



**Do more with  
Microsoft BI  
– for less.**



## Some Excel BI myths debunked

When evaluating BI tools, many of our customers are hit by marketing messages about the limitations and woes of Excel. One white paper we were pointed to is Tableau’s ‘Excel: Great hammer, lousy screwdriver’. It contains 5 key points concerning Excel limitations for BI which we’ll take a look at below, along with a few others which we hear frequently.

### **“Don’t throw the baby out with the bathwater”**

We fully appreciate that Excel isn’t perfect for all needs, but XLCubed chooses to address the weaknesses and embrace the very significant strengths, rather than throwing everything away.

XLCubed helps users get most value and benefit from Microsoft’s Analysis Services platform by taking the best of Excel, and extending that with an optimised query and reporting environment which lets them do more, and do it more quickly. Excel becomes a very flexible presentation layer, and Analysis Services removes the scalability and data integrity issues.

Let’s take a look at some of the key Excel objections raised.

## Myth #1: Limited data volumes

*“Excel only handles 1 million rows – that’s not nearly enough for my business”*

We see Excel as a presentation layer, not as a database. While Power Pivot muddies that argument a little, very few people see Power Pivot models as a central repository for Corporate data. XLCubed is a client front end tool for SQL Server Analysis Services (which laughs at 1 million rows). 1 million new rows per day over several years is starting to ramp up the volume, but the technology is designed to scale, and to scale on significantly less expensive hardware than in-memory technologies (of which Analysis Services 2012 of course now has its own player with xVelocity).

So while Excel and hence XLCubed can only display 1 million rows at a time, the underlying cubes can run to billions of rows. XLCubed gives the user flexible and fast filtering and ranking capabilities, simple ways to leverage the cube hierarchies, and effective data visualisation techniques to let you work with these large volumes of data.

Aside from that, if someone wants a report (a report!) which is a million rows long, our first question is always “and can you show me how you use that report?” If you print it you’ll get around 25,000 pages of deforestation. By comparison Tolstoy’s War and Peace is around 1,400 pages in most print editions... We believe there is a lot to be said for a combination of top-down reporting, and ranking and filtering to make that type of data volume useful rather than burdensome.

So in summary, when you’re using XLCubed and the Microsoft BI stack, more than a million rows of data is really not a limitation (though if you put a million rows in the report you’re creating your own limitation in terms of its usefulness).

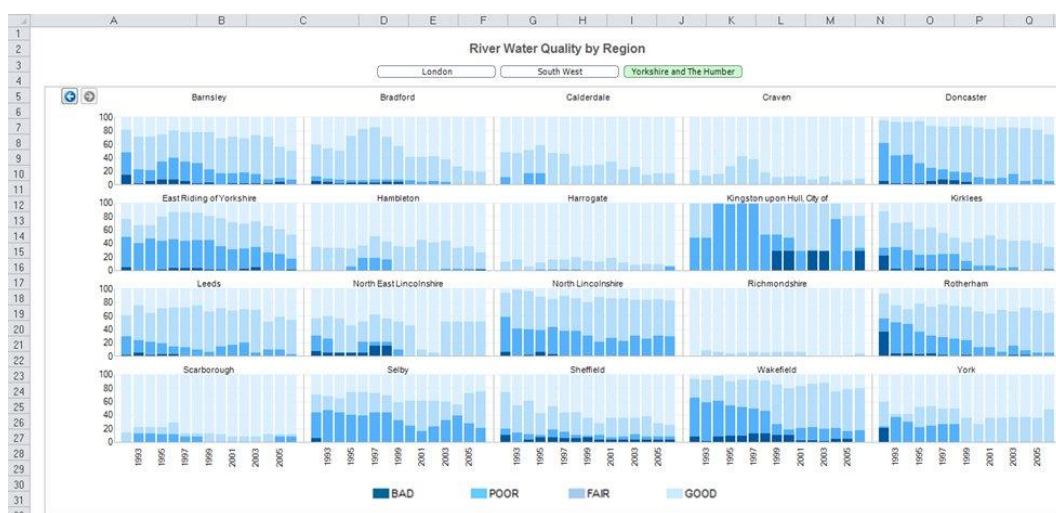
## Myth #2: Inflexible Charting

Continuing on common criticisms of Excel focused BI, let's take a look at charting.

“Excel charts are static, inflexible and you need to start from scratch if you want to change them.”

The flipside is that everyone knows how to use them, and in reality many charts in business reporting are in effect static – the numbers being charted change, but the chart layout and number of elements being charted stays the same.

Of course there are cases when charts can vary considerably with the data, or perhaps you would like to be able to drill into more detail on the chart, or to quickly display multiple charts split by one variable. Excel charting can't handle those scenarios, but XLCubed caters for it through Small Multiples. The example below depicts river water quality in different regions of England. It could be built in native Excel, but would be a painful and time consuming process. With XLCubed it's a drag and drop process in our small multiple designer.



If the number of regions being reported changes, the number of charts being plotted will automatically stay in sync, and there is a direct data connection rather than having to maintain Excel ranges etc.

Sometimes with charting small is beautiful. Perhaps we just want the key numbers with a Sparkline alongside, or a bullet graph or bar chart to display actual to target. Native Excel 2010 and 2013 can handle the Sparkline, but not the ability to then drill the report and have the Sparklines extend, and there is also the issue of needing to bring the data itself into Excel before charting it.

XLCubed Grids can contain dynamic in-cell charts which build the charts as part of the query, and as such are drillable and remove the need to maintain a data range in Excel as shown below.

|             |           |
|-------------|-----------|
| Departments | Corporate |
| Date Fiscal | Dec-12    |

| Accounts | Scenario                | p12 Months | Actual   | Budget   | -20% | 0% | 20% | 40% |
|----------|-------------------------|------------|----------|----------|------|----|-----|-----|
| -        | Operating Expenses      |            | £597,126 | £575,860 |      |    |     |     |
| +        | Labor Expenses          |            | £462,658 | £456,680 |      |    |     |     |
| +        | Travel Expenses         |            | £15,099  | £14,570  |      |    |     |     |
| +        | Marketing               |            | £2,779   | £3,520   |      |    |     |     |
| +        | Telephone and Utilities |            | £20,903  | £20,570  |      |    |     |     |
| +        | Depreciation            |            | £28,474  | £19,050  |      |    |     |     |
|          | Commissions             |            | £51,282  | £45,900  |      |    |     |     |
|          | Office Supplies         |            | £3,531   | £3,990   |      |    |     |     |
|          | Professional Services   |            | £2,355   | £2,180   |      |    |     |     |
|          | Other Expenses          |            | £2,303   | £2,250   |      |    |     |     |
|          | Rent                    |            | £7,742   | £7,150   |      |    |     |     |

|             |           |
|-------------|-----------|
| Departments | Corporate |
| Date Fiscal | Dec-12    |

| Accounts | Scenario                 | p12 Months | Actual   | Budget   | -20% | 0% | 20% | 40% |
|----------|--------------------------|------------|----------|----------|------|----|-----|-----|
| -        | Operating Expenses       |            | £597,126 | £575,860 |      |    |     |     |
| +        | Labor Expenses           |            | £462,658 | £456,680 |      |    |     |     |
| +        | Travel Expenses          |            | £15,099  | £14,570  |      |    |     |     |
| +        | Marketing                |            | £2,779   | £3,520   |      |    |     |     |
| +        | Telephone and Utilities  |            | £20,903  | £20,570  |      |    |     |     |
| -        | Depreciation             |            | £28,474  | £19,050  |      |    |     |     |
|          | Building Leasehold       |            | £8,851   | £8,350   |      |    |     |     |
|          | Vehicles                 |            | £5,477   | £5,220   |      |    |     |     |
|          | Equipment                |            | £549     | £550     |      |    |     |     |
|          | Furniture and Fixtures   |            | £1,920   | £1,820   |      |    |     |     |
|          | Other Assets             |            | £1,655   | £1,580   |      |    |     |     |
|          | Amortization of Goodwill |            | £10,022  | £1,530   |      |    |     |     |
|          | Commissions              |            | £51,282  | £45,900  |      |    |     |     |
|          | Office Supplies          |            | £3,531   | £3,990   |      |    |     |     |
|          | Professional Services    |            | £2,355   | £2,180   |      |    |     |     |
|          | Other Expenses           |            | £2,303   | £2,250   |      |    |     |     |
|          | Rent                     |            | £7,742   | £7,150   |      |    |     |     |

So XLCubed brings the type of dynamic charting being described to Excel, and provides a simple web and mobile deployment option.

## Myth #3: Limited and difficult to Maintain Dashboards

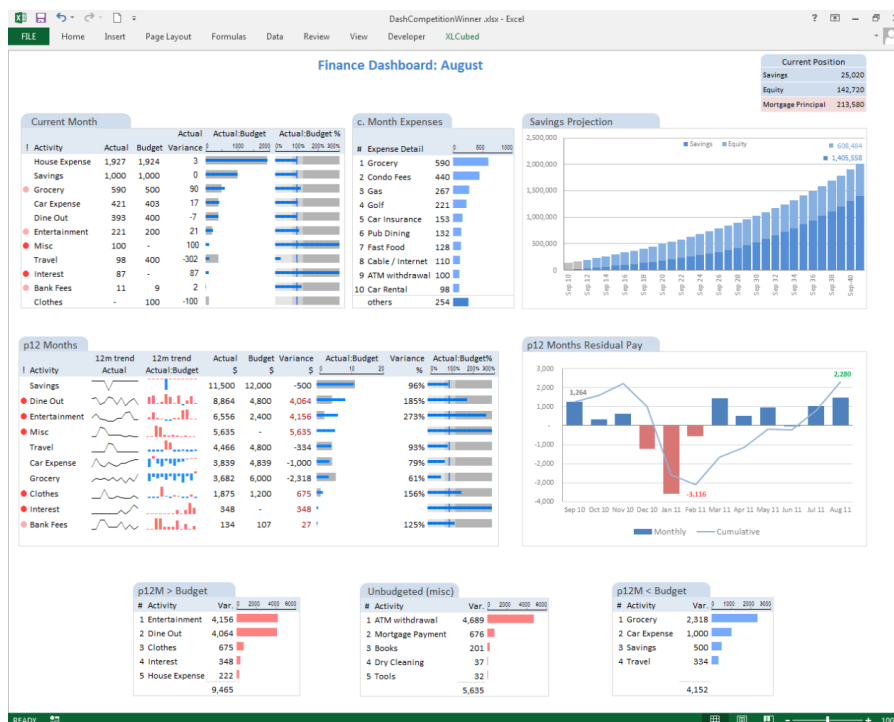
Third on our list of common criticisms of Excel focused BI, is the limitations of Excel Dashboards.

“Excel dashboards are ugly, limited, and inflexible...”

It’s possible to build a truly awful dashboard in pretty much any dashboard tool. No tool is magic, ignoring the Doctor’s Sonic Screwdriver of course, and if you make bad design choices when building a dashboard the end result can be a mess. Similarly you can build a pretty decent dashboard in most tools. So even in base Excel with no additional software you can build a dashboard which looks good, and many people do.

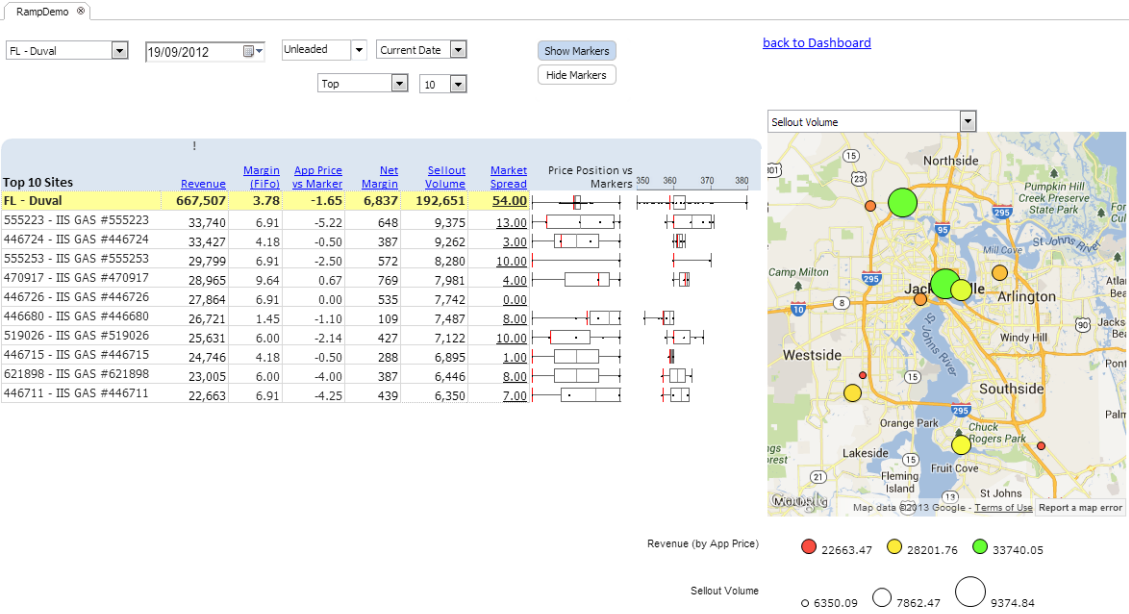
In native Excel there are undoubtedly some limitations around the available chart types, and the handling of dynamic charting. However you do have the benefit of very fine grain control over the layout and positioning of tables and charts. The camera object also lets you break out of the fixed column width which is sometimes seen as a limitation.

XLCubed extends the core charts available in Excel with a rich library of in-cell charts, small multiple/trellis charting, mapping and TreeMaps. It means you can deliver more in Excel visually, rather than have to leave the environment totally. Dashboards mean different things to different people, for some a dashboard can be a table with a chart, but most contain significantly more than that. The example below uses a mixture of native Excel charting and XLCubed in-cell charts.



It's based around a sample personal finance data set, and brings a lot of information together in hopefully a visually appealing and effective way. If you want to build a highly formatted and relatively densely populated dashboard like this, it's going to take more than a few minutes in any tool, no matter what the marketing says. In reality you'll most likely struggle to get the exact layout in a widget based dashboard tool as you lose some of the fine-grain control over table and chart sizing which you have in Excel.

Dashboards can be fundamentally simpler than the first example, but require more specialised chart types like the example below. In this case it's a dashboard built in XLCubed Excel Edition and published to the Web, looking at fuel pricing for a downstream oil company (fictitious data). It's a ranked table of data for a selected county in Florida, and is then using an extended boxplot to display the price distribution in the market, and a map to show the Revenues and Volumes geographically.



One major issue with Excel dashboards can be the maintenance. If it's an Excel-only dashboard, bringing in the new data, and checking all the links can be a time consuming process. In an XLCubed environment the cube is updated behind the scenes and the next time you open the report you'll get the updated data, the ongoing burden of maintenance is largely removed.

So in summary, Excel when well used, is a very good dashboard tool, and XLCubed extends the capability further still in terms of available chart types, flexibility and maintenance.

## Myth #4: no Maps

The next commonly listed criticism of Excel BI is the lack of integrated geospatial mapping. While for some reports maps remain an irrelevance, for others they can make a huge difference, with targeted advertising or awareness campaigns being the most obvious. While you can now use mapping in Power View, for most corporate office users that isn't an option yet. XLCubed brings both point and shape based mapping to any version of Excel.

The example report below mixes mapping with the Small Multiples concept. The approach means you can have multiple identical maps which vary only by the time period. This helps you see change over time regionally, and also to make comparisons between the direction and pace of change by region.



You can zoom in and pan the maps as needed and they'll stay in sync, and individual points on the map can also be set up as report selectors which update the rest of the report in sync.

So, mapping in Excel? – Absolutely, right now and in any version.

## Myth #5: Lack of Real-time data exploration

The argument is often made that Excel is too inflexible to answer spur of the moment questions quickly and effectively. The scenario given is that you're in a meeting with your Excel workbook, and someone asks a related question not currently accounted for. How embarrassing to have to look at your back up folder of printed Excel workbooks... Really? It may escape the attention of some, but Excel is actually an electronic product too so as a first point you wouldn't need to dust off an enormous binder of printed reports.

That aside, the overall argument has some merit in specific cases. If Excel is acting as both the datastore and the presentation tool you have a problem. If the data you need isn't in the workbook, you're bang out of luck.

There are two key requirements to address the issue in Excel. Firstly the data needs to be stored outside the workbook; in the case of XLCubed that's in AS cubes or tabular models. This means when the data isn't currently visible in the workbook it can still easily be queried and brought into play.

Secondly, while it's a huge step having the data in a cube, that in itself isn't enough. You need to be able to get it out quickly, easily and flexibly and to display it as information rather than just data.

There are significant limitations with pivot tables when used to report on a cube and XLCubed addresses these while adding a lot more capability on top. The additional data you need to answer the question is readily available, and you have tools to do something meaningful with it using slice and dice tabular reporting, interactive charting and straightforward user calculations.

So when someone asks the question in meeting, you can explore it interactively and on the spot. And in Excel.



## Myth #6: Excel based BI can't handle report sharing and distribution

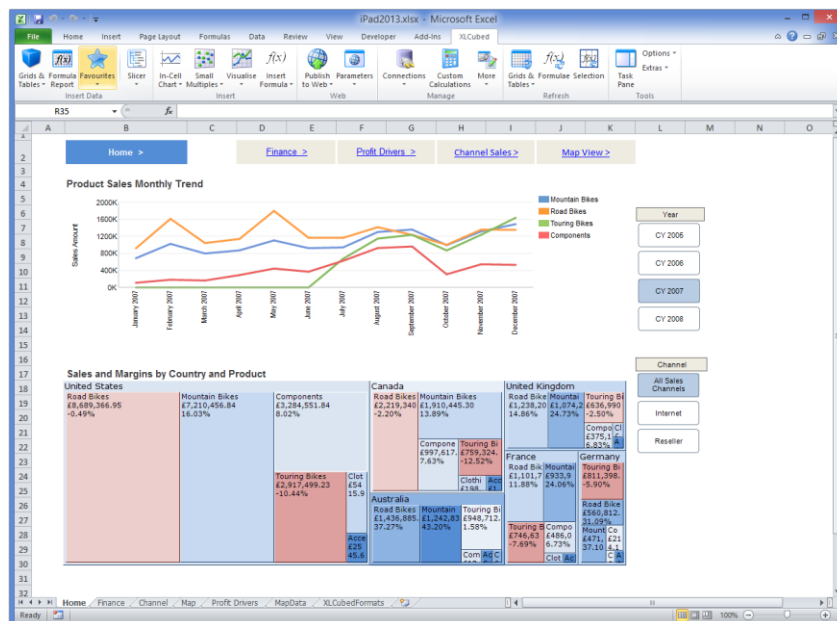
Let's continue our theme on the myths which get propagated about Excel based BI. The next argument is that Excel BI cannot handle widespread report sharing and distribution. Base case we actually agree with this one, and that's why we invested in developing XLCubed Web Edition specifically to address it.

Understandably, sharing an Excel workbook around hundreds or thousands of users is not something which many companies will consider. A web based distribution approach is much lighter and easier to manage. The drawback is that most web based report design environments lack the flexibility and latent user skill base of Excel. XLCubed provides a simple way to push data-connected reports developed in Excel to a portal based environment, where report consumers don't require any software installed locally, other than a browser. The reports can also be accessed interactively through our native mobile apps for Apple, Android and Windows phone 8.

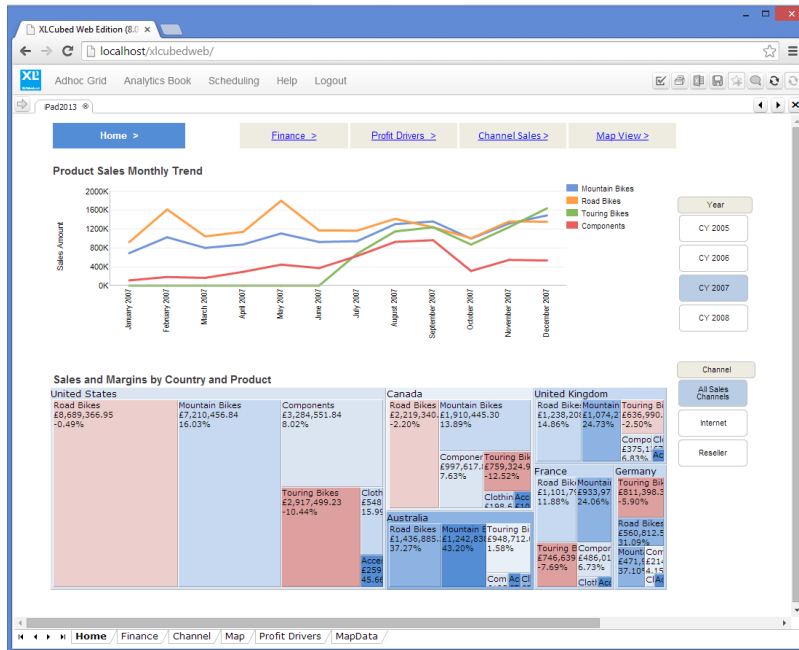
XLCubed Web is self-sufficient and does not require SharePoint. For customers with SharePoint and keen to retain it as a centralised environment – no problem, XLCubed Web can integrate so tightly within SharePoint the end users won't even know it's there.

Excel based users can become web and mobile report designers in minutes. XLCubed uses Excel as a key part of the BI solution rather than as the entire BI solution and it's that which allows us to address the sharing problem, along with the other myths we have identified in this blog series.

From any version of Excel:



...to web...



...to mobile.

