.
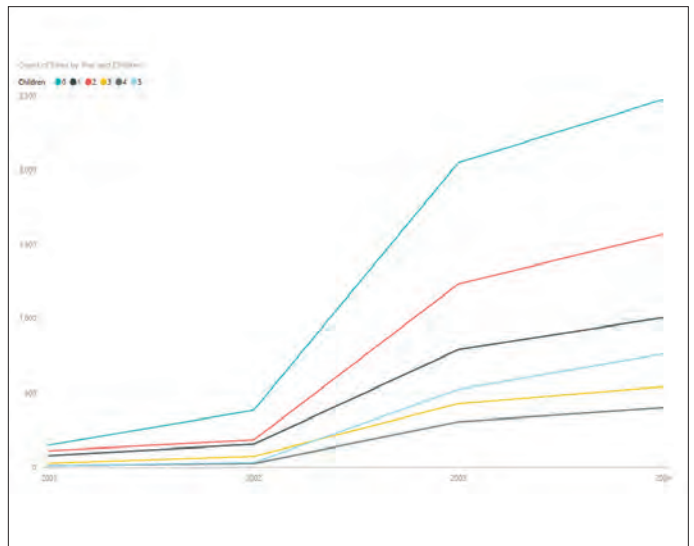
Quick Insights is an easy way to scan your data for insights and automatically displays charts and dashboard outputs. It can search for major factors, category outliers, time series outliers, determine trends and seasonality, and generally detect correlations between fields in your dataset. Once these have been generated, it is a point-and-click matter to upload these to a dashboard for ongoing monitoring and reference. (See Figure 3, pg 5)
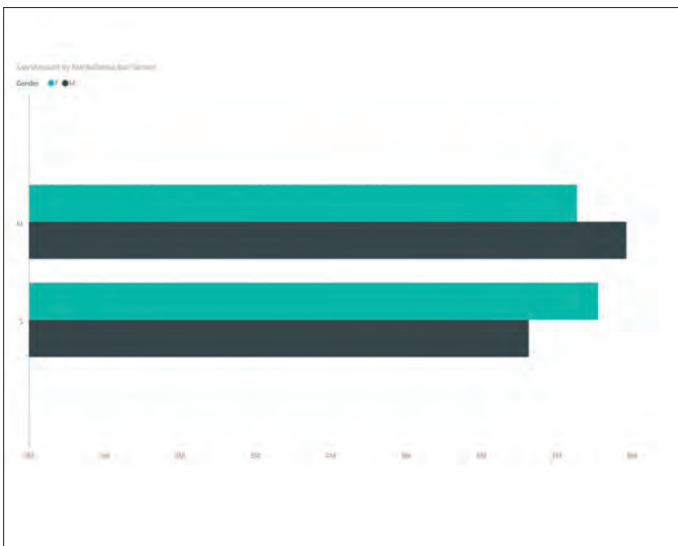
Figure 4
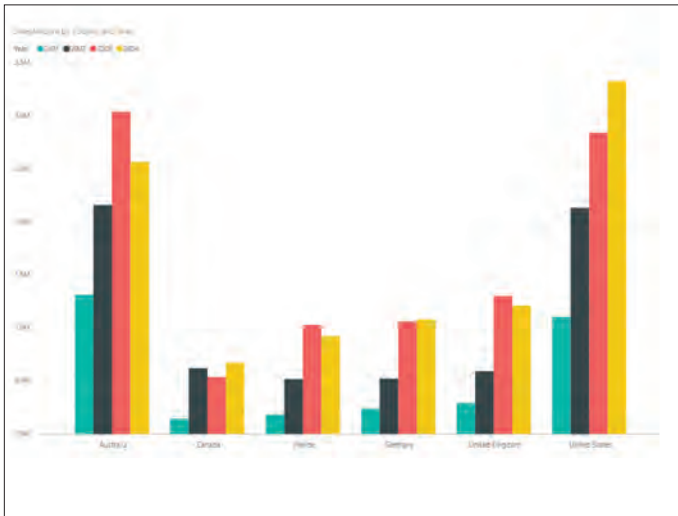
The other tool that people are raving about is Q&A, Power BI's feature to take in plain-language questions and respond
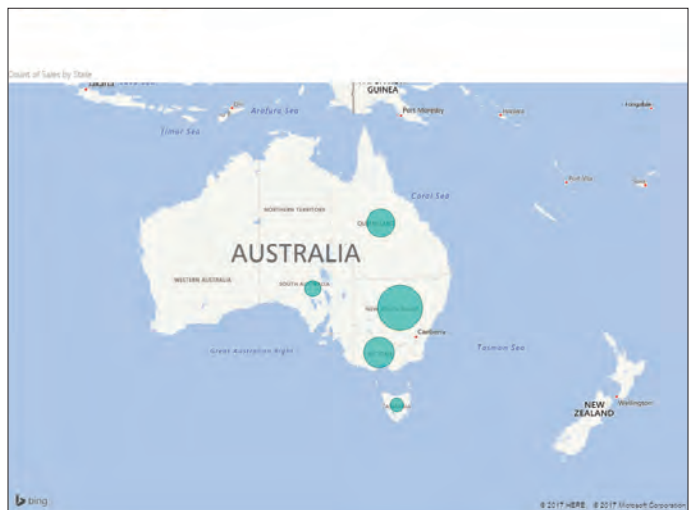
Figure 5

with charts and datasets that answer the questions for you. Here, the power goes as far as your data and your imagination can take you. Let's start simple with our sample dataset—let's see what sales are, by country, over time (sorted by year). (See Figure 4, above)

Figure 6

Do you have some customer data on your hands? Let's take a look at total sales by gender and marital status. (See Figure 5)

How about the number of sales in Australia, broken down by the number of children in the household? (See Figure 6)

Figure 7

Staying on the Australian front, what if we want to map sales in Australia by state? (See Figure 7)

> The other benefit of Power BI is the ability to access your dashboards and reporting across a range of devices.

There are businesses out there that are now using Power BI to generate all of their reporting and dashboard solutions. Rather than exporting the data to Excel and needing to present the data nicely in tables and rows, simply asking nicely will get the answers that you want.

DASHBOARDS ANYWHERE AND ANY WAY YOU LIKE

Not only can you create these great dashboards and distribute them to users, there are a number of ways to enhance the value of these. The first is row-level security; you can restrict data access to users by writing a query script that will allow only certain rows to be accessible across specified assigned user groups. You might use this to restrict a team manager to access only data and KPIs relating to his or her team, for example.

The other benefit of Power BI is the ability to access your dashboards and reporting across a range of devices. While you may use Power BI Desktop to view your reports, or log into Power BI (online) to see dashboards, you can also download the Power BI Mobile app on your iPhone, Android or even your Windows device.

HOW DO WE GET IT?

At the time of writing, there are two main options to get access to Power BI. The simplest and cheapest approach is to sign up to the Power BI plan, which gives you access to 1GB of data capacity, and schedule refreshes on a daily basis. By cheapest, at the moment, I actually mean absolutely free. The only catch is that anyone with whom you share your dashboards will also need to have a Microsoft account as well.

The Power BI Pro plan is currently US$9.99 per user per month. This enhances your data capacity to 10GB per user, gives you the ability to connect to your live data sources, and allows you to refresh your dataset up to eight times per day. Although this gives you an enhanced ability to use Power BI, any dashboards you create will not be able to be shared with users who do not also have a Power BI Pro plan, so you can't get away with having a single Pro license doing the grunt work and distributing insights to an entire company using the free licenses.

FINAL THOUGHTS

People keep predicting the death of Excel. Power BI is perhaps the closest thing that can lead to a decreased reliance on Excel, with connections directly to source databases negating the need to have Export to Excel as the intermediary step for reporting. However, Power BI is continuing to build up integration with Excel, including the ability to publish Excel data sets to Power BI directly from Excel 2016. There is also the likelihood that, as the Power Pivot and Power Query tools within Power BI Desktop are better understood, people will be more likely to use the same tools within Excel.

Finally, it's important to remember—what are all our tools actually designed for? Excel was not necessarily intended to be a monthly reporting tool. Excel is at its best when it's used as an agile tool that allows for dynamic and ad-hoc analysis. Tools like Power BI that can reduce the time taken to complete the reporting cycle will allow analysts to move away from day-to-day mundane tasks, giving them more time and freedom to do real analysis. ∎

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