



Reporting & Dashboards v1.0

John McIntyre

Agenda

Why do we even bother?

Customer centricity

Telling Stories with data

Where does the data come from?

Visualisation principles

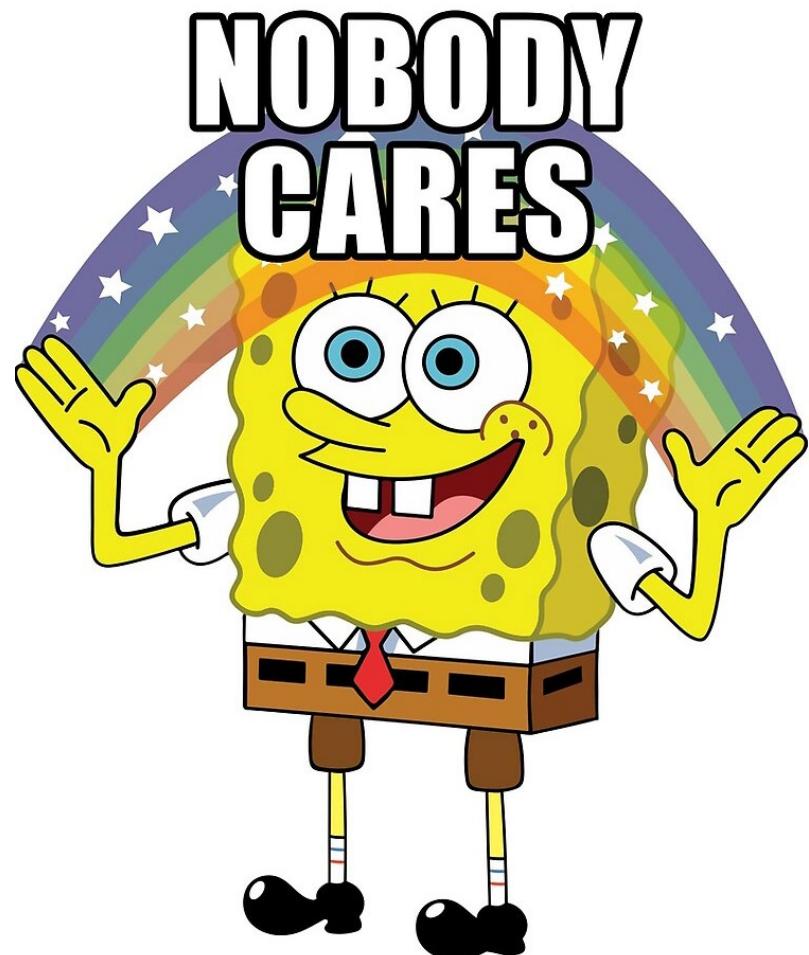
Too much noise?

Why do we even bother?



Why do we even bother?

- $SPI = EV / PV$
- $Severity * Likelihood$
- $t_e = (a + 4m + b)/6$
- $E(X) \approx 1N \sum n=1 N x_n.$
- $V = Total\ Story\ Points / Sprints$
- RAG



Why do we even bother

“Data is meaningless – unless you have a decision to make”

Lori Silverman

Customer Centricity



Agile Coach



About me:

Used to be a project manager, now coaches agile teams. 7 years software delivery experience.

Goals:

Reduce Lead Times

All teams embrace continuous improvement

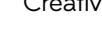
Needs:

Visibility of bottlenecks

Guidance on where to focus

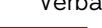
Personality:

Introvert  Extrovert

Analytical  Creative

Busy  Time rich

Unstructured  Organized

Visual  Verbal

Network:

Scrum Masters and Development teams

Behaviour Traits:

Self-aware

Persuasive

Altruistic

Pain Points:

How can teams be self-organizing if they can't see real-time business data?

Everything is 'too waterfall' around here.

Our teams work well, but the dependencies that catch us out.

Interests:

Loves understanding what makes people tick, and how to help them achieve their goals.

CEO



About me:

Third CEO role, Now in a turnaround role.

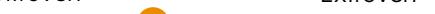
Goals:

Hit the revenue numbers
Pivot to digital
Improve EBITDA

Needs:

Tangible results that I can see this year.
Product that increases demand

Personality:

Introvert  Extrovert

Analytical  Creative

Busy  Time rich

Unstructured  Organized

Visual  Verbal

Network:

Board and Stakeholders

Powerful influencer in regular all-hands

Behaviour Traits:

Charismatic

Persuasive

Precise

Pain Points:

Tech delivery can be tracking fine... right until it blows up and ends up with a 6 month delay.

Demonstrate return on capital investment.

Interests:

Loves building successful teams, and convincing stakeholders to invest.



About me:

25 years finance, corporate strategy and M&A experience

Goals:

Reduce finance expense
Realize Efficiency from Cloud IT

Needs:

“Show me the numbers”
Realistic forecasts
Clear ROI

Personality:

Introvert  Extrovert

Analytical  Creative

Busy  Time rich

Unstructured  Organized

Visual  Verbal

Network:

Board and investors.

Behaviour Traits:

Strategic

Determined

Ethical

Pain Points:

Need to ensure our investment goes towards long-term value creation.

Often hard to see where tech investment is going: tech for the sake of tech.

Interests:

Finance social events; active member of charter group.

Telling Stories with Data



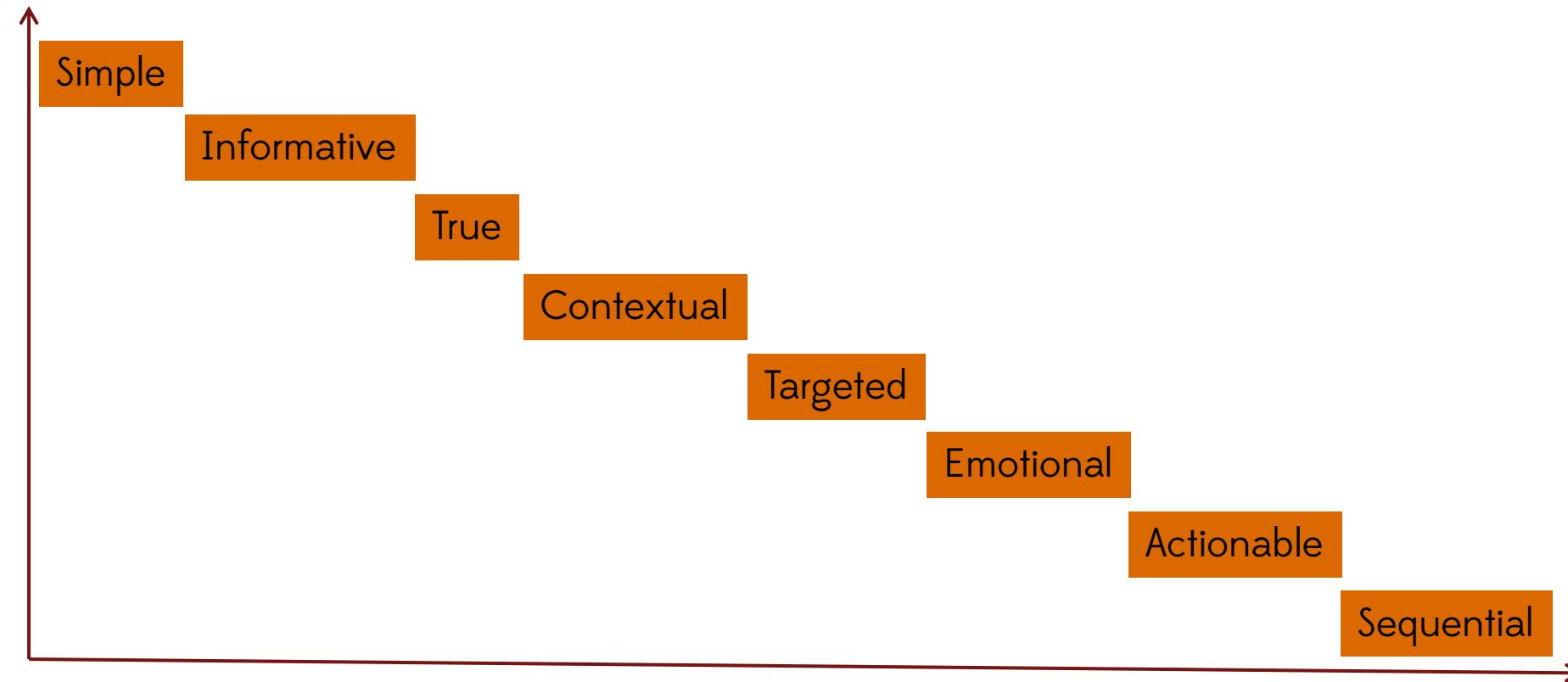


Dashboards are only the beginning

- It is not enough to simply create interesting graphs – the data needs to generate insight, and that is where coaching, support and expertise come in to play.
- If your PMO is simply making data look pretty, then you are a drain on your organization.
- Value comes from turning data into insight, and insight into decision making



What do well told data stories look like?



Where does the data come from?





Project Data Quality is rarely that good

- Project Managers focus on delivering the project over quality reporting
- Agile Manifesto values working software over comprehensive documentation



Where does the data come from?

PPM Systems



IT Systems



PagerDuty

solarwinds

Business Systems



Microsoft Dynamics™ GP

NETSUITE

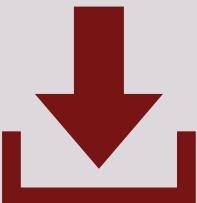
ORACLE®

ERP

Where does the data come from?

Reports

Generating reports in the application's preferred format, on a scheduled or on-demand basis before converting them into a meaningful format.



APIs

API: Application Programming Interface

APIs let software applications communicate with other applications rapidly through a standardized interface.

```
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  },  
  {  
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    "latitude": 35.87500000  
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  {  
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    "latitude": 37.67500000  
  }]
```

Data Scraping

Using software tools to extract information from application fields when it is not easily accessible in any other way.



PowerApps

Customizable mini-apps to rapidly input and collate data.



Visualisation Principles



Dashboards vs Reports

“A dashboard is a visual display of the most important information needed to achieve one or more objectives, consolidated and arranged on a single screen so that the information can be monitored at a glance”

Few. Information Dashboard Design. O'Reilly Media (2006)

Dashboards present data to enable rapid insight generation.

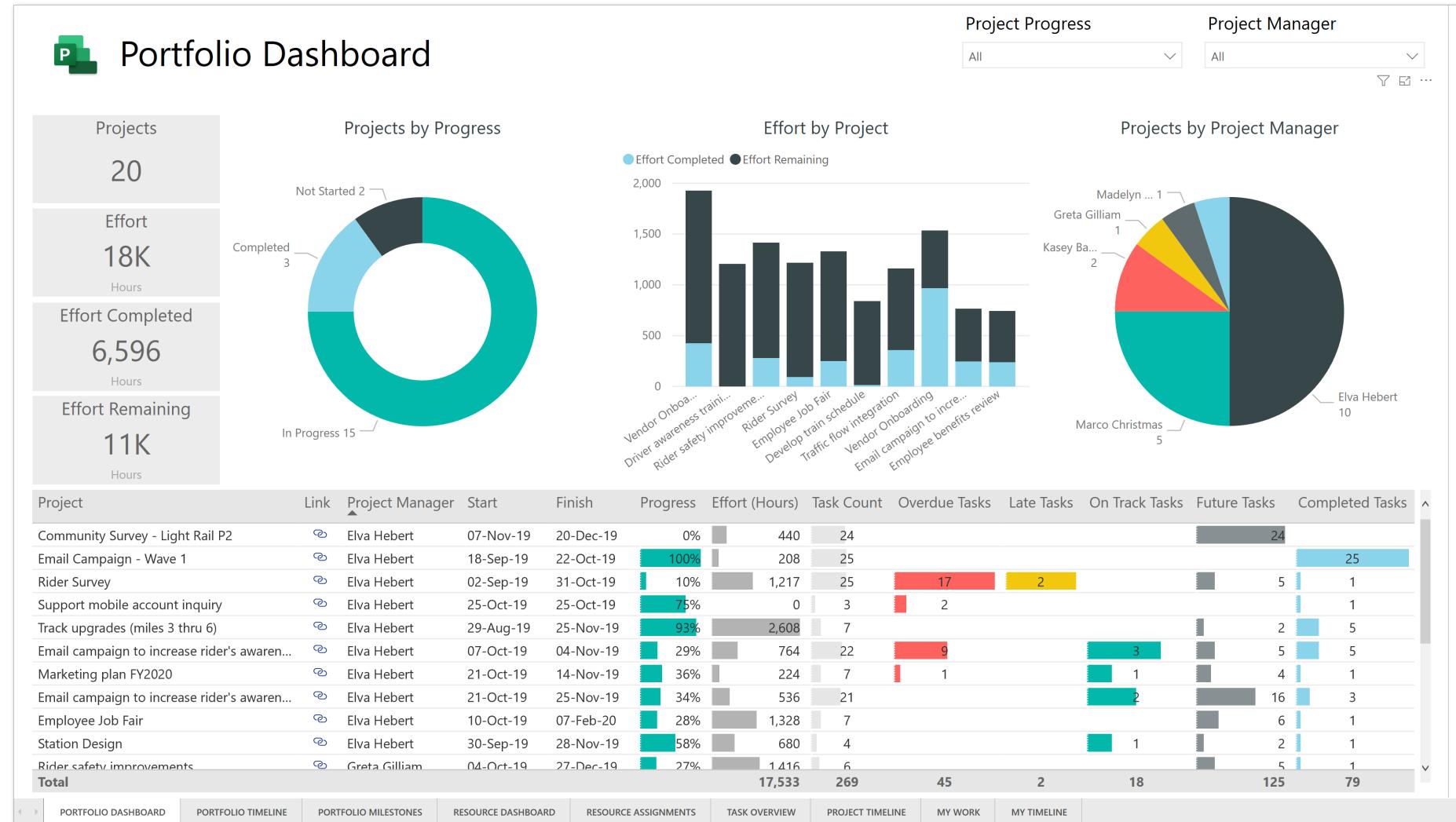
Reports tell stories. They provide both data and insight to support decision making.



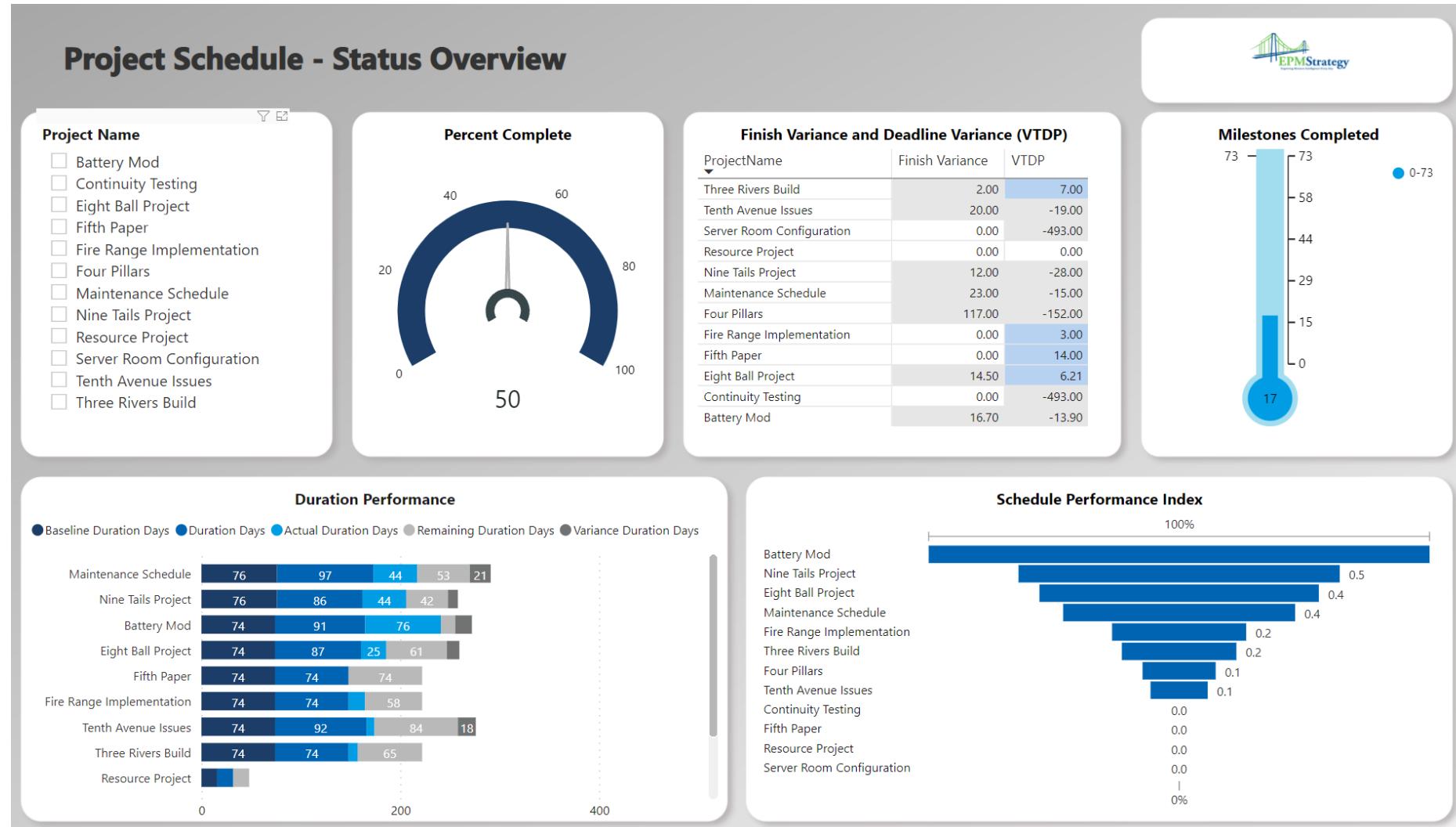
Dashboard and Report Design

- Who are your audience?
 - What will they need?
 - How often will they consume data?
 - What do they already know about the subject matter?
- **What is your message?**
- Select the best means to display your message
- Design the display to show the information simply, clearly, and accurately
 - Make the data prominent and clear
 - Remove all components that are not necessary
 - Highlight the information that is most important to your message.

What do we think?

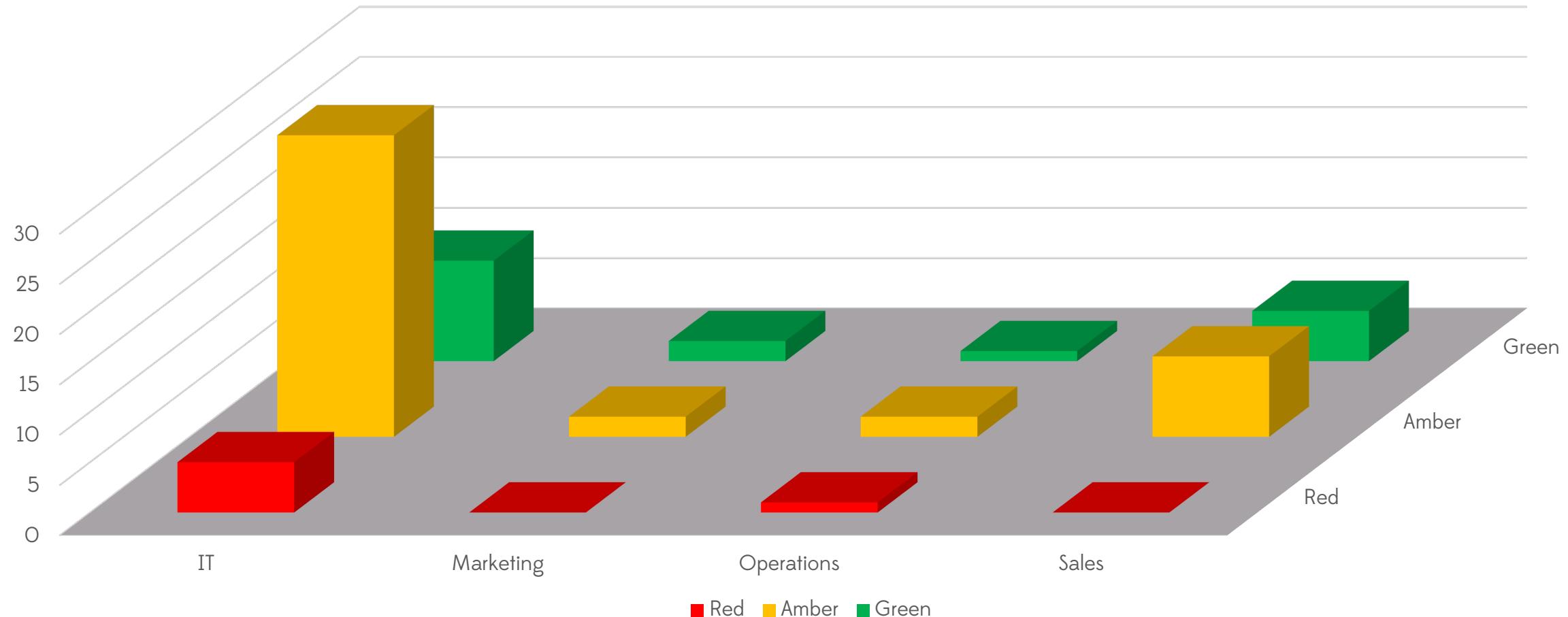


What do we think?



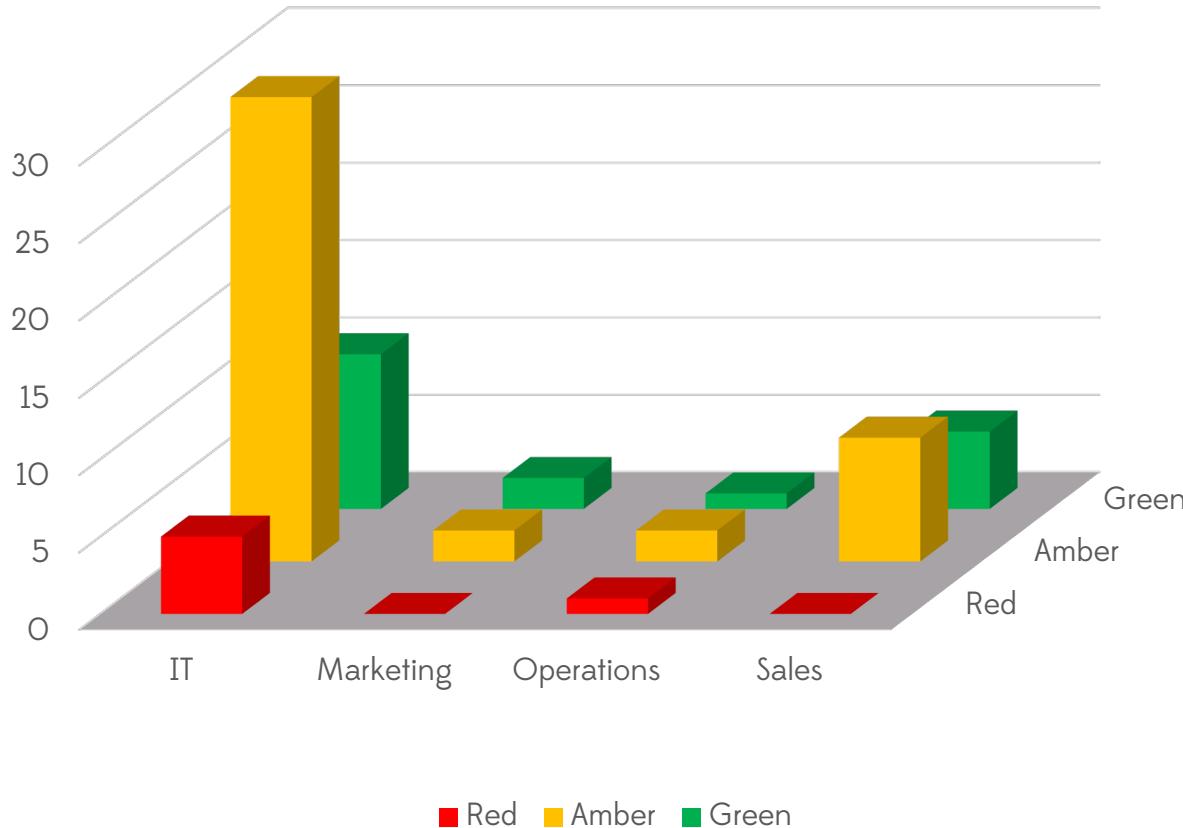
RAG Status

RAG Status by Portfolio, Week 32



RAG Status

RAG Status by Portfolio, Week 32



	This Week			Previous Week		
	Projects requiring urgent intervention	% Projects requiring urgent intervention	Total value of projects requiring urgent intervention	Projects requiring urgent intervention	% projects requiring urgent intervention	Total value of projects requiring urgent intervention
IT	5	11% £	300k	7	16% £	300k
Marketing	-	- £	-	-	-	-
Operations	1	25% £	140,000k	2	50% £	196,000k
Sales	-	- £	-	-	-	-
	6	9% £	140,300k	9	14% £	196,300k

■ Red ■ Amber ■ Green

Tables vs Graphs

Use tables when

- The display will be used to look up individual values
- It will be used to compare individual values
- Precise values are required
- The values require more than one unit of measure
- Both detail and summary values are included

Use graphs when

- The message is contained in the shape of the values (eg patterns, trends, and exceptions)
- The display will be used to reveal relationships among whole sets of values.

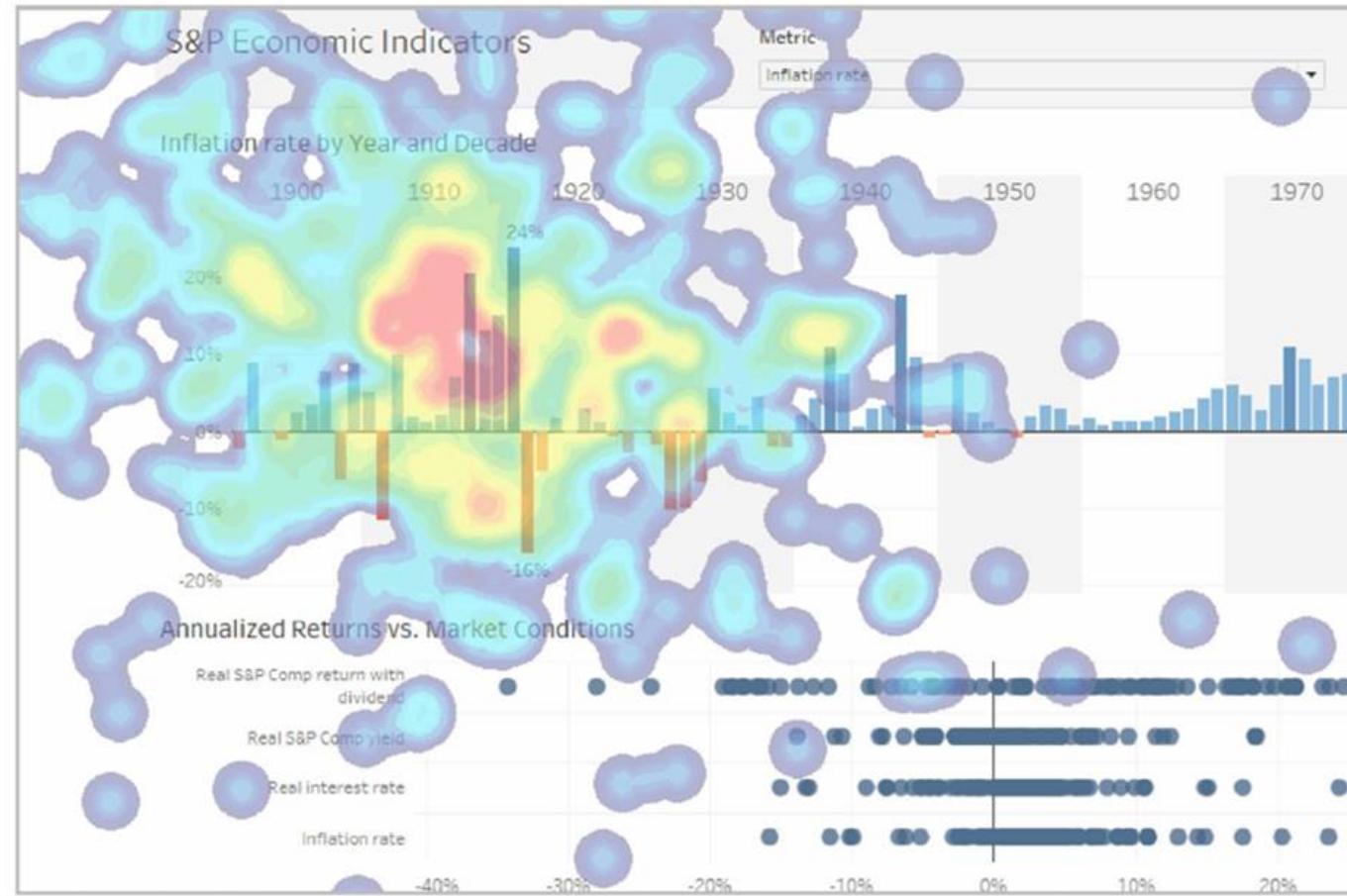


Interactive dashboard software often allows you to mix and match – but think carefully about your primary view.

Few, S. *Show Me the Numbers*. Analytics Press (2012)

Organize your data

- Group into meaningful sections
- Prioritise (important things first)
- Sequence data to help people understand the order in which information should be read.



Using Text

Graphs and tables are not enough.

Text can:

- **Label** data (eg titles and axis)
- **Introduce** a topic or visualization
- **Explain** why the data are important
- **Highlight / Reinforce** important points highlighted in the data
- **Inquire**: open questions are important for insight generation
- **Recommend** what could (or should) be done
- Call for **action!**



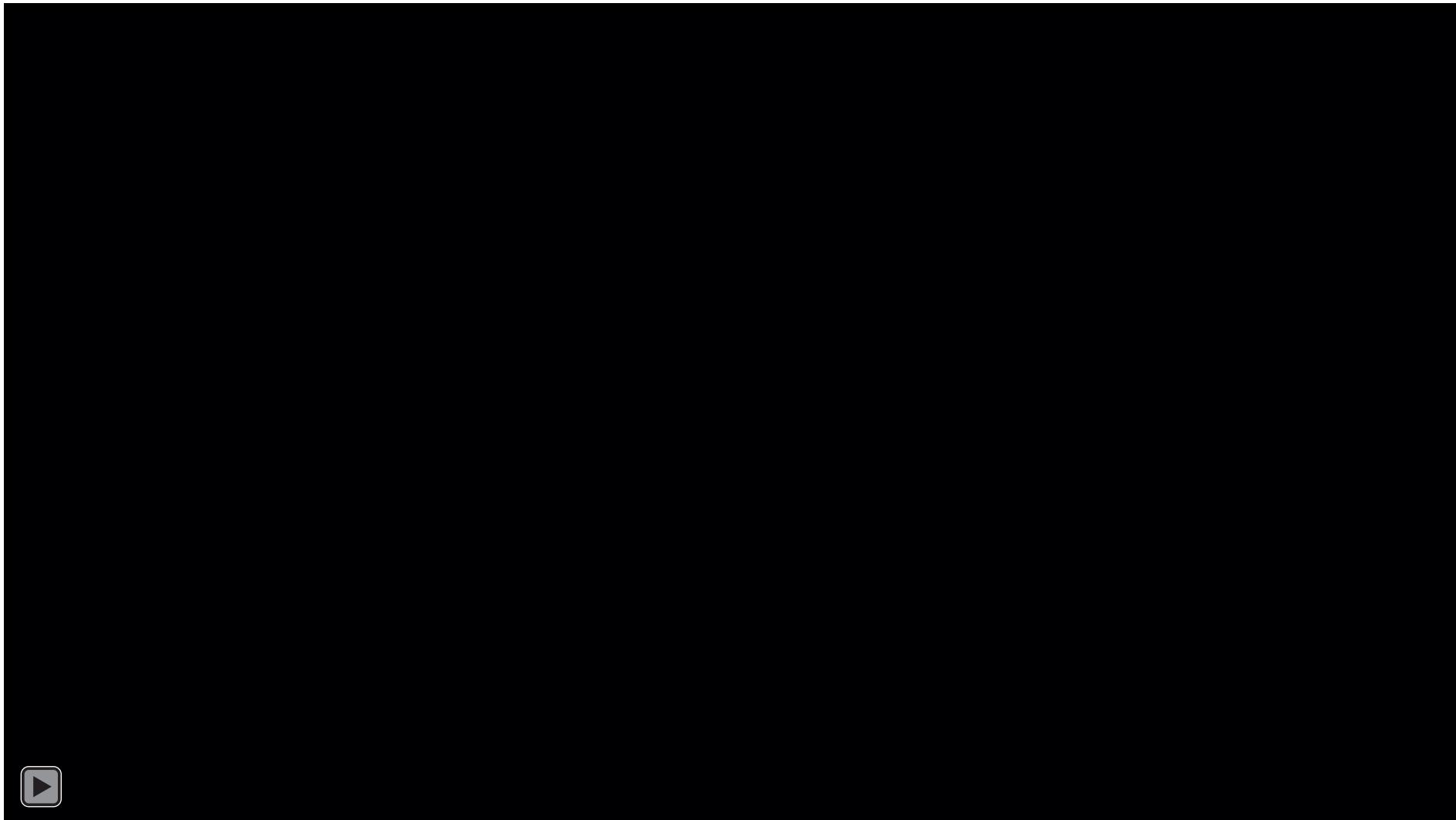
Ruthless Minimalism

$$\text{Data Ink Ratio} = \frac{\text{ink used to provide data}}{\text{Total ink used}}$$

Too Much Noise?

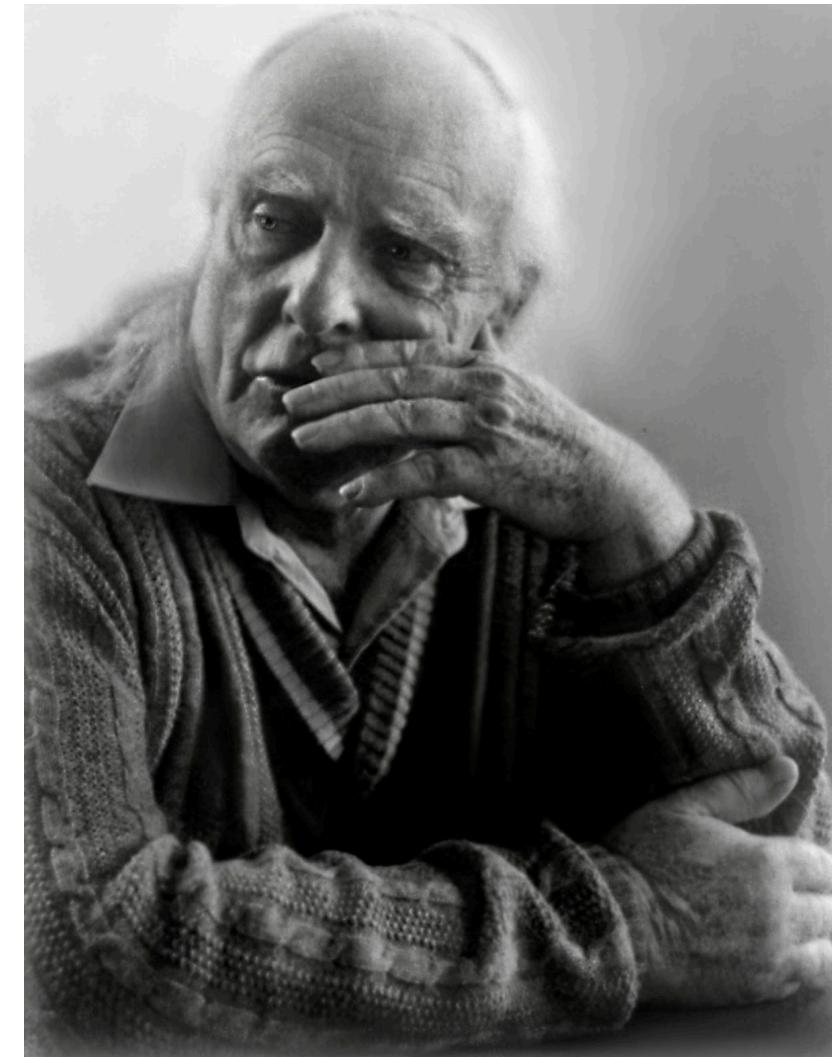


Lakes of Data



Paul Grice – Conversational Maxims

- Make your contribution as informative as is required for the current purposes of the exchange
- Do not make your contribution more informative than is required.



Here's where to focus . . .

PMO Focus	Story
Portfolio	How are our projects delivering on our strategy? Do we have the right mix of projects? Does supply match demand? What is about to break?
Programme	Are we going to deliver the expected benefits? What is about to break?
Project	Will we deliver on time, on budget with the right scope/quality? What is about to break?
Agile Squads	Is work flowing through the system? Are we improving? Are we working on the right things?
Business	Do we have capacity? Are we ready for change? What is about to break?

. . . And here's what is needed for different Stakeholders

Audience	Need
Executive / Decision makers	Consolidated information with a focus on strategic alignment, investment and reputational risks and mission critical deliverables. What decisions do you need me to make?
Line Managers	Forward view of work to plan for capacity. Understanding of where intervention and support may be needed.
Project Managers	Resource availability; Dependencies; Spend vs budget; Portfolio perspective: What's going to block my delivery?
Project Team Members	Context – why are we doing this; How is my work linked to the strategy?; Are we performing?
Agile Squads	How are we affecting business metrics? What's going to block us? How do we need to align with others?
Business Stakeholders	When will change happen, how can we be prepared? Has anything changed that we need to be aware of?



Over to
you!

Group Challenge

You are a Portfolio level PMO in an organization that has embraced agile. The organization has clearly defined goals and targets for the next three years.

Your portfolio consists of 30 projects, and you are also monitoring some key software features that are being delivered by agile teams using Kanban.

You have been tasked with creating a regular PMO reporting structure.

Focus on one persona.

- What will they need? What message(s) do you want to convey?
- Dashboard or Report?
- What data will you present?
- How will you support decision making?