O365 User Group

Power BI for Maintenance and Reliability – through the lens of an end-user

27th August, 2020

Schedule for the day

- **11.00** - ***Welcome*** from Donna McWilliams, Managing Director of Electra Learning Ltd
- **11.05** - ***Case Study: Power BI implementation through the lens of an end-user*** from our guest speaker Jason Davidson
- **11.40** - ***Question and Answer*** with Jason Davidson and the Electra Team
- **11.50** - ***Summary***
- **11.55** - ***Conclusion***
- **12.00** - ***Close***

Career History / Project Role

- History
  - 20+ years working in oil and gas industry.
  - SAP PM support and implementation.
  - Various work management implementation and improvement projects on and offshore.
  - Maintenance Excellence Project Implementation.
  - Reliability Engineering.

A constant “thirst” for data has been a common theme throughout.

Background to the M&R Project

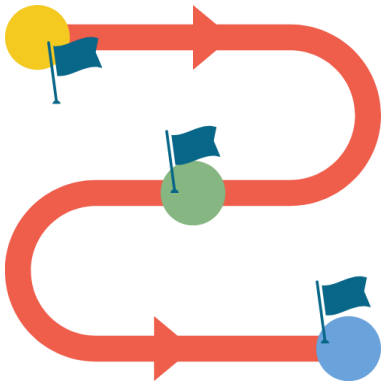
- **Problem**
  - Reporting of incorrect and inconsistent backlog and other maintenance and reliability KPI data to Snr Management and shareholders – embarrassing & career limiting!
  - Trend data stored in Excel, manually updated each week.
    - Maximo BIRT reports.
    - Business Objects extracts report.
    - Excel pivot tables.
    - Excel chats and table – output of KPI report.
  - Changing requirement and KPI definitions.
  - Lack of capacity within IT to delivery a growing list of requirements.

A wee bit of a mess!

- **Implication**
  - Labour intensive (1 FTE for 3+ days a week+) – costly.
  - Complex, heavily dependent on individual's knowledge – error prone, not scalable.
  - Stressful for all involved.
- **Need**
  - An integrated solution for managing our Maintenance and Reliability KPI trend data – a single accurate source of the truth!
  - A consistent definition of our maintenance and reliability KPIs - a stable set of controlled requirements.
  - A flexible visualisation tool for business user self service creation of decisions support reports and dashboards - we know "roughly" what we want, but don't really know until we see and use it.

Key Project Activities

- Create a controlled KPI definition document.
  - This was the foundation for the requirements – took a while but was time very well spent.
- Defining requirements.
  - Business requirements document.
  - IT requirement document.
- Tendering and selection process.
  - Power BI was the clear winner, in terms of cost, functionality and integration with the IT strategy and infrastructure.
- Build data warehouse.
- Build Power BI reports.
- End user training & roll out.

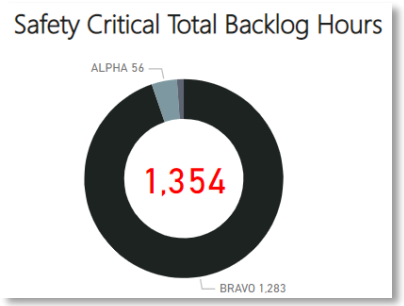


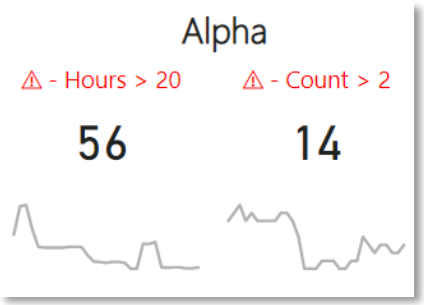
Lesson 1 – Invest in a Data Warehouse

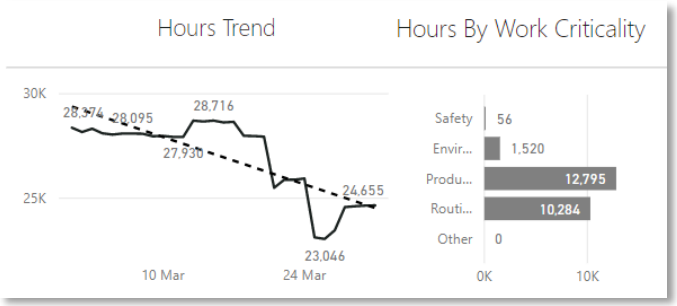
- Integrates data from multiple systems, making it much easier to build reports for an end-user.
    - Initially – CMMS, Production Loss Management, Availability Tracking, Production Accounting, Time Writing.
- Creates a common set of codes and definitions across different systems.

BUT…

- Managers want to see dashboards and reports!







Lesson 1 – Invest in a Data Warehouse

What I'd do differently:

- Manage the expectations of the time and business input required to build an effective Data Warehouse (DW).
- Get some quick wins - e.g. create visualisations and reports that people can see, even if they don't use the DW initially.

What we've learnt:

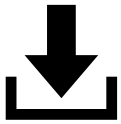
Don't hem yourself into only using a DW. Power BI has far too much potential for integrating other data sources.

- Examples:
  - Share Point List for action tracking.
  - Excel online, particularly for adding narratives to reports.
  - Pre-existing data reporting cubes - don't need to re-invent the wheel.

Lesson 2 – Power BI is NOT a Replacement for Excel or Business Objects

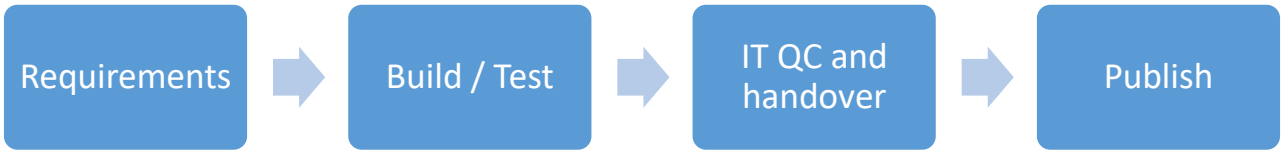
- Power BI Desktop doesn't replace paginated reporting tools.
  - Have a strategy for deploying **Power BI Report Builder,** Business Objects or a similar tool.
- People will still want to export to Excel. That’s ok. It allows prototyping of requirements – aka innovation!
- Excel is not the enemy, **unmet requirements are**.

What I’d do differently:
Enable exporting of lists to Excel from PBI



Lesson 3 – Define a Clear Report Publishing Process

- Define the end user report publishing process.
  - We didn't initially and it took an extended time to publish user generated reports that were automatically refreshed on the Power BI Service.
  - Include template and design standard.
  - Include a central point of quality control within IT.
  - Provide power users with the ability to publish updates to reports to existing apps.



Lesson 4 – Set-up a Clear Governance and Request Tracking Process

- During the project, requests went to the Power BI / Data Warehouse specialist.
  - Fine during the project phase, but as the DW expanded to other departments this became a problem.
    - Mixed priorities.
    - Unclear plan of implementation.
    - Missed / forgotten or mis-understood requirements.

- **What we did**
  - Use your formal IT ticketing system to manage change & new requests.
  - Set up a clear governance process, with input from each business department to set cross-company priorities and determine resource allocation and levels.
  - Don’t leave it to IT or whoever shouts loudest to set priorities - everyone ends up worse off.

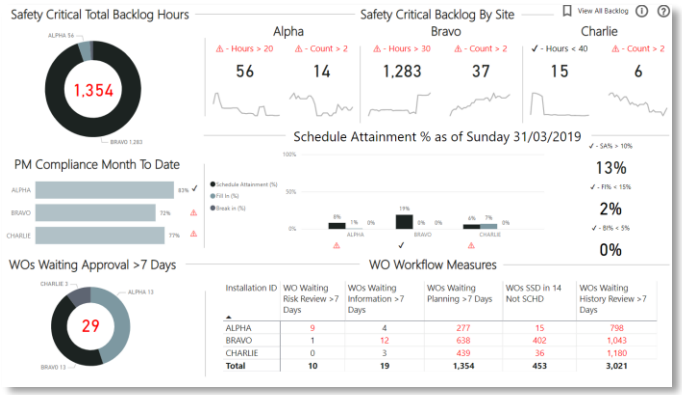
Lesson 5 – Standard Power BI Certification Training was Ineffective for Power Users

Suggested focus areas, in (rough) order.

Topic	Key Learning Points	Delivery
Overview of Power BI	• Data to dashboard quick example. • Desktop vs PowerBI Service difference. • Your specific corporate data model, sources etc. • Publishing process (inc. template standard).	Custom created tutor and/or eLearning.
Creating visuals	• Good visualisation practice. • Corporate Design Standards. • Publishing Process.	Custom created tutor and/or eLearning.
Power Query	• Importing data and manipulating it.	Off-the-shelf eLearning e.g. Udemy.com.
DAX	• Create measures and calculated columns to answer business questions. • Including conditional formatting skills.	Off-the-shelf eLearning.

Lesson 6 – Integrate Power BI Business Processes

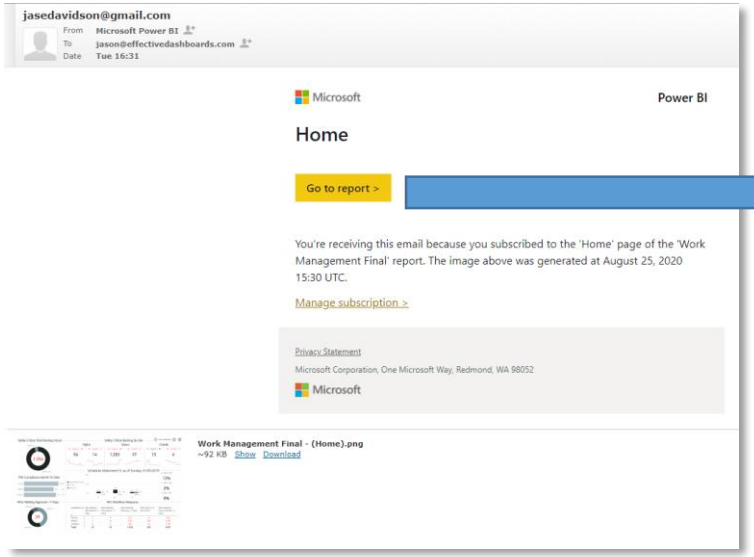
- Dashboards don’t sit in a vacuum.
- Create Power BI Service apps around a business process.
- You don’t need to limit app contents to Power BI reports and dashboards.
- Example: Work Management Process
  - Meeting agendas
  - Power BI report
  - Link to Maximo
  - Link to actions tracker

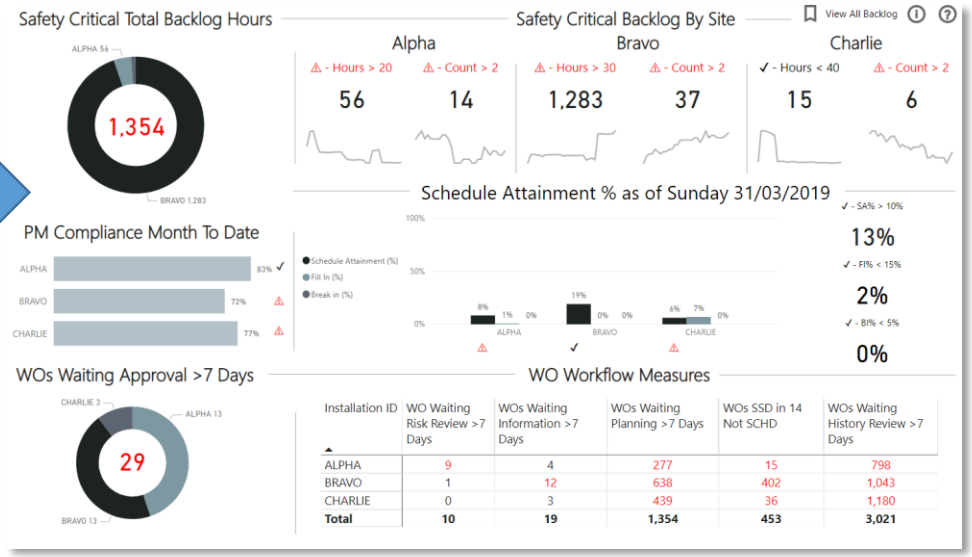


Demo

Lesson 7 – Use Subscriptions to Push Data

- Push data to end users, particularly managers.





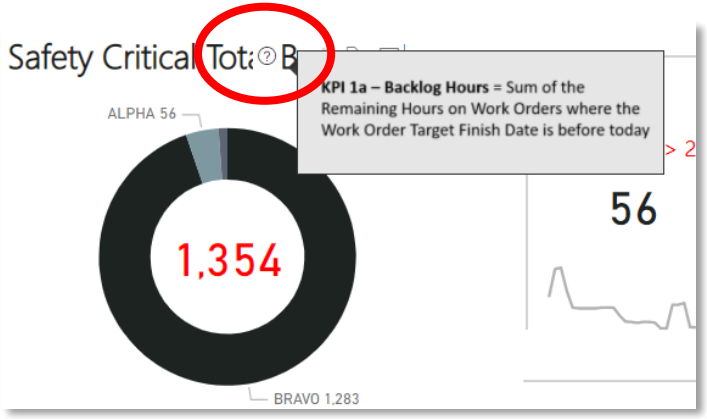
Email into your inbox.
Image and link to PBI report.

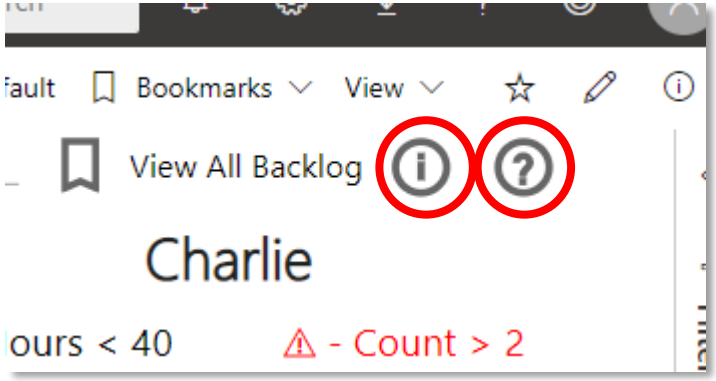
Direct Link to the Dashboard

Power BI

Lesson 8 – Use Self Service Help

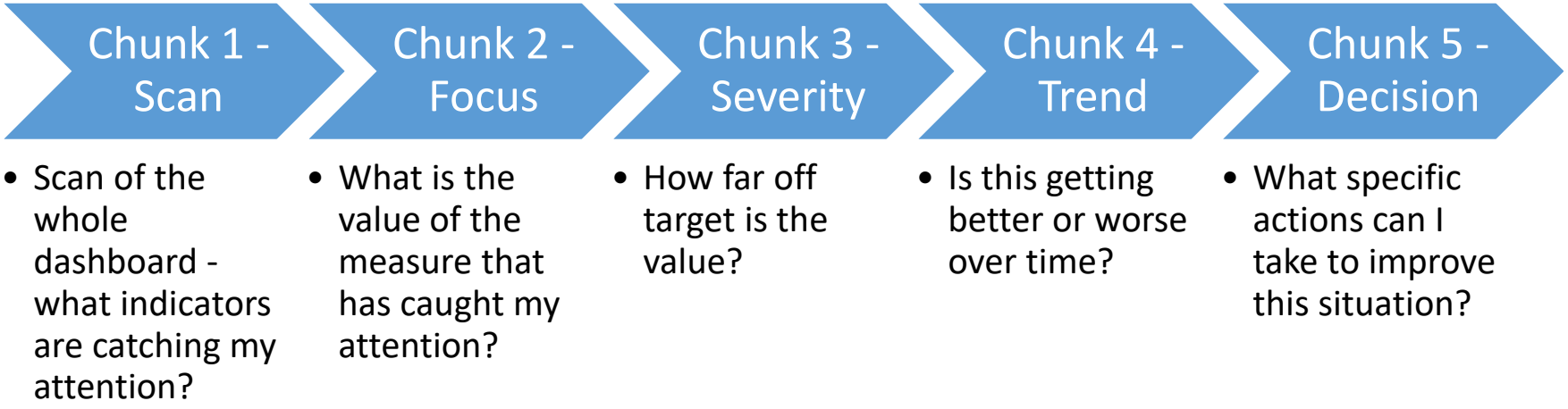
- Include Power BI's tools to provide 'point of need' self service help.
- Tools:
    1. Visual specific help tool-tips
    2. Help / Info pages
    3. Help overlays





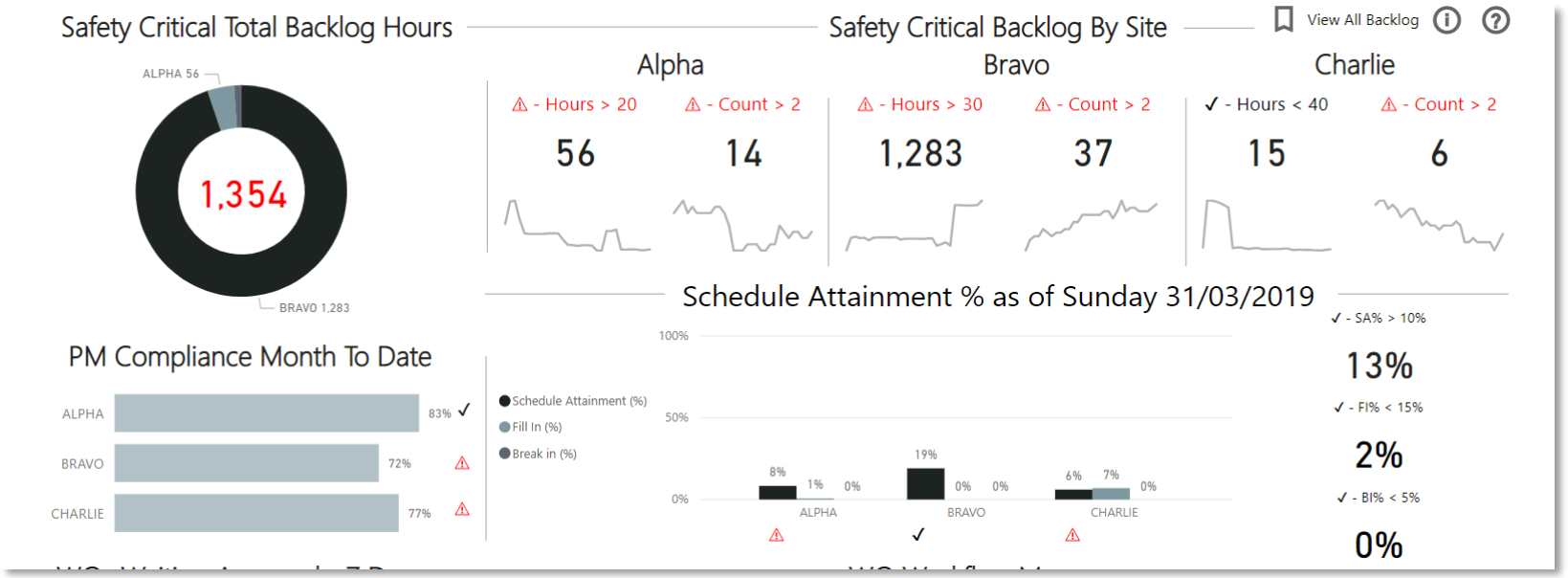
Lesson 9 – Focus on the Data to Decision Journey

- The 5 step data chunking journey



Lesson 10 – Use Conditional Formatting

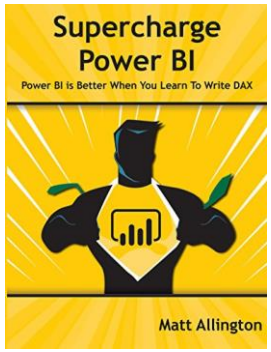
- Support the data to decision journey.
- Read “Information Dashboard Design” by Stephen Frew.

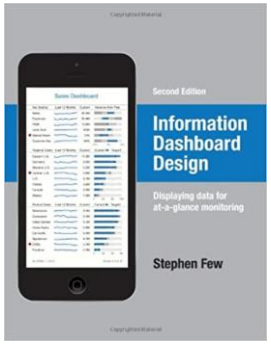


Useful Resources

Books

- Information Dashboard Design
- Supercharge Power BI





Websites

- sqlbi.com
- radacad.com
- Udemy.com

Youtube channels

- Guy-in-a-cube
- Curbal

Presenter Resources

- Website
  - Effectivedashboard.com
- My Youtube Channel
  - bit.ly/effectivedashboardsyoutube

For more information, contact Jason on jasedavidson@gmail.com

Q&A Panel

Jason and the Electra Team

Conclusion

Useful information

- Join our Member's area on our website for exclusive training material, O365 update information, blogs and more.
- Subscribe to our monthly newsletter from the website.

Next date for your diary

- Dec 2020 – Low budget, high impact training for Power BI

Follow up

- Complete the feedback survey to be entered into a draw to win a £25 Amazon voucher.