FUJITSU

Power BI: Applying the 80/20 rule to an enterprise deployment to achieve 100% requirements coverage

Every good analyst knows that attention to detail is critical for reporting. But how much detail should you be trying to cover on behalf of your report users?

There are three standard models of Power BI enterprise deployment (for internal data and analytics)

Business-Led Self-Service BI	**IT-Managed Self-Service BI**	**Corporate BI**
Bottom-Up Approach Analysis using any type of data source; emphasis on data exploration and freedom to innovate **Ownership:** • Business supports all elements of the solution • Scope of Power BI use by business users: Data preparation, data modelling, report creation & execution • Governed by: Business	*Blended Approach* A "managed" approach where in reporting utilizes only predefined/governed data sources **Ownership:** • IT: data + semantic layer • Business: reports • Scope of Power BI use by business users: Creation of reports and dashboards • Governed by: • IT: data + semantic layer • Business: reports	*Top-Down Approach* Utilization of reports and dashboards published by IT for business users to consume **Ownership:** • IT supports all elements of the solution • Scope of Power BI use by business users: Execution of published reports • Governed by: IT

While this a great way to begin looking at your reporting environment, it is just a beginning. Multiple blends may exist in an organisation at once – for example a finance team's reporting and analytics initiative may come directly from the business users, standing well outside the scope of IT, while also being strictly top-down in nature.

Let's zoom out a bit. Generally, the gist of this 3-mode concept is that data solutions live on a continuum ranging from entirely user-driven to fully controlled by a central agency within an organisation.

Extreme user-driven	**The middle ground**	**Extreme centralised control**
Report user gathers and curates own data, creates reports and draws independent conclusions according to their understanding of the business metrics.	? 	Central team delivers read-only reports via strictly planned and managed processes. All key data points and visualisations are pre-defined and immutable.

Realistically, most BI implementations are somewhere in the middle. Either of the extreme ends of this spectrum bring challenges. On the left extreme end of the spectrum, users could be making up their own KPI outcomes using untested data. Also in this scenario, standard report users typically will not have access to fleshed out data models that cover the scope of their needs, relying instead on piecing bits and pieces together from different sources.

On the right extreme, data engineers and report writers will be over-run with requirements attempting to cover the full scope of the businesses data & analytics requirements, while users are frustrated at the backlog of reports awaiting development.

This article is about finding the sweet spot in the middle. In Microsoft parlance, we need to figure out how to have "control at the core with flexibility around the edges".

Let's take a glance at the crux of the challenge

No two organisations are the same. There is no absolute line that we can draw across the blended model that will work for every business. We must figure out where the optimal balance is on a case-by-case basis. This is where the 80/20 rule is useful.

Let's start with 3 safe assumptions:

1. We want centralised control of key data models, metrics and data provisioning so that everyone is playing with the same well-governed data stack.
2. Report consumers want reliable reports – but they'd also like to tweak things and add their own spin. They do not want to be completely limited to pre-canned reports.
3. The development team does not have the capacity to make special custom versions of every report and dataset for every business user who wants them.

The key area of difficulty is report personalisation – what works for one person may not be the right solution for another

a) C-suite person "A" loves massive, fully granular tables of data. She has an uncanny ability to scan a gigantic spreadsheet and absorb and understand the numbers and see the patterns with little further distillation.
b) Manager "B" wants high level numbers summarised in visuals that make related factors driving numbers obvious at a glance. In particular "B" wants his reports to have in-your-face key metric reporting with few frills.
c) Analyst "X" wants to just see top / bottom lists in key reports, indicating growth areas and problems to be identified.
d) Analyst "Y" is keen not to lose focus on the middle ground as this is where most business operations live.

e) Various key stakeholders have preferences regarding visualisation types. Many find pie charts for example to be an extremely polarising visualisation type.
f) Everyone agrees that they want to be able to "play" with the numbers like you can in excel, but some disagree on how much valuable time a sales rep for example, should be spending analysing their pipeline vs talking to customers.

In the above scenario, a single sales report covering a handful of data points can easily devolve into a set of 10-15 report variants, each driven by slightly different takes on what is important. This is what we want to avoid.

So, let's 80/20 this

Also known as the Pareto Principle, the 80/20 rule states that for many outcomes, roughly 80% of consequences come from 20% of causes. Applying this school of economic reasoning to our Power BI report provisioning opens some interesting ways of looking at how to approach enterprise reporting.

1. Control the core data and measures. This is non-negotiable, but what counts as "core" is. Shoot for a minimum 80% coverage of key data in your certified dataset(s). Aim for a single "golden" model that covers as much scope as possible. Patrick from Guy in a cube makes the argument for this better than I can.
2. Agree a set of reports that covers the majority use-case scenarios, enabling the most critical 80% of scenarios out of the box. At this stage it is ok if individual needs and preferences are not specifically addressed across the board for all users.

No rocket science here. Just carefully process all the requirements, conflicts and all, and determine the best path to hit 80% key area coverage, biased towards the most critical elements and the least advanced users.

Now let's 100% this

Power BI has several features that are designed to grant users this "flexibility around the edges". With the right training, encouragement & support, report consumers will be able to take this 80% solution and make if work for them – regardless of their unique needs.

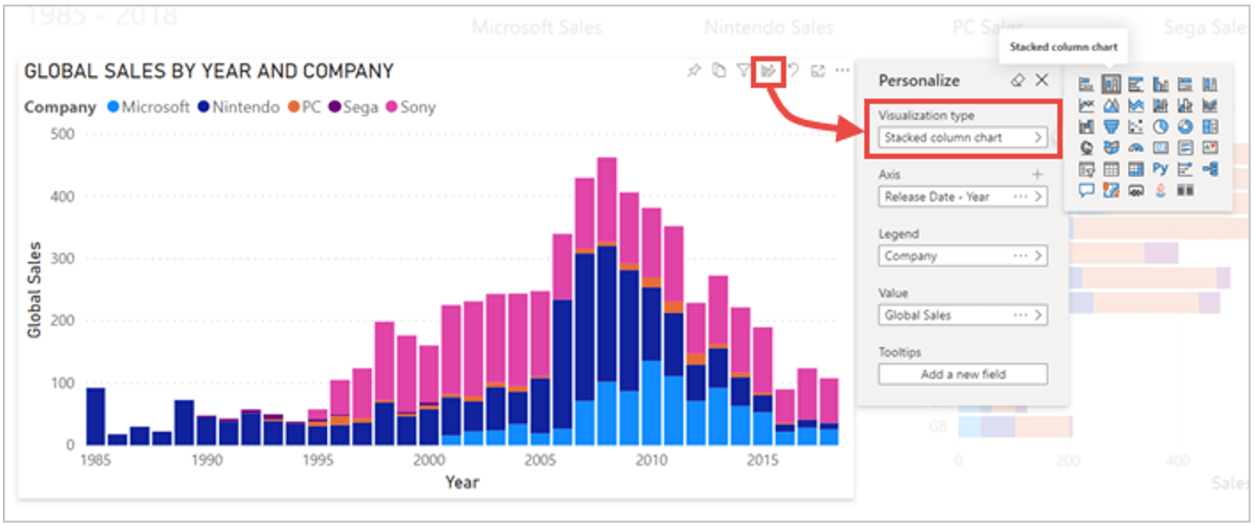
Perspectives

One of the major challenges dev teams find with giving access to end users to the underlying report model, is that advanced datasets typically have all kinds of things that an average user will (at best) be confused by. From context flags throughout the data, to system and UI control elements never meant to be seen by report consumers, the learning curve to know how to select and process elements in a large, advanced dataset can be steep.

Perspectives allow you to grant access to a subset of the data. For example, you could give sales reps a view on the model that allows them to see only the sales measures, customer details, contact history and product information. This will greatly simplify the process for a rep to use this model independently, while reducing the risk of error.

Visual personalisation

User "x" doesn't like a particular chart type that has been selected for a key report? No problem. Enable report readers to personalise their visuals and they'll be able to hack the report for themselves.



Not only will they be able to change the visual to another type (e.g., bar chart to line graph), they'll be able to change what dimensions are used to slice the data and even select different measures. You want to see margin % by store instead of margin $ by region? Fine, knock yourself out!

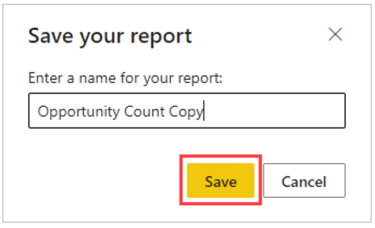
Users will in fact be able to bookmark different report version changes and save their re-imagined version for later use, without fundamentally changing the original report in any way.

Combined with Perspectives to limit the scope of available fields, making customisation easier, this is a killer feature.

Enable users to copy reports

All Power BI reporting provided to users by your dev team should be contained in Apps. User custom versioning of reports should be limited to their personal workspace.

Assuming you've configured the tenancy to allow it, from within an App's report, a user may select "make a copy".



This will place a version of the report in that user's personal workspace. If you've been following best practices and using a single dataset with connected reports, then no data is copied. All existing refresh schedules still apply. But now the user has a version of the report in their own personal workspace that they can do anything with. You want to create a page with nothing but pie charts? Fine, go ahead!

Calculation groups

Calculation groups are an incredibly powerful tool in datasets, allowing for meta level report customisation on the fly.

Say you have a report page with key drivers ready to go, all based around net values. Suddenly a voice from the 20% calls out saying they absolutely need this report to use gross figures for their team. If you have used calculation groups to construct the logic behind the charts, the solution is easy. A simple slicer visual can be dropped into the report, defaulted to net figures. Your 20% users can simply select “gross” on the slicer and now it’s a gross margin page!

No duplication of report pages, no separate reports for user group “x”, no additional support overhead. 100% requirements met.

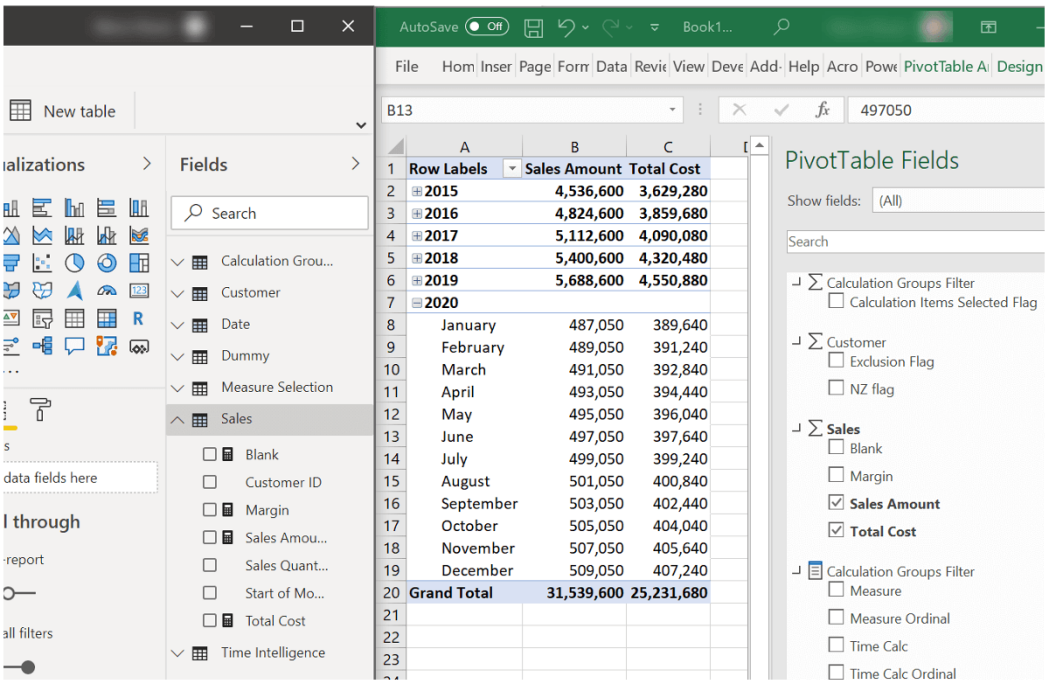
Use a Time Frame Table

Using time frame tables in your modelling drastically cuts down the number of measures your team needs to enable and support for users. One single sales metric can be sliced across timeframes just as quickly and easily as you would slice out a region or product category. This is insanely useful for scenarios where users have different views on what constitutes a relevant data window. Say, people with an operational focus are concerned with WTD & MTD, but execs are concerned with FYTD trends. No problem. No need for separate reports, or multiple different versions of the sales measure to accommodate this. A simple slicer on the page will create this flexibility for you.

Enable excel connector

So now the analysts want to play with the data a little more. What would things look like if the cost margin was 1.5 instead of 1.4? You could go down the road of coding ‘what-if’ scenarios into your reporting solution, but this is an edge case. Tomorrow they may want to see another different what-if: what would happen if they merged two sales regions or take advantage of a limited supplier bulk buy deal. In excel this is easy. But we’re not in excel. We’re in Power BI.

So, let’s move this party to excel!



With some basic training and a well-planned data model this is super easy to do. If you've set up perspectives, it's even easier for your end users to do this for themselves.

But what about that big so-called wall-of-numbers view? The excel connector is great for high level queries, processing aggregates, etc. But once you try to boil a large dataset down to the line level it gets, well, slow.

Enter paginated reporting.

Paginated reports

There's plenty written about paginated reporting already. Suffice to say that paginated reporting is essentially SSRS style reporting that allows for extracting data well-suited to a large spreadsheet. This is what we're after right?

But how about the scenario where a user has identified a set of criteria in a report that is producing an anomaly they want to review in detail in excel? Drill through on the visual just isn't cutting it and using the excel connector to re-create the scenario and get the line level data behind it is challenging.

Enter the paginated report visual!

Paginated report visual

Imagine you could hit a button on a report and the selection of data you are currently reviewing could be rendered in a pre-canned paginated report? You can totally do this. The Power BI paginated report visual allows you to take the filtered values in the report and send this to a well-engineered paginated report as a collection of parameters. Now you can extract key data behind everything in the dataset that's driving this report data into excel (or pdf or word doc etc) with a click or two. That's powerful!

Now imagine all these features used in combination

With perspectives enabling a controlled subset of data, visual customisation in the hands of users, data modelling considerations such as time frames and calculation groups, embedded paginated reporting, personal workspace freedom... getting from 80% coverage out of the box to 100% user requirement coverage is absolutely do-able.

All it takes is some use case planning, well-constructed datasets, and a little end user training to enable the availability of near infinite reporting possibilities from a handful of curated reports.

To find out more about how your business can achieve 100% of requirements cover with Power BI reporting, please contact a Fujitsu Data & AI specialist now.

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