2017

Qlik Sense vs Power BI, Tableau & Quick Sight

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BI GOLD

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Qlik Sense vs Power BI, Tableau & QuickSight

Please note.

1. The BI sector is changing quickly. So a limited product today might be great tomorrow. But I think the cloud future could be fought out between Power BI (Microsoft), maybe Quick-Sight (Amazon) and Qlik-Sense (Qlik) if and only if Qlik get their act together. Their marketing will have to improve.

2. These are my views after spending only a limited time evaluating these products (a few days for Tableau although a lot more on Power BI). More time is needed if a detailed comparison is done. This is a guide only and some of these comments / ratings may not be correct.

3. This evaluation was done mainly for a single user with a small degree of complexity. I have installed and used Qlik View (not Sense) in a server multi user environment but excluded this from any comparison. I have set up and tested the free cloud version of Qlik Sense and Power BI. Both were very impressive in this respect but once again was not included when comparing to other BI solutions. My evaluation was based mainly on a small demo of around 400,000 rows and a small number of linked or appended tables. I did not evaluate the pros and cons of a larger multi user environment. And I mainly focused on the basic requirements for BI. Mainly for a user to load, cleanse and transform data as required and to then analysis this data in the standard products.

Update 20 Nov 2016

I have just had a quick look at Quick-Sight. It has only just been released but after a year waiting it's a disappointment. It's closest to Tableau in its approach & construction. But it includes all the weakness of Tableau but even more so. The joining of data is limited. I couldn't even join tables from the same Excel spreadsheet. The expressions are limited. And the sheets are uninspiring and limited. It's a basic product with nothing at all standing out. Amazon will need to massively improve almost everything to compete with Tableau, Sense and Power BI.

Here's another viewpoint

http://searchaws.techtarget.com/news/450403234/QuickSight-BI-capabilities-limited-but-big-potential-exists

http://www.cloudpro.co.uk/leadership/5413/amazons-new-in-memory-engine-spice-will-transform-your-analytics

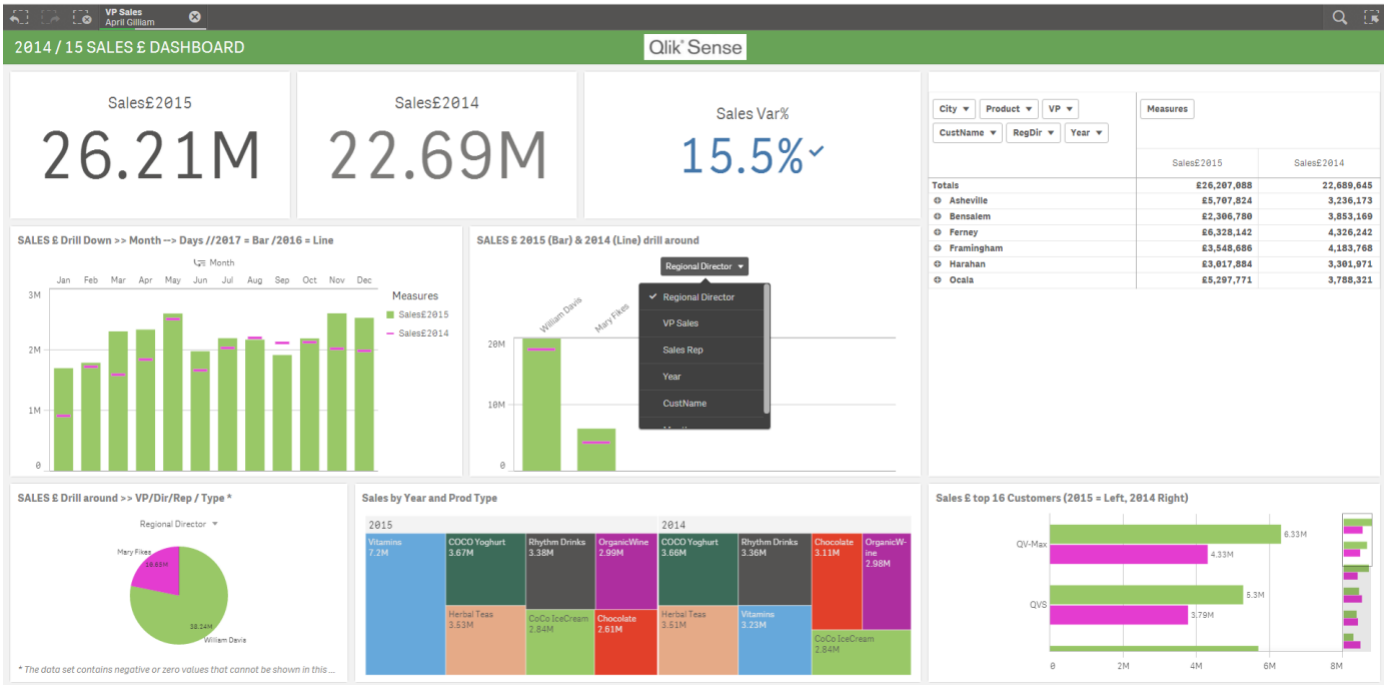
http://www.allthingsdistributed.com/2016/11/amazon-quicksight-generally-available.html

Spice might be an option though. Where cloud based BI tools use data tables uploaded to (or loaded into) Spice to load into their BI solution. For example Qlik Sense could (maybe) load directly from Spice rather than using QVD files. Or Tableau likewise (as long as Tableau could join these Spice tables). But otherwise I think it's too little too late. The gap between Sense and Power BI is just too great. Surely no one who compares Power BI or Sense would buy Quick-Sight?

RATINGS

	Qlik Sense	Power BI	Tableau
Data Load & Transformation.	Excellent	Very good	see report
Measures	Excellent	Very Good	Good
Filtering / Drill into.	Excellent	OK-confusing	Good
Searching	Excellent	Adequate	Good
Page layout	Very good	Very Good	Adequate
General.			
Cloud Free	Yes share 5	Yes for 1	No
In house server version	Yes	Yes (6/17)	Yes
Free demo include cloud	Yes	Yes	Time limited
Paid for cloud version	Yes.	Yes.	Yes.
Ease of learning	see below	OK	see below
Documentation	Good	Good	see below
Videos	Very Good	Very Good	see below
Adjusting diff screen size	Excellent	Good	N/A
Data Load Time	Very Fast	Bit slow	Bit Slow
Print Export	Good	Being dev	Adequate
Incremental Load	Excellent	Good	N/A
Fit screen sizes	Very Good	Good	Adequate
Load data only once	Yes (QVD)	see below	No?
Null handling	Difficult	Good	Good
Pivot Table	Very good+	Matrix. Good	Adequate
Drill Down.	Very good	Very Good	Adequate
Drill Around.	Excellent	Adequate	Unsure
Set Up Time.	Quick	Quick	Quick

SCREEN SHOTS



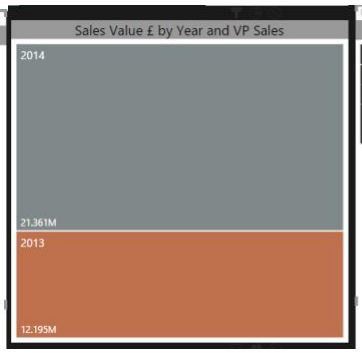
Or see page 24 – 28. Chart Colour Options Sense vs Power BI

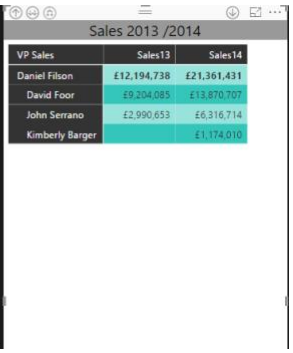
Power BI

Or see pages 22-23. The new Matrix & 2 ways of drilling down and viewing

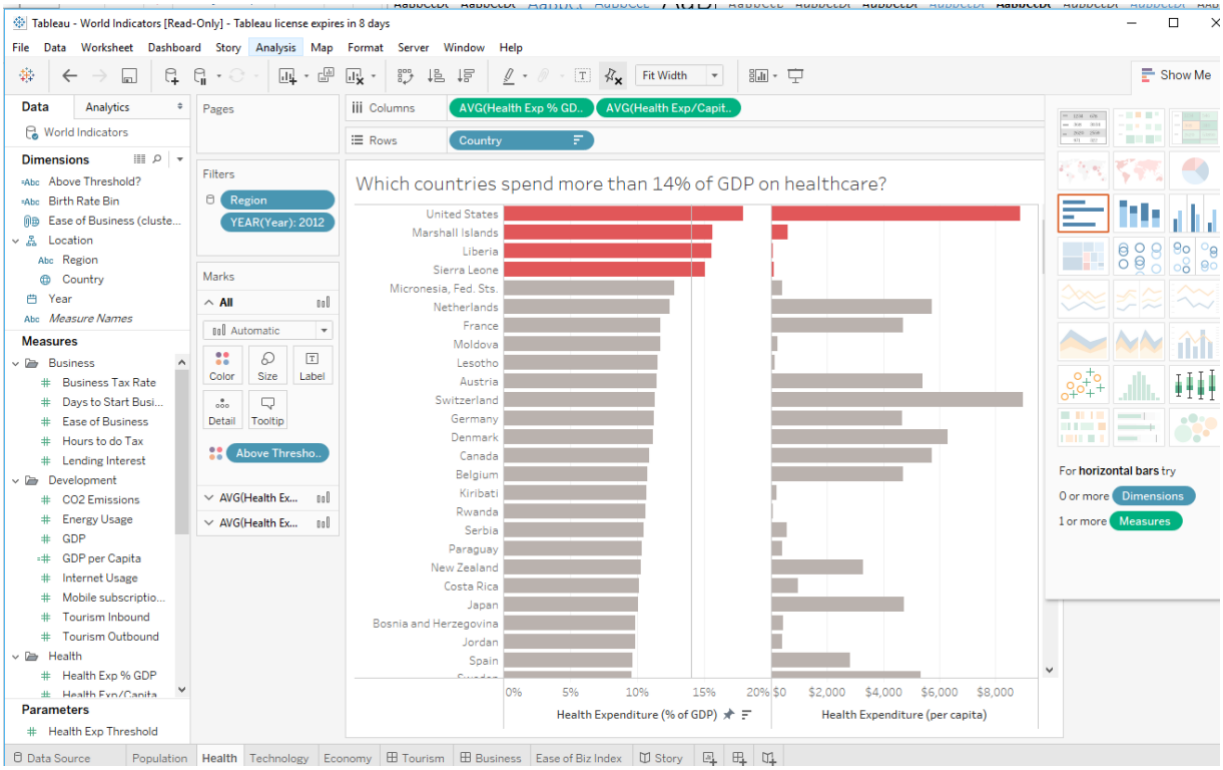
Option 1

Option 2



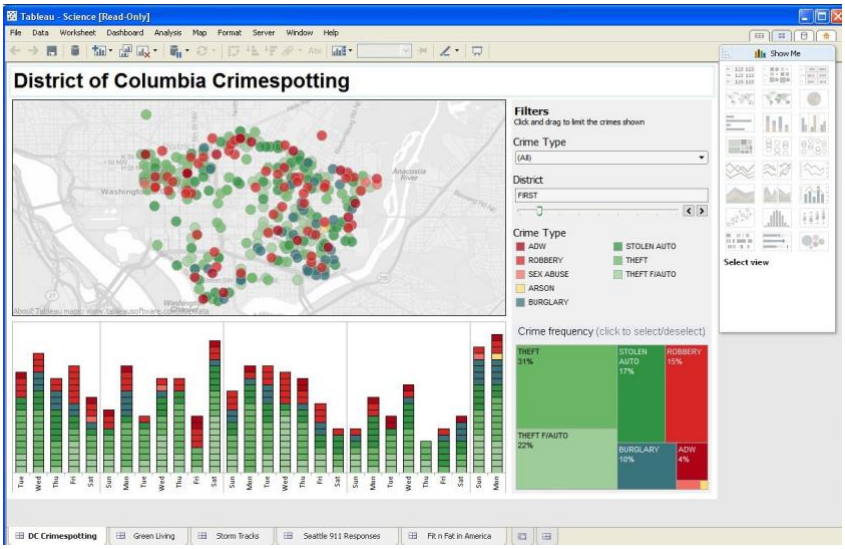


Tableau



There is a two-step process with Tableau. One is shown above where one and only one chart is created. But then this charts can be dragged onto another display sheet to combine with other charts. I much prefer the Sense and Power BI approach. Although Power BI does follow a similar approach with the cloud. But this allows charts to be dragged from many Apps onto a combined summary dashboard. Then these charts are clicked to go to the App if required (to search and filter etc. See below under the cloud comparison)

Google Tableau screen shots to see a number of examples of level two Tableau pages.



COMMENTS

Qlik Sense is an outstanding BI solution. I can't fault it in anything but some minor areas. Like advanced searching could be improved (it's very powerful but simplicity for non-experts could be improved a bit), handling of null in searches (Sense has techniques to make selections of nulls possible but is complex) and sheets should be able to be unlinked from the main App selections. Other features that have not been included in Sense yet (but are in View) include drill around (now included) triggers and dynamic labels (now included). Printing and Export is not as good as View (which was outstanding). And there is still more to be done on colour themes. But these are minor points (for me so far but may not be for some) and is otherwise outstanding (and a joy to use).

Update. Feb 2016. Qlik have just released a paid for version (Sense cloud plus). This is an excellent price offer and shows that Qlik plan to compete with Microsoft and Amazon in the potentially huge cloud market. Update Nov 2017. Cloud plus has now been discontinued. Sense Cloud Business was released during 2016 (Sense cloud enterprise during 2017). Qlik could do a lot more I believe to promote their future releases. And they just quietly sneak outstanding new offerings almost out the back door. Update. June 2017. Qlik have now starting doing this but could still do a lot more. Not only promoting the new release before it's released. By also what the future plans are. This a big step in the right direction though but more needs to be done. Especially now with the cloud where a lot still needs to be done but nothing on what is planned.
https://www.youtube.com/watch?v=DpSnTEd88E4

Update. Mar 2016. Qlik has just released a drill around option (version 2.2). I like the way this is done (using alternatives) a lot more than View. Power BI drill around is very different. The Qlik Sense method is preferable. Power BI is good. It's quirky though. I think it would confuse some users. Qlik is a lot better in this respect and overall. Sense I feel has been developed for all users at all levels not just for Excel type experienced users. Sense is intuitive and fits into their approach to have a product that is very easy for all level users to understand and use. And even their development side (automatic script) for basic Apps has now been made easier than Power BI.

Both Sense and Power BI drill around is available for all chart types except the tables. Hopefully this will be rectified in a future release. Update March 2017. Power BI have now released drill around for their Matrix table chart. See below.

Update July 2016. While Qlik script can be difficult to master. There are other options available for both a simple load and more complex loads. For simple load the new bubbles feature can be used. This allows first time users to drag various Excel sheet tables etc. onto a Sense App and allow the bubbles feature to help make the joins between the tables. This makes simple loads and the required cleansing of data and adding new columns (expressions etc.) very straight forward. For more complex requirements two options are available. A Power BI type solution to replace writing

the script (Alteryx). Or an even more powerful option that has just been released in the UK http://www.timextender.com/

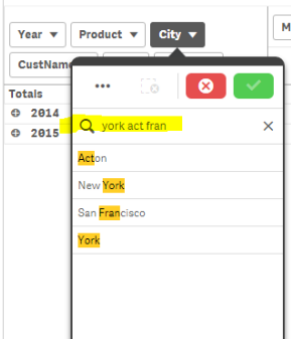
https://www.youtube.com/watch?v=wg7MpC0edFU

So it's possible to do everything in Qlik (no data warehouse required) with script and QVD's or use a variety of script and a very fast data warehouse option (see below for a comparison of the built in automatic script options for Power BI and Qlik Sense) .

Update Sept 2016. Version 3.1 has just been released. This includes a draft version of Cloud Business. I will evaluate this soon (see below). But also minor enhancements. One big improvement though was a first version colour theme. This was simple and just included a light grey background. But it significantly improved the look of a sheet / page (but many still prefer the white background).

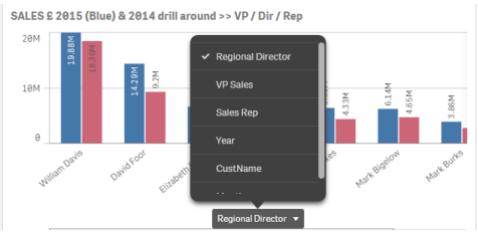
But likewise with the August release of Power BI. This included enhancements to the appearance as well. I still prefer the overall look of Qlik Sense but if a user wants a wider range of colour options Power BI is in front. It's more like Qlik View. But like Qlik View it takes many hours more to get things right. Sense has gone for speed and ease of set up with fewer colour options. And yet in my view the final outcome looks as good as Power BI. But an example of both is shown above.

Sense searching / filtering (by city)



Or search across all fields and charts. By a name in any field or chart.

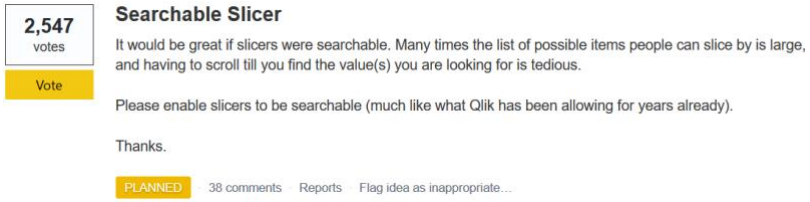
Drill around



Power BI is potentially outstanding. But the file size issue compared to Qlik Sense is a big issue for me. As the size increased it started to feel sluggish (update 10/2/16. This sluggish response is improved now as noted below. But the size issue is worse). The slow refresh time compared to Qlik is also an issue. If Microsoft can sort this out and, (2) add a powerful search option - essential, (3) allow pinning of finished sheets/visualizations in the desktop version to stop visuals moving round (the cloud is fine) (4) link the in page filter (slicer) with the side filters and visuals filtering, (5) add drill down / around to the straight tables as they have with the other visuals / charts edit [now done] (6) allow exporting [now done] , (7) introduce printing of visuals or pages, (8) allow loading of tables from another Power BI App file [now done. See below] (9) introduce a true Pivot Table edit see Matrix table below. It is close now and (10) allow drag and click of visuals [now done] then they will have a great product. The equal to Sense and at a very low yearly fee ($120 per year per user. Note. Sense has matched the low cloud pricing now).

But there are too many issues at present. Including a slow reload time. (1 minute 40sec compared to Qlik 6 seconds for a desktop sample I tested both against). The biggest issue though is the search facility in both the desktop and cloud version. Its poor (refer below. Now much improved). This is an important feature to quickly locate records.

Update 15/4/2016. Power BI has just announced a user request for a searchable slicer is now planned. But when and how good it will be …



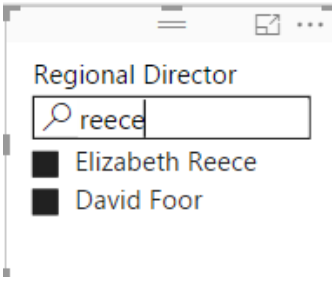
Update 17/8/2016

The searcher slicer has now been introduced. It's still not as good as Sense but it works well enough. This was an essential new feature. It's certainly a big step in the right direction. But this searchable slicer while a big forward still does not link with the other filtering options (filters and chart filtering) like with SENSE. It also still does not include a record of filters made like the SENSE (brilliant) top black bar. So it can be confusing at times knowing what filters have been made. And it only applies to one page not all pages if required.

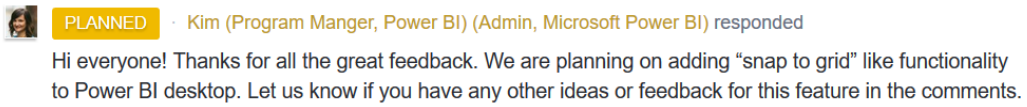
Update March 2017. Power BI have just released a significant update.

Colour themes have now been introduced. https://www.youtube.com/watch?v=mnsNteGpPik

And an improved Matrix (like a Pivot Table). See below for a detailed comparison between Power BI (Matrix) and Qlik Sense (Pivot Table).



Another planned improvement is this.



Update 8 November 2016. The "snap to grid" functionality has now been released. This is different to Qlik Sense. It allows smaller movements but is not as definite when it snaps in place. But it's a huge improvement for Power BI and has now closed the gap with SENSE. It's so much easier to get the charts / visuals all lined up.

Update 4 October 2016. The appearance improvements have been noted above (and see the above screen shot). Another slight change is the drill down / around option. It now still includes an option to drill down to the next level (Year 2016 ---. Months only for 2016) or drilling down but retaining the upper level (All years and months rather than just one year).

Overall Power BI gives the user more scope (compared to Sense) to customize every chart (visual) as required. This is good but it takes so much longer. I like both but I think the SENSE approach of colour themes is the better one. It's much quicker to produce a professional looking sheet. And creates fewer awful outcomes with new users who are still learning.

The drill down and around feature. To turn on click the right hand down arrow button. The drill down only applies to this chart (Not to other charts on the page or pages). Update March 2017. A right click option (see below >> drill down) has now been introduced. But drill down still applies to only one chart. Although it is now possible to click a selection to drill down but it's a two part process. This can be confusing. See below for more details.

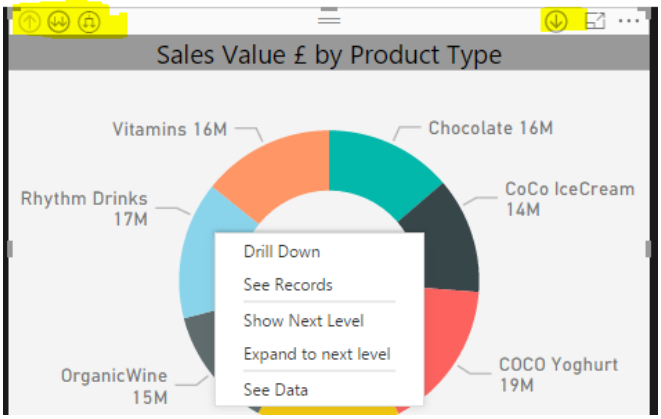


Tableau. Having now finally had a look at Tableau I'm surprised that it is rated so highly (and many rate it very highly so I may be unfair with this evaluation). Compared to Qlik Sense and to a lesser extend Power BI (potentially very good but not close to Qlik yet) Tableau is a bit limited.

"Blending data from different sources can be difficult as no ETL to normalize data".

I read this elsewhere. This is just unacceptable in this day and age. Power BI is excellent at joining tables. As is Qlik.

But two other issues I have with Tableau data loading is this. These are both show stoppers for me.

- Outer joins. I couldn't do one. Only left and inner. Even though the outer and right options appeared on the load screen. Power BI and Qlik can do all four. Update 8 Nov 2016. This can now be done with the latest release of Tableau.
- Many-to-many join. Power BI can't do this. Fair enough – it will not be required that often - but Qlik can. The DEFAULT with Qlik though is join keep. Tableau can do many to many but the default (and only option?) seems to be join. So all of the figures in a fact table double etc. if this situation arises.

NB There is a Power BI work around (using a bridge table) to do a many to many join. But it's not part of their standard product. https://community.powerbi.com/t5/Desktop/How-to-create-many-to-many-relationships/td-p/15338. Sense can do a many to many join without using a bridge table.

I'm still trying to find out how to concatenate (or append / horizontally join) two tables. Simple enough but how to do it? In general I found it much harder to answer how to questions compared to Qlik and Power BI. Both Qlik and Power BI have first rate free documentation and videos to at least quickly answer the fairly basic questions like the one above.

NB. Update Sept 2017. Appending tables seems quite simple now. Although I haven't tried this with the latest release if it's as simple as in this video it's now no longer an issue.
https://www.youtube.com/watch?v=QXJEar18q-E

It seems to me that another tool is needed to prepare the data for loading into Tableau as Tableau is too limited for serious data joining, cleansing and transforming. And the rest (measures and developing pages) is behind Qlik and Power BI as well.

http://butleranalytics.com/spotfire-tableau-and-qlik-sense-in-a-nutshell/

Tableau is not an enterprise business intelligence solution, and the fact that several other suppliers use it as a data visualisation front end betrays its real use. It is a powerful augmentation of a broader business intelligence solution.

It also felt sluggish (time delay before screen responded) and this was working with text files. Excel could be worse as Tableau continually loads data from the source files (Excel, text etc.) not from a build in Tableau file (although this can be done). Edit. I have since spoken to someone who has used Tableau for years and he

said the load time is quick. And he was also very happy with Tableau so maybe Tableau was just not right for me.

Update 8 November 2016. I downloaded the latest release of Tableau. It had fixed the outer join issue. But overall I feel both Power BI and Sense have extended the gap on Tableau. Both have worked on making the look of the sheets more visually appealing. Tableau is a mess in comparison. Both Power BI and SENSE have a fully functioning free version. Tableau only gives a 15 day trial. I really don't know how Tableau can survive. But here is a Tableau report on why they think they are better than Power BI→ https://www.tableau.com/compare-tableau-power-bi. I agree that DAX expressions can be tricky. (Power BI update March 2017. PBI have now released a needed DAX expression assistant. It's a step in the right direction but a lot more needs to be done on this). DAX expressions are a lot more difficult than SENSE expressions. But overall my view is that SENSE is still easily number 1 but Power BI has closed the gap. And Tableau has fallen further behind.

Update. Here is a recent response from a Power BI user to the above Tableau report. In part this reply reflects the improvements in Power BI.

https://datachant.com/2017/06/21/8-ways-power-bi-falls-short-not/

30 Oct 2015 (Updates Jan-Mar-Oct-Nov-Dec 2016 / Mar-June-July 2017).

ADDITIONAL COMMENTS

These comments add some random additional thoughts.

It was easy enough learning and setting up a Power BI App (not so great to use though although it has improved a lot since my initial report was done). It's still a way behind Qlik Sense but looks potentially very good. I'm sure it will be improved quickly though. But at this point it still needs to (improve).

Update 5/1/2016. I have now used (as opposed to setting up) both Power BI and Qlik Sense for a small actual job (to compare both). Sense is way in front from a user viewpoint. It's brilliant to set up and use once script is mastered (or not as an automatic script generating option is available for straight forward loads). Power BI is good but really after using Sense is not in the same league. And as at August 2017 it still isn't.

Update 10/2/2016. I downloaded the latest release of Power BI as many changes have been made including to the response times. This latest release required reloading all my data and saving (previous updates didn't). This sluggish responsiveness is not an issue now and is a big improvement. I was able to compare the old version before reloading and saving compared to the new. One was slow to respond after making a selection and one quick enough for impatient me. But the file size has massively increased. From 11,651KB to 88,360KB. Compared to Sense. Qlik's responsiveness is very good and the file size is only 10,240 KB now (it was smaller but I have changed it a lot). And after reloading these files / tables from scratch into Power BI it was still over 80,000 KB. Update July 2017. Due to PBI compression improvements its now down to 61,000KB. But Sense is still under 11,000KB with the same data and pages.

Update Nov 2016

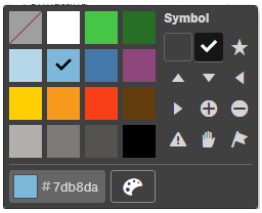
Quick Sight. I have looked at the first release of Quick Sight. I found it even more disappointing than Work-mail. Amazon will need to do a lot of work just to catch up. I will leave doing a full review until they have made these improvements as at present it doesn't compete.

I like reviewing great and potentially great products. Sense fits into the great product category. Power BI has potential but still a way to go. Tableau for me is not even close. I find evaluating Tableau an unpleasant experience. The latest release I was just frustrated that they hadn't fixed the blending data issue (improvements planned for 2017 it seems). And the trial was still limited to such a short period (3 weeks) compared to both Sense and Power BI (no time limit). So unlike both Power BI and Sense I can't go back to check it out.

Likewise with Quick Sight. It was a WTH feeling. Why haven't they done much better? There is so much limited software around and I put Quick Sight in this category. Where-as with both Power BI and SENSE I'm keen to download and evaluate any new releases. Power BI in particular back any new monthly release with an excellent video explaining all the new features. And with a free personal edition both make it easy to personally test these features. I think this free offer makes it clear that both believe they have a great product. And want to show it off. They both (Microsoft and Qlik) are also working hard on the visual appearance. The fits with me as I like to show the end user a great looking visual dashboard and sheets / pages. Tableau and Quick Sight seem to be not as concerned with this aspect.

Update 1 Dec 2016.

Sense has released version 3.1 SR3. This adds a needed moveable column line for the Pivot table. There is more to do though on this (the straight table is fine as all column are moveable by the user. Like Power BI – it wasn't possible but is now. But the biggest improvement is more colour options for most charts. There is still more to be done but this is a big step in the right direction. But more so than Power BI the default colours and look is fine. So a presentable looking page can be set up very quickly. But then adjusted in most cases if required. This is important for new users who might not understand the importance of the visual side of things. I have seen some fairly awful Qlik View first attempts. This is less likely with Sense.



Charts Examples.

Example Drill down

Power BI vs Tableau. https://www.youtube.com/watch?v=cpGqQqlFOso

Qlik Sense. https://www.youtube.com/watch?v=55TN-bZ3WWU

Setting up a drill down sequence is easy for all three. But Sense shows how a drill selection for one chart impacts on the other charts. And how this selection is shown clearly on the top black bar. Power BI drill down only impacts on the one chart (this can though now be done using the right click drill down release Mar 2017. But it's a two-step process). Sense overall is in front in this area but Power BI has closed the gap. The charts are all linked. And clicking on the actual chart triggers the drill down. Not another object like Tableau.

Tables

Here's an example for the Tableau Pivot Table compared to Sense. NB. Power BI has a table and Matrix (see above) but not a Pivot Table yet. But the Matrix is very close to a Pivot Table now see below.

https://www.youtube.com/watch?v=wptc5nP7uHI (Tableau)

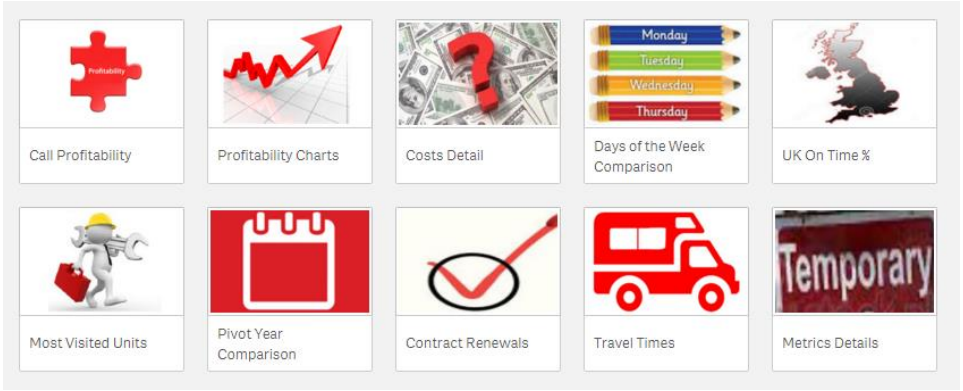
https://www.youtube.com/watch?v=goVmLcvuC10 (Sense)

Sense has been further improved since this video. But one further change I would like to see for the Sense Pivot Table is a maximum column width as drill down sometimes (not always) results in columns that are too wide (the other Sense tables are fine). But more is needed on the Pivot Table.

Tabs vs Drop down Box for Selecting Pages / Sheets

I was a big fan of Tabs. Tableau and Power BI use Tabs to move between pages / sheets (see above screen shots). Sense has moved to the drop down selection box and a page forward / back arrow. This is located above the black bar shown above in the Sense sheet screen shot.

Example

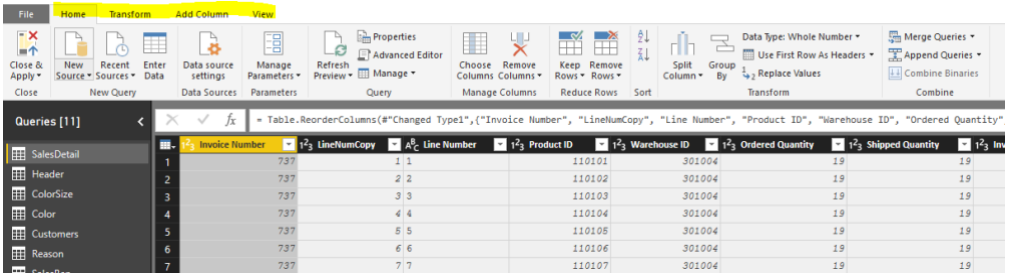


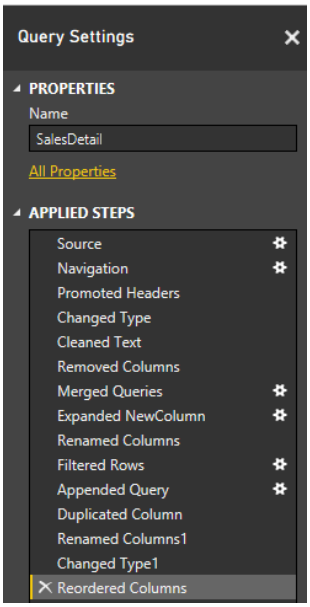
It's personal preference but now having used the Sense drop down box to select sheets /pages (and also Apps) I would not want to move back to tabs. It involves one more click. But I now prefer the option of having pictures representing a page. For example a picture of the page or an alternative. A Sense example is shown above. Alternatively company product pictures could be used for a sheet. I find it easier to locate a picture than a name on a tab. And it's a lot more interesting clicking on a (maybe fun or interesting) picture than a (boring) tab.

Automatic script Qlik Sense vs Power BI

Power BI was developed using automatic script (Query Editor). Qlik Sense mostly involved writing script. But now Sense can do both. This is great for a new user to start with the automatic script feature (Data Manager) and move to script writing when ready (Data Load Editor). The Sense Data Load Editor option is a lot more (and very) powerful but Data Manager is good enough for beginners with straight forward data tables to load from.

Power BI



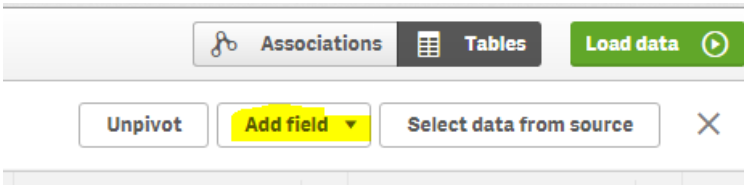


Qlik Sense

Power BI can still do more with this section (overall though Qlik Script using Data Load Editor is very Powerful. I could do things in Sense that I couldn't see how to do in Power BI). But Sense is not too far behind now using Data Manager. It includes a fun but powerful bubbles feature to join data tables (but at present this only does an outer join. If inner, right or left joins are needed this still has to be done using the Data Load Editor). But hopefully this enhancement will be available soon in Data Manager

https://community.qlik.com/docs/DOC-16830

To add columns (fields) to a data table

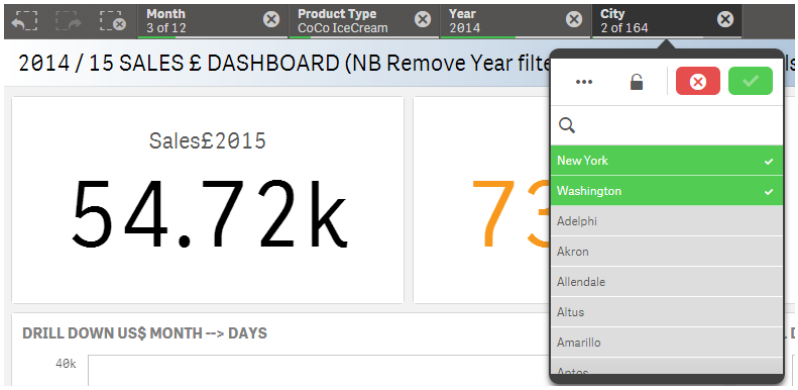


In depth Comparison of Power BI and Sense filtering

Done 4th Dec 2016 Updated as required due to Upgrades

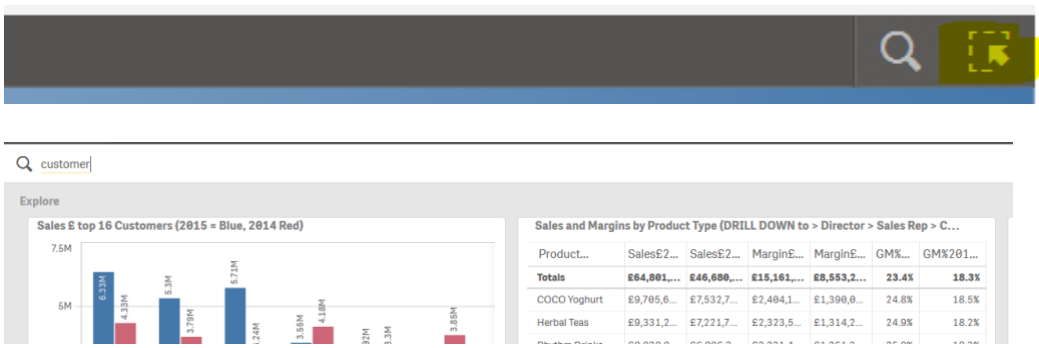
Power BI have released a new drop down slicer (late 2016). This is a big improvement as the side search & filter option is quite limited. So I rely on the slicer but before it took up too much space on a page. But Qlik Sense is still miles in front in this key area. A key point of BI as opposed to a static report is that users can drill into (filter / slice) the data as required. Qlik have got it right. Power BI still have a long way to go with filtering (or slicing). I give the reasons below:-

- I have mentioned above that Power BI still don't show a record of total selections made. Sense has the brilliant black bar. It shows selections made from any source. For example a chart (e.g. Pivot table or bar chart), a filter box or the filter button that opens a new screen to show all available field options (that Power BI lack). And it's then possible to delete or change selections made from this black bar. I get lost at times with Power BI when I make many selection for different fields from different sources (slicer/ side filter bar / charts). It can take a while to track them all down too to remove them. This I think is a major flaw with Power BI. Whereas with SENSE they can be all removed with one click of the x (left side) on this black bar (unless locked see padlock below).

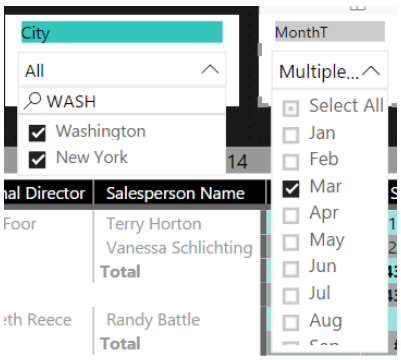


- Qlik Sense has an option where users can access all fields and quickly search as required (see below). The Power BI equivalent is the right side filter that is limited. Firstly the fields need to be included in this section (Sense all fields are automatically included). And it's a limited filtering option (that really needs to be replaced or improved). But this is the only way to make global (for all sheets / pages) filters.

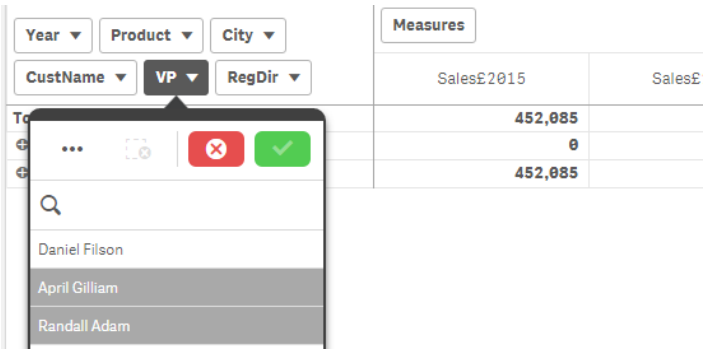
  Sense button (below right) gives access to all fields for filtering (by field title name). Or the magnifying glass searches all fields and charts (charts on top, field down below) by names etc.

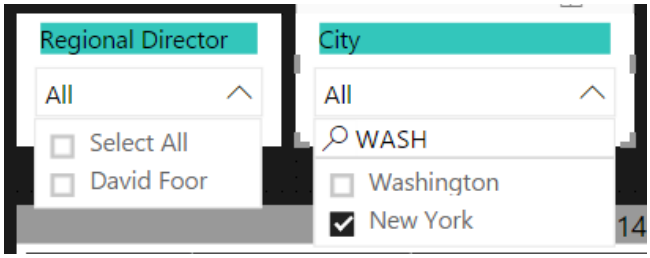


- Sense always shows the non-selected alternatives (light grey). The selected green fields always move to the top of the list. This is shown above where New York and Washington is shown clearly highlighted in green at the top. And other fields are shown what in light grey. Power BI has the choice like shown below. Either remove un-selected field or show non-selected fields. But the latter option does not move them to the top. So the Nov month selection can't be seen unless I scroll down.



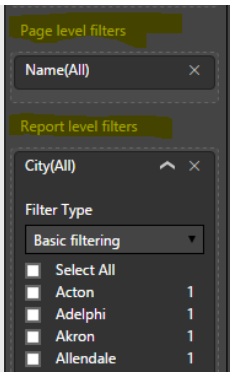
- Qlik also shows not available selections. For example for the selection made above. Only one VP (Daniel) has sold to this combination of filtering selections. The ones that haven't are clearly shown in dark grey. Power BI doesn't show excluded field options



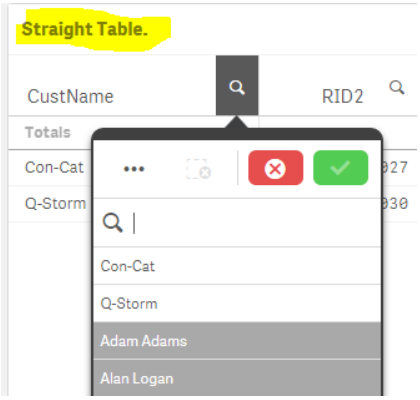


- Qlik Sense filter selections made on one page / sheet also apply to all the other sheets. This is consistently followed. It's easy to explain to users of any level. Make a selection and it appears on the black bar and applies to all sheet and charts. Power BI is inconsistent. Slicer selections only apply to one sheet / page. Chart selections can apply to one chart. Or all charts but only on one sheet / page. Drill down and around selections only initially apply to one chart. The side filter can be applied to all charts on one page or all pages. I much prefer the SENSE simplicity and consistency. Power BI give too much choice and it end up confusing. But if they keep this lots of choice option then they need more choice. So if users want they can have a chart filter selection or slicer selection applying to all pages and charts not just one page or one chart. For example the selections side bar is limited (but is the only way to make global / report filters see

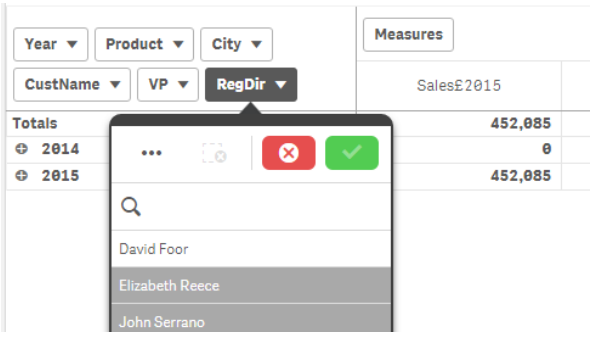
below). I would prefer to set up a page of slicers that apply to all pages (a global or report filter). This can't be done at present. So it's a lots of choice but not enough to do the obvious.



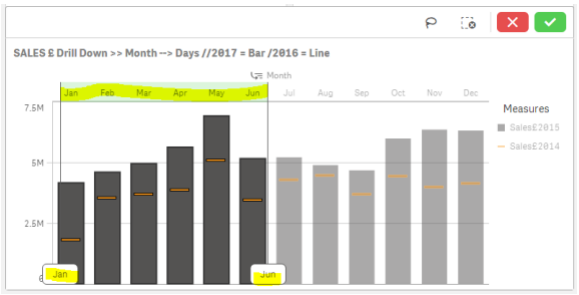
- Tables filtering. Power BI can now make filter selections from a Table or Matrix (March-April 2017 update). But doesn't include a full search option on the table. On the other hand this is a SENSE strength. Selections can be made from the rows in the tables or Pivot Table (like Power BI). Or from the table headings (unlike Power BI). It has all the bases covered. And exactly the same filter box always appears.



Pivot Table



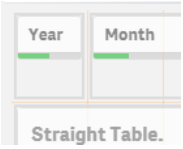
- Sense can swipe many selections at once. Power BI can't. It's a one by one selection process. This applies to all charts and also the tables and Sense filter pane.



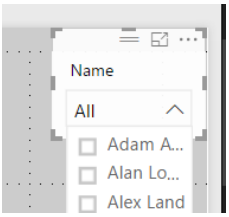
The 1st 6 months can be easily swiped in one action. Power BI requires 6 clicks of the bar chart.

- Sense filters all work together. For example a chart selections links with the other filter options. They all work together as an integrated collection. Power BI doesn't. The right side filter reflects in the slicer and charts (but still shows All in the slicer). But chart filtering doesn't update the other filters (slicer and right hand filter). Likewise the slicer selections are not shown in the right side filter. This can be confusing. What it seems is that PBI developed the right side filter as the main filtering option (but it's not very good) and the other filtering options (esp the slicer) were added as a stand alone afterthought.

- Power BI Slicer vs Sense Filter Pane. You can see above (and below) how little room the Sense filter pane or magnifying glass (MG) takes up. The key is the drop down filter box is wider than the pane or MG. So the Filter Pane can be made very small if required. It can also be open if required. And by clicking the three dots other filtering options are available



Power BI slicer has been significantly improved in recent months (late 2016). It has added a search option (without this it was very limited). And a drop down feature (see below). These were much needed enhancements. But overall the Sense filter pane is still better than the Power BI slicer. Power BI drop down pane is always thinner than the slicer box. So it always needs more space (width and also length). And in general it feels a bit dated. It's like Power BI has been developed on a dated, slightly clunky user interface platform. Whereas Sense feels modern, smooth and leading edge. Power BI doesn't. I'm surprised with this. Maybe its not a big issue but all of the above adds up. To give the feel that overall Sense is a superior product. And that Power BI will struggle to completely close the gap unless they make major changes to the user interface.



Further Comment of Filtering Sept 2017

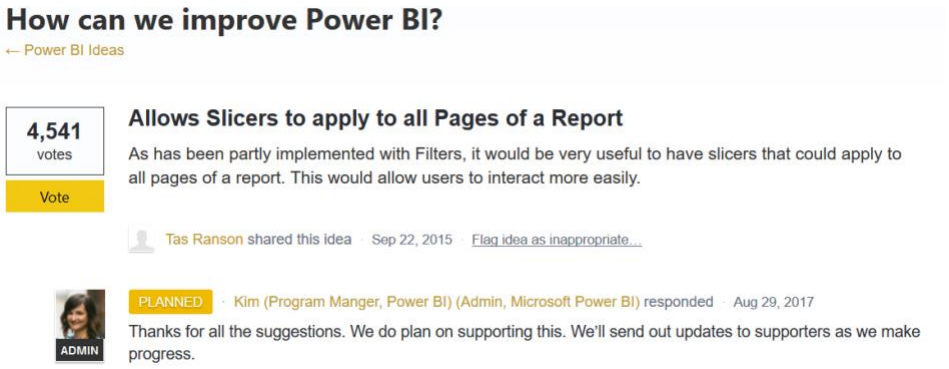
The one area that lets PBI down big time is filtering. I feel they started off on the wrong track and in some ways have made it worse with recent changes.

For example the right side filter is poor. But it's the main filtering option. And its messy and confusing. But they have now recently added two more types of these filters. They use to have just filters for one page only. Then they added report filters (applies all pages) some time back. Now they also have filters for one chart only. And a recent new one called drillthough.

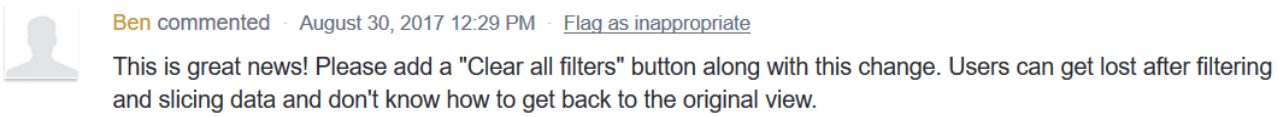
Drillthrough to another report page. We are very excited to announce the release of another feature we demoed at the Microsoft Data Insights Summit back in June, drillthrough. Drillthrough filters allow you to create a page in your report that provides details on a single 'entity' in your model, such as a customer, manufacturer, product, or location …

So this feature only applies to charts (not the slicer). It has to be turned on page by page. So for example if I want 'Customer' to be a drillthrough option on 4 pages I have to set this up one by one on these pages. And I can only select one customer on a chart that I can then drillthrough on. PBI have now made two attempts to allow filter selections to be carried through from one page to another and they are both poor. Sense does this automatically. And it outstanding how it's done.

This new PBI feature just adds to the confusion. OK it's optional but why waste time doing it. It makes me wonder if they know what end users want. When easily the most popular request is this one. Why haven't they done this instead?



Power BI slicers are not as good as the Sense filter Panes but are far and away better than the right side filters. I would just set up a page of slicer filters to apply to all pages. And ignore the right side filter option. And this below is essential as well

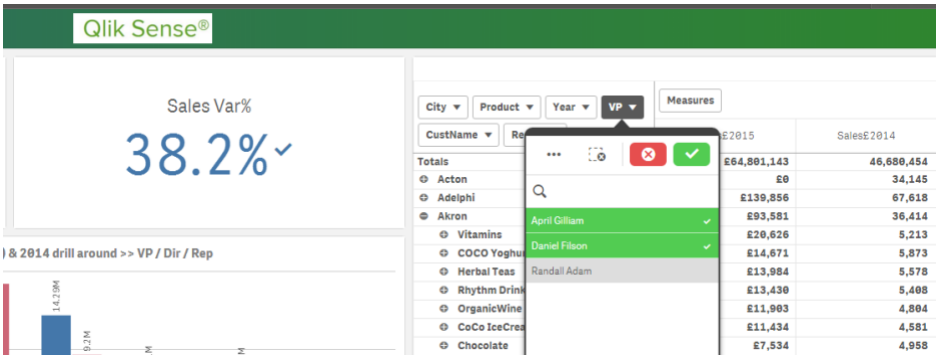


I wonder if they just don't want to let the right side filters go. I wish they would just let it go (or massively change it) and move on. Not keep on trying to improve it by adding new features. Use slicers, an added list of all selections made (that could be clicked and changed like Qlik View) and a clear all filters option and they would be on the right track.

In depth Comparison of Power BI Matrix and Sense Pivot Table

Power BI did not have even close to a Pivot Table. They had a Matrix but this was no more than a open Pivot Table report layout. It was not possible to collapse this Matrix or change the field sequence of this table. Until the March 2017 update.

I will start with the Qlik Pivot table because it's very good. It does almost eveything a Pivot Table should do. And will show with Power BI what this latest release still can not do.



This does eveything a Pivot Table should do except (maybe) that

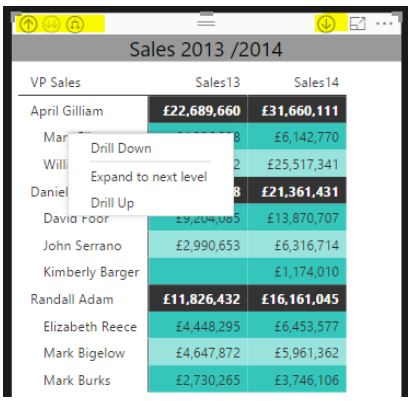
- The column width can be changed beside the measure above but the other ones can't be moved.
- There is not a lot of colouring (or styling) options. The figures can be coloured (by formulas) but not the headers etc.
- The table can be set up as fully expanded or not. Or indented or not. But the user does not have this control unless they have set up / edit permission. This could be done by giving the user more control as they do with the other charts but not for a straight table and pivot table (exploration menu).
- The order can be sorted. But this is determined by the set up formula's. Once again I would like the user to have more control in this area.
- I would also like to see alternatives introduced to expecially the straight table (important although an add-in extension handles this very well) but also the Pivot Table. This would just allow a nicer looking presentation option if required.
- Measures are fixed. The user can't take out or add pre-set measures if required unless they have edit permission. (although an extension does this with the straight table and this extenson might be revised to allow a pivot table as well)

I don't consider these as big issues though. The core can be done as it is. But some might want this.

But otherwise I can't fault it. The field order can be changed as required. Selections can be made as shown above. Or in the actual table. The table can be expanded or contracted as required. And the field name can be changed (shortened) if required. And filtering this table automatically changes the other charts etc.

Power BI Matrix is now good. With a few further changes it will match Qlik Sense.

Power BI



This is the new Power BI Matrix. It still has the quirky arrow buttons. But they have moved to a mouse click option as well now. Hopefully Power BI move more to a mouse click option and includes the option to completely remove this top bar. As it just takes up room and look quite ugly.

This does everything a Pivot Table should do except that:-

- The table can be set as indented or not. Or set as fully expanded (like Sense this can be done but not as a default). But the user does not have this control unless they have set up / edit permission.
- Measures are fixed. The user can not take out or add pre-set measures if required unless they have edit permission.
- The field order can't be changed unless the user has edit rights. This is a fairly major shortfall.
- Drill down does not automatically change other charts. This only happens when the field(s) is selected. This can be confusing and annoying.

But otherwise it does everything expected from a Pivot table. I still prefer Qlik but would be happy to use Power BI if I was able to change the field order.

Update June 2017. Power BI tables can now either include a bar chart (with or without the value as shown in Sales 13). Or two colours with a highest and lowest value with shades in between (sales 14). Sense achieves the same colouring using an expression. So Sense can achieve more with coloring. For example a combination of 3,4 or more colours (say green, orange, red) but takes longer to set up. NB Sense can't include a bar in the tables as shown in Sales 13.

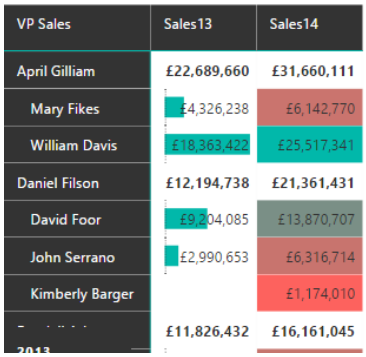
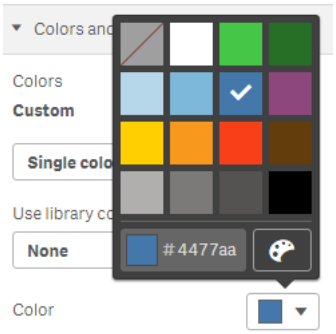


Chart Colour Options Sense vs Power BI

Qlik Sense started off with a safe (but boring) range of colors. It looked good enough but it was one area where improvements were needed. It's getting there now but more still needs to be done.

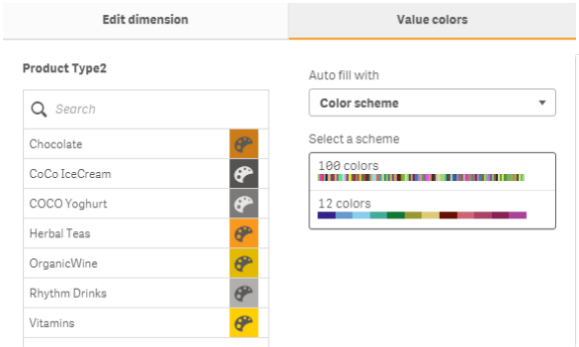
Qlik have 4 ways to color a chart

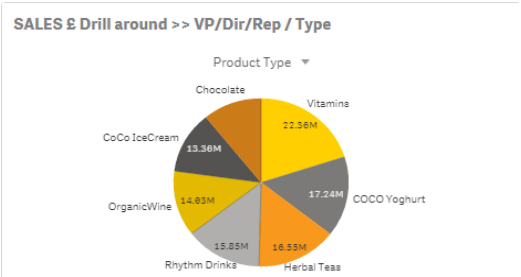
- Single color. It is now possible to color as required



- Dimension or Multi Colored. If a (bar) chart includes one or more dimensions (eg. brand) and one and only one expression. Then the dimension (brand) fields can be colored by one of two default color options. Or alternatively the brand can now be set to any color as required (June 2017 update) as shown below. This brand color option can be set up as a master items and used (or not. The default color options can still be used) in the chart as required.

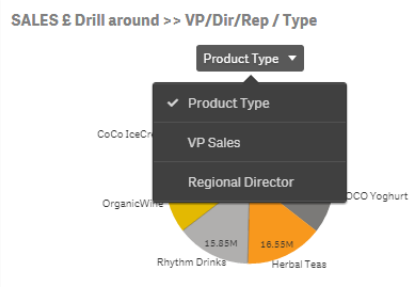
Set Up Master Dimension Result



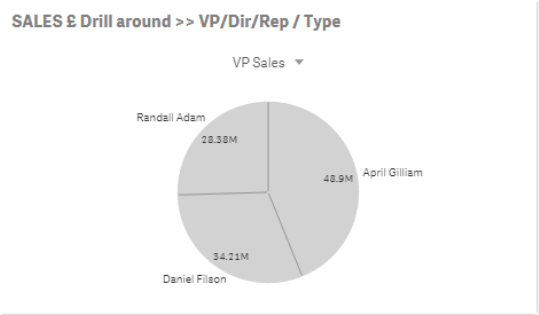


So the above is very good (Power BI is very similar but a master dimension can not be set up to use in more than one chart).

Except dimensions doesn't work with Alternatives (drill around). So if a chart has a drill around option (alternatives see below Prod Type or VP Sales or Regional Director).

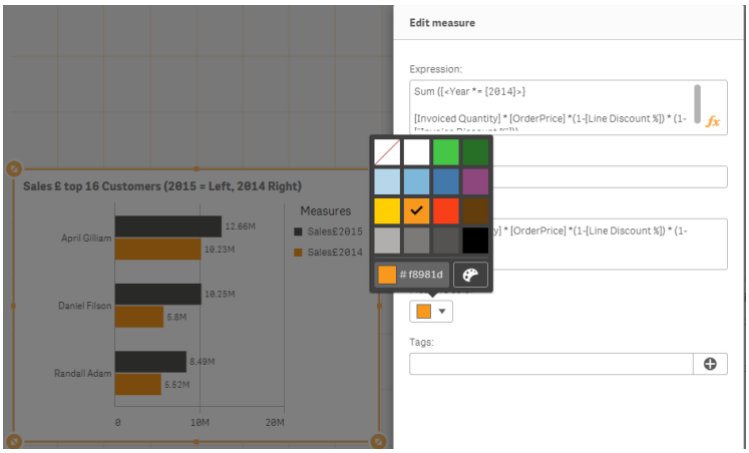


In the above situation. The coloring works with one and only one dimension. I'm unsure why Qlik has done it this way. One set-up option should include to color a chart by the SELECTED first or 2nd dimension. So for now it's a little disappointing. For one dimension it looks great. But for the other alternative dimensions it looks disappointing (see below).

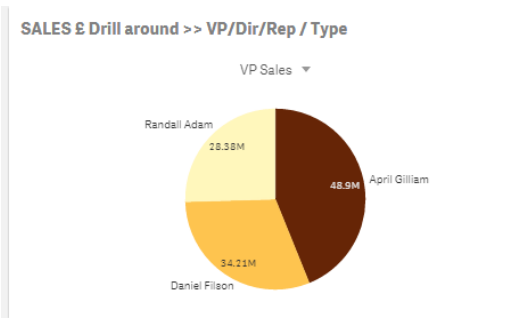


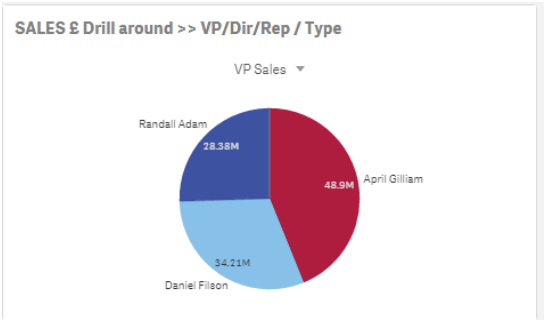
NB Until this is fixed by Qlik measures could be used to achieve the same result as noted below. But this takes a lot more time and care to set up. EDIT Oct 2017. This is one of the improvements in the Nov 2017 release.

Alternatively if the chart has two or more expressions. Then the expression can default to one of two color schemes. Or alternatively (as per a recent 2017 upgrade) the expression can be colored as required by using master expressions. Eg for Sales£2014



- Measures. This options colours the chart by a selected measure VALUE (say red to blue by value). In one of two color schemes. It works well but I find the color options a bit limited. More work is needed in this area. The color options need to be increased. For example being able to pick the start and finish colors. Although By Expression could be used to achieve this instead

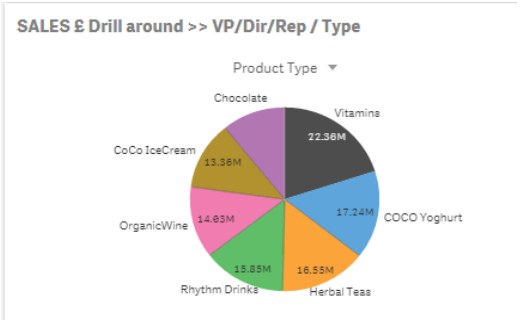




- By Expression. Refer below. This extensions uses By Expression to color by themes. This expression

  pick(mod(rank(TOTALcolumn(1))-1,9)+1,argb(255,77,77,77),argb(255,93,165,218),argb(255,250,164,58),argb(255,96,189,104),argb(255,241,124,176),argb(255,178,145,47),argb(255,178,118,178),argb(255,222,207,63),argb(255,241,88,84))

  gives this (it's also possible to shade from say dark blue to light blue by expression value)



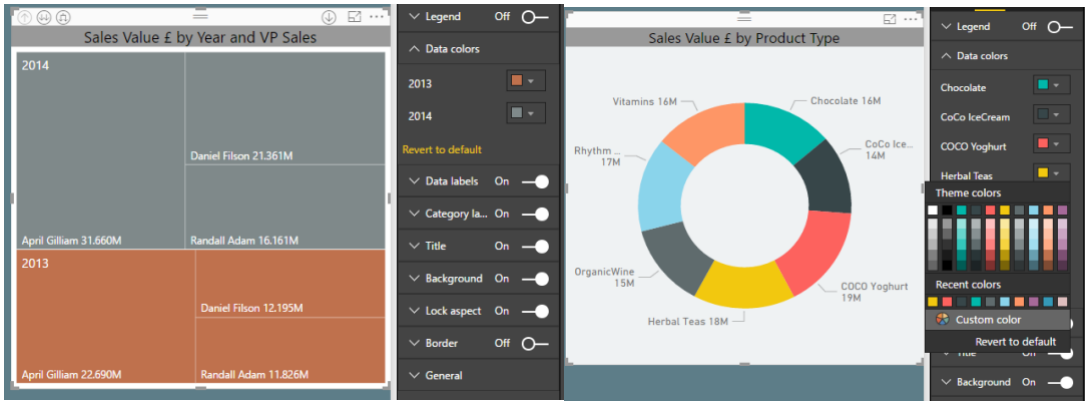
  Alternatively products types could be colored by brand etc.

  if (wildmatch ([Product Type], 'Rhythm*') ,argb(255,77,77,77),if (wildmatch ([Product Type], 'Herb*') ,argb(255,93,165,218),if (wildmatch ([Product Type], 'coco i*') ,argb(255,250,164,58),if (wildmatch ([Product Type], 'Choc*') , etc. This could color one or more fields as required.

Power BI. I will compare this to Sense. Where it does more and less

Less. Power BI only includes coloring by a dimension and multi colors (but not measures or expressions as noted above). Its similar to Sense but does not allow coloring by the 2nd dimension when two dimensions are used

Example 1 Example 2

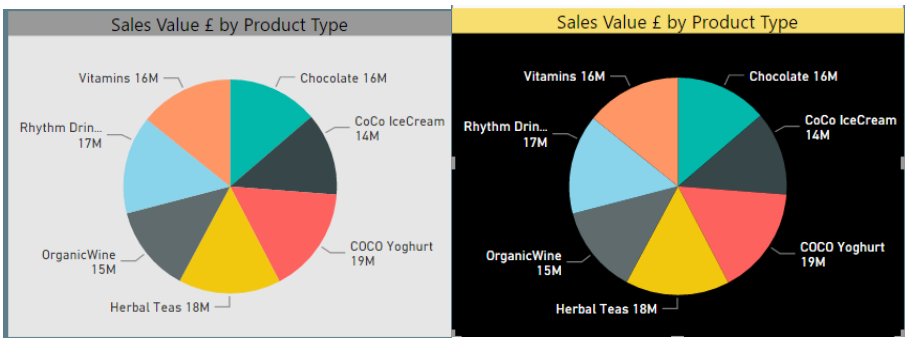


Coloring can be done by year (the first dimension). But not by VP Sales (2nd dimension).

More coloring options than Sense.

- The page background can be colored as required. Sense can color in white or light grey.
- The chart can be colored as required. Sense can color the colors in the actual chart. But not the title or background etc. In Sense these are defaults.

This Or this (color as required) etc



It is possible to do sort of likewise with Sense. But as yet it is not built into the standard product.
https://community.qlik.com/docs/DOC-13517

Colour themes have been released for Power BI.

https://powerbi.microsoft.com/en-us/documentation/powerbi-desktop-report-themes/

Here is a comment on these themes

http://blog.sqlgeek.pl/2017/06/02/my-top-10-most-wanted-features-in-power-bi/

Color consistency, more universal themes, documented best practices for graphics**.** Yes, we have Themes feature in Preview. But do we really have to use JSON to create a theme? And why the themes are so limited? No font color, no background color (the ones you would suspect are for background and foreground are in fact used in table and matrix visualizations only…). Why not use something more natural for HTML? Perhaps CSS and its classes? And if we have to use JSON there should be a graphical interface for theme creation (provided within Power BI, not built by the community!).

Qlik Sense Extension. There is an extension (both BI and Sense have free extension available. Some are outstanding) that is available for Qlik Sense that enables a powerful standard colour option as well. Either a customer loaded theme or a selection of around 40 different standard themes. This is covered in this blog post

https://community.qlik.com/blogs/qlikviewdesignblog/2017/03/24/colorstyler-extension-and-mashup

An example using one theme is shown below. This is the same as the example above but using one theme for all the charts.

This is an excellent free extension. But I still hope that Qlik build more colour options into their standard product before too much longer. It has improved a lot but still has a way to go.

Loading Data only Once

I find it is much quicker loading data from another Sense App. Or from a fast loading table type. For example a txt file as opposed to Excel. And it can for example be slow loading data from a server especially when lots of users are working as well. So I prefer to reduce the load on the main servers as far as possible. Not only to speed up the App refresh time. But also to reduce the load on the main data servers.

Qlik Sense is outstanding in this respect. It can

- Create one App loading direct from the source data and then load the data from that Sense App into another Sense App. The new App can then (using script) delete fields or load more tables as required in this new App.
- Load data into a Qlik Sense App, cleanse, join tables and transform the data as required. And then save the created Qlik tables as (so called) Qlik QVD files. Then either load from these QVD files in the same App as required. In this way it is possible to either incrementally update these QVD files as required (daily / weekly etc.) NB. The process handles adding new records, updating record changes and removing record deletions.
- Or use the QVD files in a new App and only load the changed data from the live data.

Power BI have released a recent improvement (April 2017). But it still a way behind Qlik sense in this respect

- It's now possible to create a Power BI App, upload to the cloud and then load the data in this App into another App. Either in the cloud (as before) or now also on the desktop. But this data can't be changed in any way. So it's an improvement (another option) but a little disappointing.
- It doesn't give the option of saving to one or more QVD type files. And then say incrementally loading from these files. So what I hoped for was the option to upload and save data in an App (say customer details) and then load this data as just another table in a new App. But this can't be done. Only the data from one App can be loaded. And that's it.
- The way I get around this is OK though in some situations. Power BI can merge tables. And then set these tables to update. Or not. So I load say a completed year's data as a non-update table. And then merge this table with the latest year that is say updated daily. This works fine in certain situations. But not always.

Once again Power BI have made a change that is an improvement but more still needs to be done.

Power BI vs Sense Cloud. Including Pricing

Pricing

To start the ball rolling on this I have included a link comparing pricing for Power BI, Tableau and Qlik Sense. The writer of this article is a Power BI devotee so care is needed (and I wonder whether Greg was annoyed that Power BI didn't have a Cloud Price advantage compared to Qlik as he hoped it would have). So please ensure the comments are taken into account as well. My view is that Qlik Sense and Power BI cloud are both nicely priced. Which is cheaper will depend on requirements. Whereas Tableau is more expensive.

https://www.linkedin.com/pulse/power-bi-qlik-licensing-deconstructed-compared-greg

A point to note on Power BI from another article is this. A Power BI user could once share an App for free via the cloud but not anymore.

http://exceleratorbi.com.au/power-bi-free-main-problem-here/

I think the existence of the Power BI Free product has been the root of the problem here. ***The fact that you could do so much for free (including some sharing) really muddied the waters and has*** *taken the focus away from acknowledging that there needs to be a two tier pricing model for users (free is not a pricing tier).* ***Microsoft is addressing one part of the problem by making it clear that Power BI Free is for personal (non sharing) use.*** *However it has not addressed the second part of the problem being the need for a lower priced offering for users that just consume data in a way I would describe as "low involvement".*

Qlik Sense has got this about right although I believe it still could be improved to better address the issue noted above.

Response Times

I did this because I felt Qlik Sense was so much quicker in this regard than Power BI. And as I'm impatient this is an important factor for me. So I used my Windows 10 Microsoft phone stopwatch and measured the times to initally load an App and then filter by 'New York'. It's from after making the New York selection to just measure computer speed times.

Qlik Sense. The initial time to load an App (after the site is entered) was 13 seconds (a message now explains that it is loading the App to ensure the best performance). But from then it was fast. If I made a filter selection it almost responded immediately. Likewise with changing the App. I forgot at times that I wasn't working on my desktop version of Qlik. Qlik have certainly done an outstanding job on this front. Hopefully this performance continues.

Power BI. The initial time to load the App – the same data as for Sense above - (after the site is entered) was 7 seconds. But from then it was slower than Qlik. About 2-3 seconds for the computer to complete its thing after I had done my bit. It's still quick enough though but the delay is quite noticable. Especially trying to set up or make changes to a new App.

Overview

Qlik Sense Cloud is still under development. It's usable now but lacks a number of data loading options. And other features are also needed. I will leave a full review until this is all done (say 6 months).

Othewise it's a stand alone product. Everything can be done on the cloud without using the desktop.

At present Sense cloud can load data directly from SalesForce, using Rest, Qlik Data Market or uploaded files. Other options are due soon (July 2017). So I use either (to share with others)

- An uploaded completed App using my free private edition or
- Using uploaded files. Like Excel, Txt files or QVDs etc. These are very quick to upload. Files with the same name automatically replace the old file.

Once an App is ready for sharing. This can be shared to a stream. The steam can be allocated to one of more users. At present Apps can be shared with

- One stream only with the free edition. And shared with up to 5 users. Limit App size of 25MB
- The free cloud can be shared with unlimited users for $20 per month. Limit App size of 50MB
- Three additional streams with cloud business ($25 inc VAT per user). Limit App size of 150MB
- Unlimited streams is planned for a future update.
- NB. Cloud business users can buy as many 3 stream workspaces as required. But are all stand alone. So it's posisble for one business license to have more than three streams.

The simplicity of Sense Cloud is a big plus. Its almost identical to the private edition but with the ability to set up and share with other users. This is simple and straight forward to do.

I believe Qlik have got the framework right. It's simple for a non computer person to get everything all set up. And everything can be done in the cloud. Or not as required. Looking ahead Qlik plan to link the in-house server version, the free desktop edition and cloud all together. So a user and developer can work on whatever suits them best. Do everything on the cloud. Or the desktop. Or a combination of both. So it will be possible for example to link to the desktop data file from the cloud without loading the data from the desktop up to the cloud.

https://community.qlik.com/blogs/qlikproductinnovation/2017/05/26/a-true-hybrid-cloud-platform

Once the users are all set up and the App development is completed:-

It takes a while (10-20 seconds depending on App size) to load and optimise an App. But once that's done it's fast to respond as noted above. From an user viewpoint Sense Cloud is a joy to use.

Power BI was always set up initially as just a cloud product. And yet not everything can be done in the cloud. I find this strange. The desktop version isn't fully developed as a completed product as the visuals / charts can not be locked in place. So it's really intended that the desktop version is only used to develop the App. Then this App is uploaded to the cloud to finish the process. It's a strange way to

do things. I find the cloud a bit messy and slow so would prefer to use the desktop version. But when doing this the charts etc keep on moving around unless care is taken.

Power BI need to have another think about what they are doing. Because the Qlik Sense approach is I feel far and away better.

But the way to develop Power BI is as follows. To explain I will set out the Power BI processes

- Load tables.
- Join, cleanse and transform the tables
- Set up expressions / measures

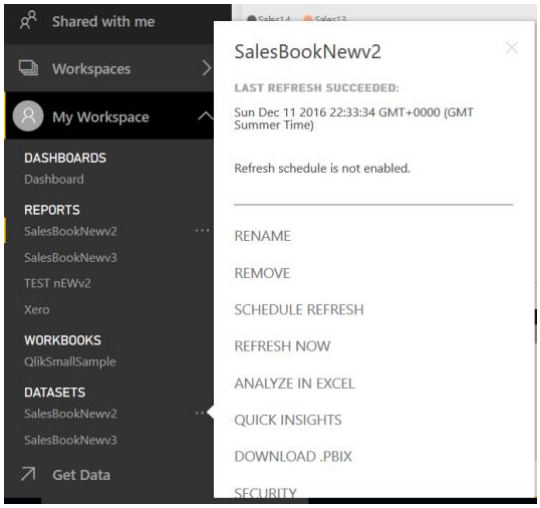
The above steps must be done on Power BI desktop.

- Set up charts / Visuals

This can be done on the desktop or in the cloud. Although I prefer doing it on the desktop and then uploading to the cloud. The main reason is because of the faster response times.

The rest (called Power BI Service) below has to be done using the cloud.

- Upload App to cloud. This then splits the App between one report and one dataset.
- Dataset. This can be updated (refreshed) after setting up a Power BI gateway. But the Dataset can not be changed (add a new field or table) in the cloud. It must be changed on the desktop (say adding a new column from a table or a new table). And then the App re-uploaded (published). The upload replaces the previous dataset and report.



- Reports. A so called report is the charts / visual and pages part of Power BI. These can be changed in the cloud. Reports can be shared as noted below. But the main sharing method is to set up a Dashboard. For example reports can not be set up as a favourite. And a dashboard needs to be shared before report sharing can be used.

  https://powerbi.microsoft.com/en-us/documentation/powerbi-service-share-unshare-dashboard/

We've seen that when you share a dashboard with tiles that link to reports, those reports are also shared at the same time. But what if you want to share just a report? Simply send the report page URL to your colleagues. As long as they are members of the same distribution group, in the same email domain as you, or have at least one dashboard that links to that same report (the dashboard has tiles that were pinned from that report), they'll be able to open the report.

- Dashboard type 1. A page from a report. This is a copy of a page (one tab) from a report (see above). More than one page can be linked with a dashboard. From one or more reports. But the pages are stacked one on top of each other (not included as tabs). These are fully functional reports. Its just a copy of everything on the report page. Where drill down etc can be done. But it does not include the right hand side filter. So filtering can be done using the slicers and built in charts. But not the side filters. This to me makes little sense. Filtering is critically important yet it drops one filtering option. In an area where Power Bi is still a long way behind Sense anyway. Another issue was the drill down and drill around option is lost. As was the transfer data to Excel option. So if I had the choice I would certainly prefer to work on the report not the dashboard.
- Dashboard type 2. This was initially the only option for a dashboard. It allows one or more chart / visual from one or more reports to be tranferred to a dashboard. But no drill down / filtering is possible. Is is possible though to double click on the chart / visual to access the appropriate report.

My view is the dashpoint is largely pointless. I would sooner work on the reports and share the reports not dashboards with others. With a 'dashboard' on one tab and supporting pages. But the key is the reports includes the full drill down / filtering options.

I can see the idea for the dashboard ie. one chart / visual or a full page can be combined from many reports. But too much is lost including the full slicing / filtering facility. Especially with dashboard type 2. And for me the slicing / filtering facility is an essential part of BI. Without this it is largely pointless. I want a BI solution not just static reports. Even if the detailed PBI report can be accessed.

But the Power BI dashboard reflects a different approach to the Sense approach. Sense is built around empowering the user. The user can easily filter (slice and dice) as required. If given permission the user can also set up their own charts and pages / sheets and share with other users (still to be done on Sense cloud). Power BI is still a report producer approach. The Type 2 dashboard is kind of a static report where the user can open a PBI report to slice and dice (or drill into). I prefer putting the user in the drivers seat (self service data discovery) with the option of guided analytics for some users as required.

So dashboards combining charts from one or more reports may be good for certain managers but why not just use reports. So have the option of sharing reports in the same way as dashboards. For example a P+L and balance sheet shows an issue with inventory. Why not just open a separate inventory report and investigate as required. This is the Sense approach. And what I find is when users get use to this empowered user approach they prefer it.

Cloud Conclusion

Qlik still has a lot of Sense cloud development work to complete. But at this point for me the Sense cloud approach is preferable to the Power BI approach. Both from a setting up and user viewpoint. Qlik Sense is simple and straight forward and ends up with a better outcome.

Update September 2017

I have now set up Qlik Sense cloud business for one client. I waited until everything could be automated. It's a workaround but works very well (see below). But overall cloud business was a joy to use. I did everything for them (including days of App development work) using my internet connection. I once thought I would never be happy to use the internet full time in this way but this was fine. In fact more than fine. I forgot at times I was not working on my desktop. There was a slight pause to action a key input but not often and cleared after about 5 seconds.

The way I set this up was as follows

- Using the QlikView private edition to load data and create QVD files.
- Used Microsoft script to automatically run this update 3 times daily.
- The QVD files was automatically saved to a Dropbox folder.
- The Sense Apps was laoded from DropBox

So not perfect. I would prefer a more direct link from the Business cloud Apps to the in-house servers. But this option works very well.

Overall especially for the low price it's excellent.

But Power BI has also made improvements it seems to the response speed. I have tested a few times recently and it seems much quicker now. But PBI need to sort filtering out. It's the one area where its not good enough (see above). And they have really had enough time to do better by now. Maybe the set up of PBI does not easily allow filters to be linked. Or to apply to more than one sheet.

Measures. Power BI vs Sense.

I thought Sense was way in front of Power BI. Maybe more so than the overall ratings I gave. For 5 main reasons that I can think of.

- The table expressions were similar. Because I thought DAX was so awful compared to Sense (hard to learn and use and far from intuitive) I mainly did more complex expressions in the tables with Power BI (rather than just in the charts using DAX). Whereas in Sense the measures are mostly easy and intuitive and also powerful. And when it gets complex using set analysis I just reverted to 'if' statements etc. Or did an expression in the table. NB. Power BI have recently released (first half 2017) a new automatic DAX calculator. This is quite limited but it points the developer in the right direction. See example below.
- Sense also has ‘master measures’ in addition to standard chart measures. Power BI doesn't have these. I set up almost all my expressions using this feature now. And then drag in the master expression in a chart as required.
- The table expression and chart expressions in Sense are similar except for the addition of the powerful set analysis feature. DAX is so different. It's another learning curve.
- Sense has features that DAX is missing. Like AGGR. I try to avoid aggr as it is complex. But I have found I can't at times. And once the AGGR concept is understood it’s not too difficult from then on. Another is Dual. I'm surprised PBI is missing this. It can be done in a different way but it’s a bit complex.
- Multi filters in a measure. eg 10 customers cf to the balance. This is so simple using set analysis NB Power BI has now closed the gap as explained below. sum(<CustNum={123,456,895etc}>SalesValue£). That's it. It’s also possible to use '123*' to include all number starting with 123. Or '-' (minus) to exclude customers etc. It’s also possible to easily do filters by two or more fields in a measure. Eg CustNum = {123 etc.) , Year = {2014} , etc. Just so easy. Yet powerful. And to lock the filters. Or allow the user to override them. So if two customers are set as a filter in a measure to allow the user to drill down to just one customer. Or not.

  Compared to PBI SalesKeyCust = CALCULATE(sum (SalesDetail[SalesValue£]), Customer[CustNum] = 123 || Customer[CustNum] = 456 || Customer[CustNum] = 895 etc)

I'm still unsure if it’s possible to filter by two fields in a Power BI measure. Edit. Update August 2017. It is now with the release of ‘Quick Measures’ (an assistant used to create DAX measures). I did a filter by one field and found a new DAX expression. This expression can then be adjusted to make a number of filters eg. Sales£ 2014-15 by CustGroup = CALCULATE (SUM('SalesDetail'[Sales£]), 'CalendarInv'[Year] IN { 2014,2013}, Customer[CustNum] IN {123,456,895}). So a big improvement on what they had before.

Here's another viewpoint. I thought Mike did a good job on this. Although I found learning simple (eg. above) set analysis easy enough. Agree it does get complex for the more difficult calculations but I sometimes revert to 'if' when in a hurry.
https://nform.biz/creating-...

Data Load & join, cleanse & transform.

And to finish. "Data Load join cleanse transform". When I first looked at PBI I thought their non-script option was much easier for a beginner than Sense. But now that Sense have a non-script option (Data Manager) even for a beginner my view is Sense is easier. (By some distance). So a new user can start and then if interested (or necessary) learn script as required. It's even possible (June 2017 release) now to combine the data manager with the written script. But Data Manager is still behind the PBI non script option but slowly the gap is being closed.

Re an experienced user. I much prefer script than the PBI 'edit queries' approach. Making major adjustments is easy in Sense. Not so with PBI. And my view is more can be done by a non-programmer like myself than with Power BI. For example

- I always try to just have one calendar. So one month and Year etc. that works for all dates. As I've seen users use the wrong date. This can be done using canonical dates (or a date Island) https://community.qlik.com/...
  It's an option that I use a lot. But others prefer different ways of doing this.
- I set up a BoM for one client. I found this as a non-programmer quite simple thanks to this excellent blog post. https://community.qlik.com/... I looked at PBI to do this and gave it a miss. Maybe a more experienced PBI could do this though.

Overall I have been amazed what I have done in Qlik apart from the above. And I'm aware that this might bias my judgment though so haven't written that much on this in my report. I would need to spend many more hours on PBI to fairly compare this. But of the time I have spent I felt Qlik is superior.

https://community.powerbi.com/t5/Community-Blog/The-Languages-of-Power-BI/ba-p/69104