

RANKING BY NOW COMPARING WITH THEN DASHBOARD.

Alistair Williams

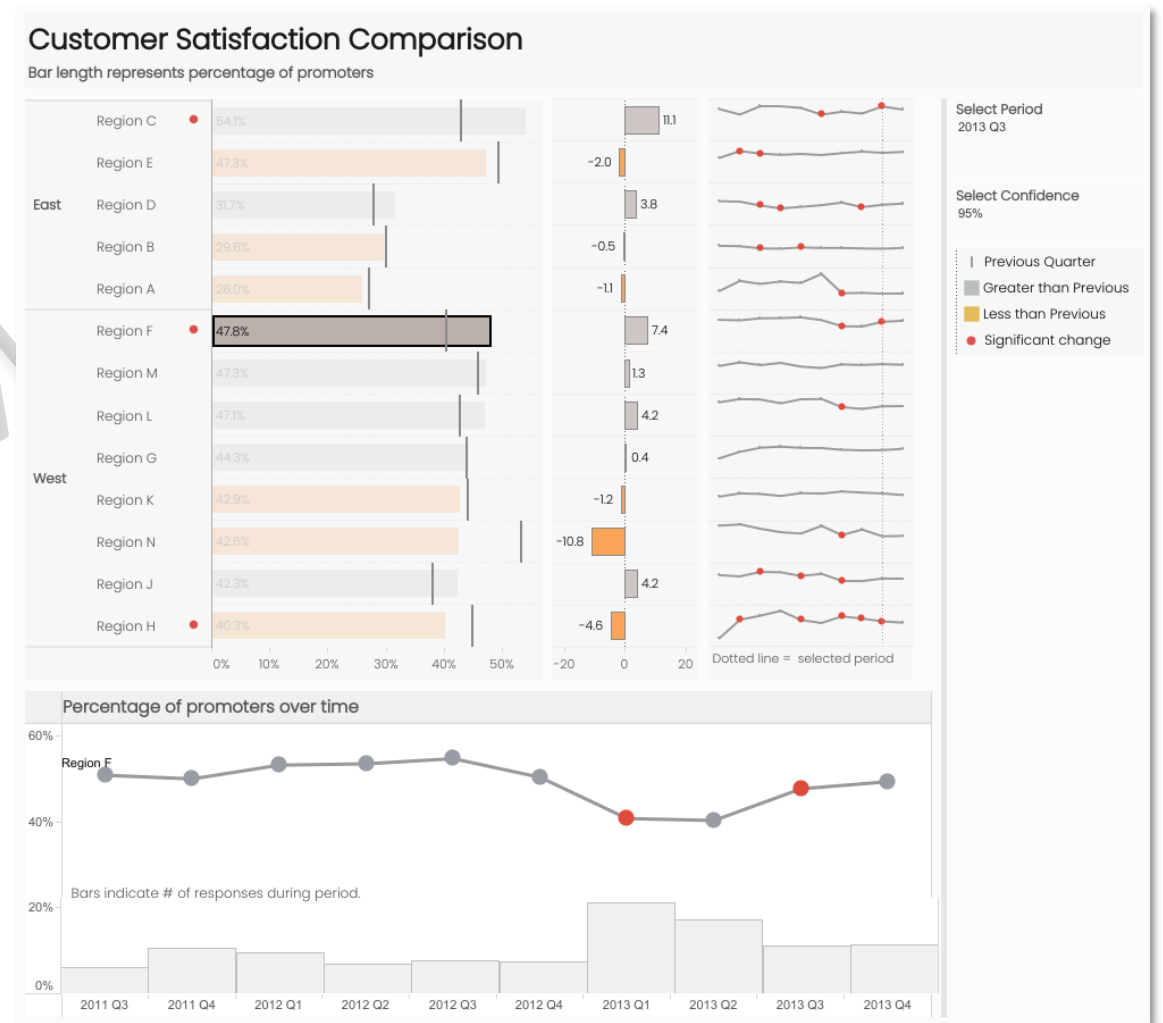
AGENDA.

- Accessing Tableau Public And The Example Ranking Dashboard
- Scenario – Big Picture
- Specifics
- Related Scenarios
- How People Use The Dashboard
- Why This Works – Vertical Line & Bar Colours
- Why This Works – Percentage Change From Previous Period
- Why This Works – Red Dots
- Why This Works – Sparklines
- Why This Works – Select Period
- Traditional Approach – To Avoid – Score Card
- Other Approaches
- Commentary – Andy Cotgreave

ACCESSING TABLEAU PUBLIC AND THE EXAMPLE RANKING DASHBOARD.

- Click below to access the public dashboard:

[Ranking Dashboard](#)



SCENARIO – BIG PICTURE.

- Your company takes **customer satisfaction** very seriously.
 - You monitor it on a monthly basis by major geographic areas (**divisions**) and subareas (**regions**) and need to see in which areas it's **increasing, decreasing**, or staying the **same**.
- You want to be able to **react** to downturns **quickly**, but you don't want to panic unnecessarily so you need to see if changes from the previous time period are **statistically significant**.
- You also need to be able to look at changes over time to see if **big swings** are isolated to the particular period or indicative of a larger problem.

SPECIFICS.

- You are tasked with showing the **percentage** of customers who are very **satisfied** with your products and services (“**Promoters**”), broken down by division and region.
- You need to sort the data by region so it’s easy to see in which divisions customers are most **satisfied** and in which they are **least** satisfied.
- You want to make it easy to see just how much more **satisfied** customers are in one region versus another.
- You need to **compare performance** by time period(s), for example, this quarter versus the previous quarter.
- You need to show whether changes from a previous period are significant using whatever litmus test the company uses to determine **statistical significance**.

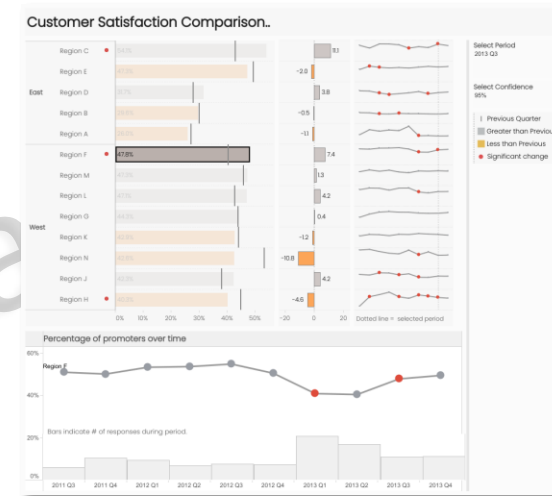
RELATED SCENARIOS.

- You need to **rank** sales for products and services, broken down by state, and **compare** them with a previous period or periods.
- You're reviewing your weekly email campaign and need to show the **number** or **percentage** of folks who opened emails and clicked, broken down by gender and age.
 - You need to **compare** the current week with a previous period.

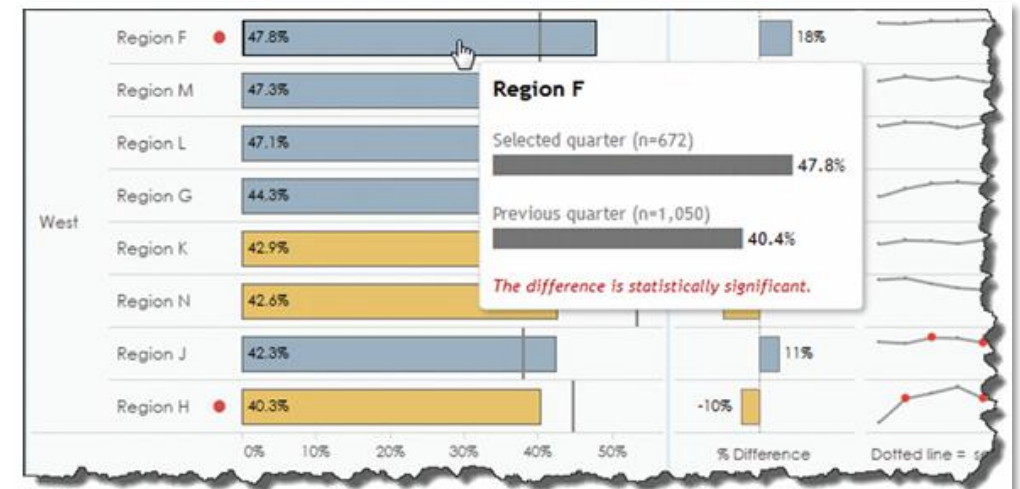
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HOW PEOPLE USE THE DASHBOARD.

- In this dashboard, a viewer can **select** a region that interests him or her.
- The viewer **selects** Region F, and the dashboard updates to show **longitudinal information** about that region.

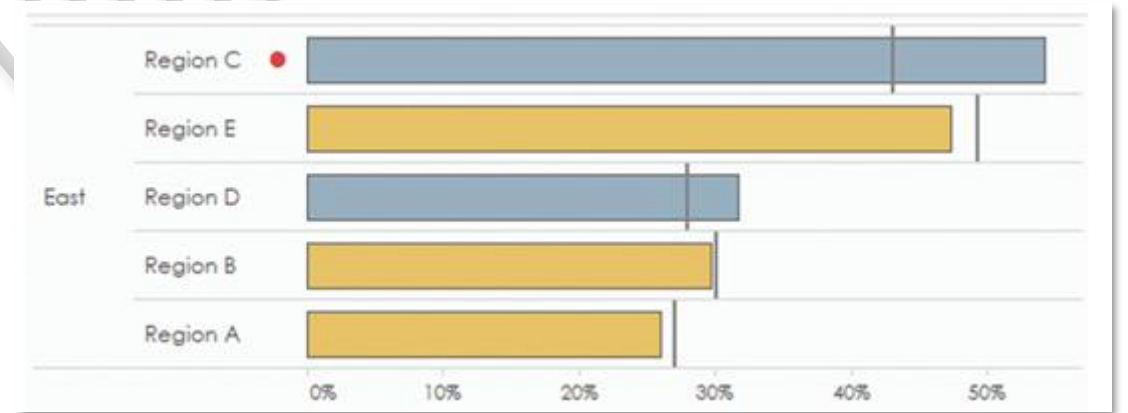


- **Hovering** over a **bar** will give you more information about a particular region.



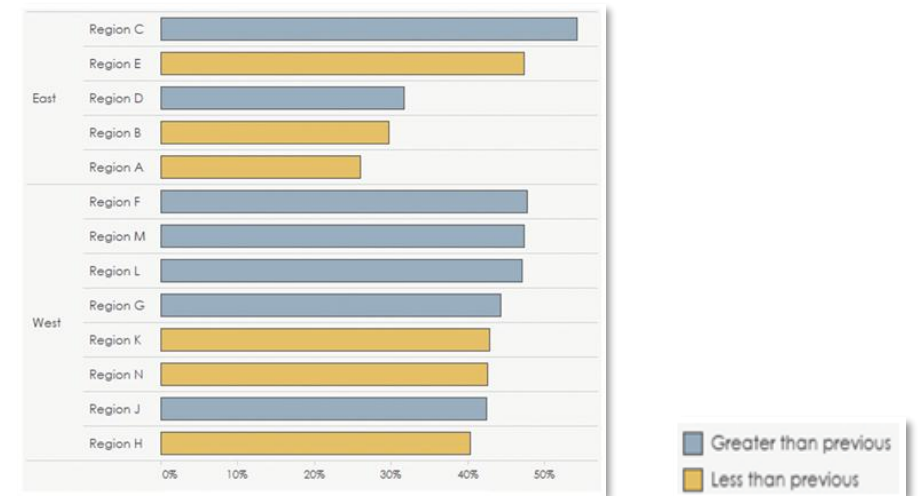
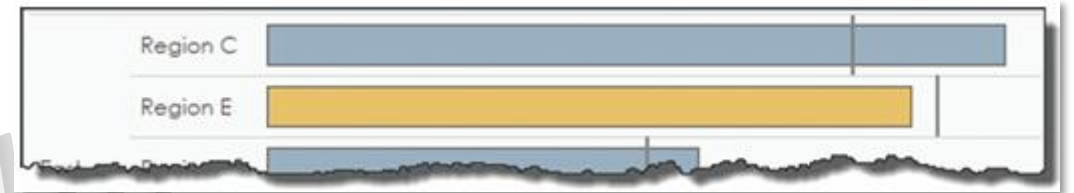
WHY THIS WORKS – VERTICAL LINES & BAR COLOURS.

- The **bars** make it very easy to see just how one region **compares** with another.
- Indeed, we can **remove** the labels inside the bars and still tell that Region C is doing roughly **twice** as well as Region A.



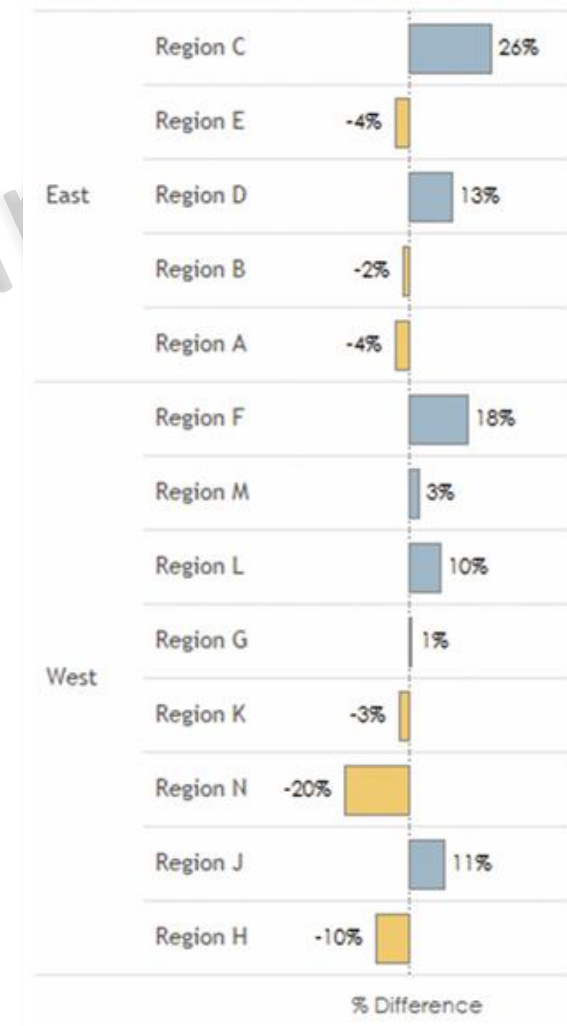
WHY THIS WORKS – VERTICAL LINES & BAR COLOURS.

- The **vertical** lines make it easy to see how much **better** or **worse** a region fared.
 - The **vertical** lines allow us to see that Region C did quite a bit **better** in the current period **compared** with the previous period and that Region E just did a little bit **worse**.
- The **bar colours** make it easy to see **better** or **worse**.
 - **Colour coding** prominently **contrasts** regions' performance in current periods against performance in previous periods, allowing **clear visualisation** of whether performance **declined** or **improved**.



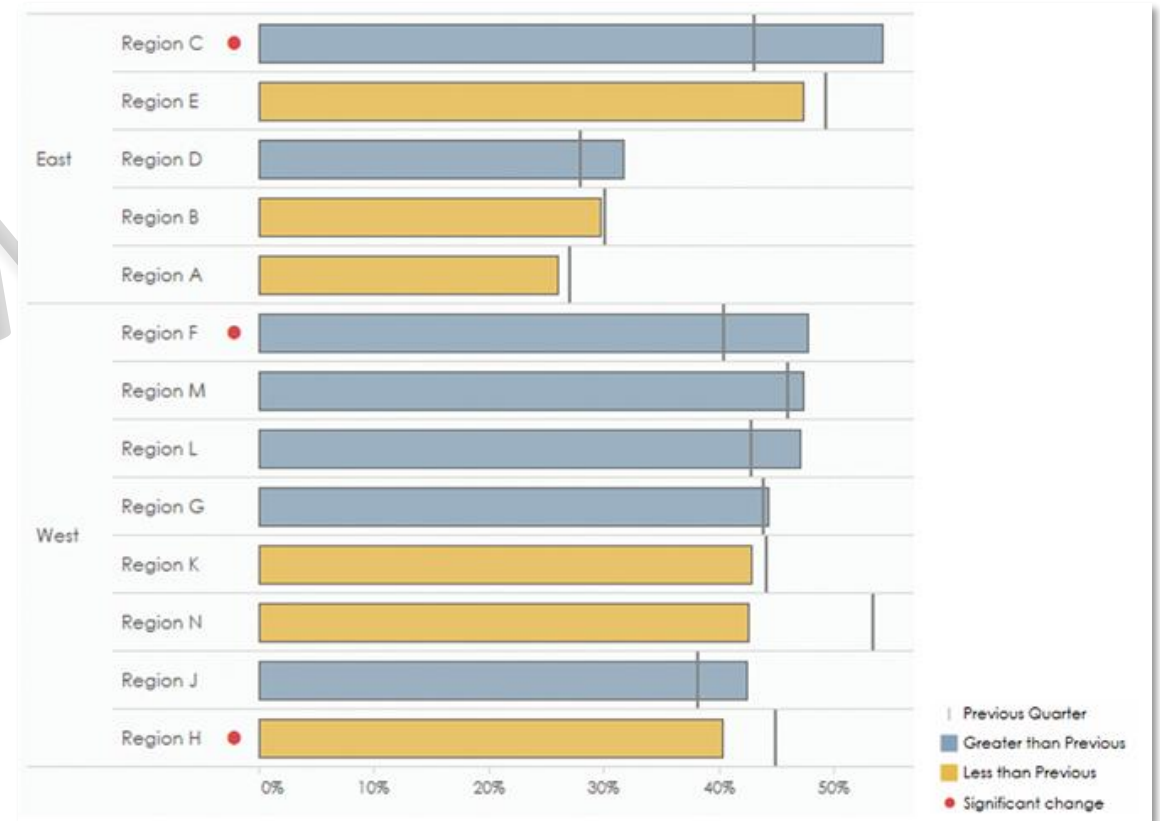
WHY THIS WORKS – PERCENTAGE CHANGE FROM PREVIOUS PERIOD.

- Percentage **change** from the previous period.
- Although it is not essential, it can be **very useful** to show the **percentage difference** from the previous period.
- Note that some people prefer seeing the **point difference** rather than the percentage difference, so you may want to add a **dashboard widget** that allows people to switch between the two ways of **displaying the difference**.



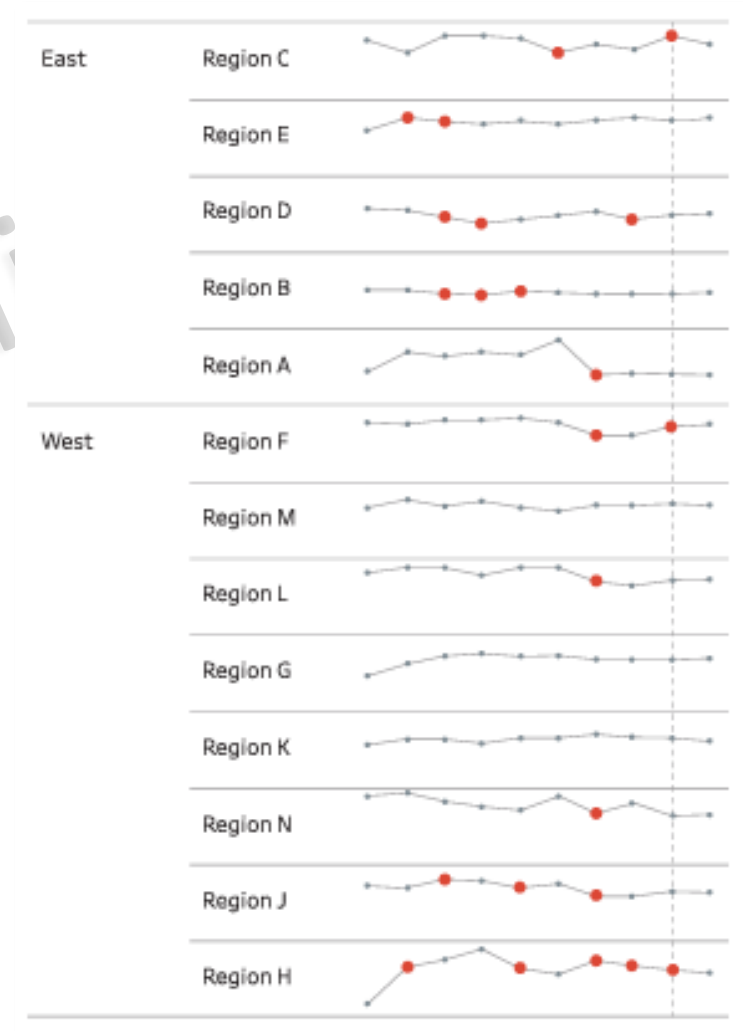
WHY THIS WORKS – RED DOTS.

- The **red** dots make it easy to see which **differences** warrant further investigation.
 - A quick glance it easy to see that something is special about Regions C, F, and H, and it's **not** that the **differences** are particularly large.
 - For example, there's a **big gap** between current and previous values for Region N, but there's **no red dot**.
 - The **legend** indicates that the **difference** between the current and previous period is **significant**, using whatever test for **significance** is deemed appropriate for this situation.



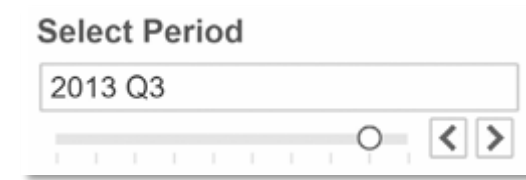
WHY THIS WORKS – SPARKLINES.

- The **sparklines** make it easy to see how values have **changed** over time.
 - **Sparklines** show us, at a **glance**, how each region is **performing** over time and any **significant** variations (i.e., whether there are none, some, or many).
 - We can see that there is a lot of **volatility** in Region H in particular.
 - Note that many factors go into whether an **increase** or **decrease** is **significant**, including the number of people who responded to a survey during the period.
 - This is why we don't see a **red** dot for Region A at its peak.
 - Although the increase was indeed very **large**, it was not **statistically significant** based on the applied test for statistical significance.



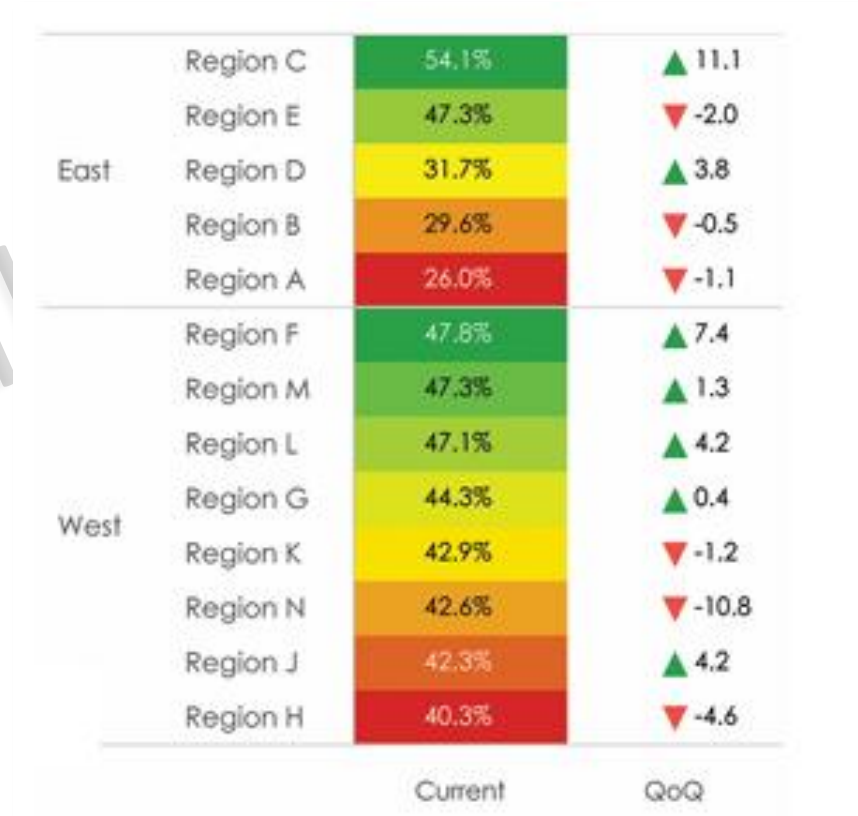
WHY THIS WORKS – SELECT PERIOD.

- Notice that there is a “**Select Period**” **parameter control** on the dashboard.
 - The **parameter** allows viewers to **compare** any period with a prior period versus only the current period with the prior period.
- **Why is this useful?**
 - Suppose it is 27 February 2013 , and somebody wants to **compare** January figures with December figures.
 - After a long weekend, the person comes into the office to finish the analysis, only to discover the dashboard now shows February versus January figures because it's 2 March 2013.
 - This **parameter** allows people to focus on whichever period interests them.



TRADITIONAL APPROACH – TO AVOID – SCORECARD.

- There are at least **five shortcomings** with this approach.
 - The **uniform size** of the cells makes it **difficult** to see how much **better** or **worse** one region is performing when **compared** to another region.
 - Without the numbers in each cell, we would **not** be able to tell that the percentage of promoters in Region C is **more than twice** the percentage of promoters in Region A.
 - Given this chart type's popularity, **why shouldn't you use it?**



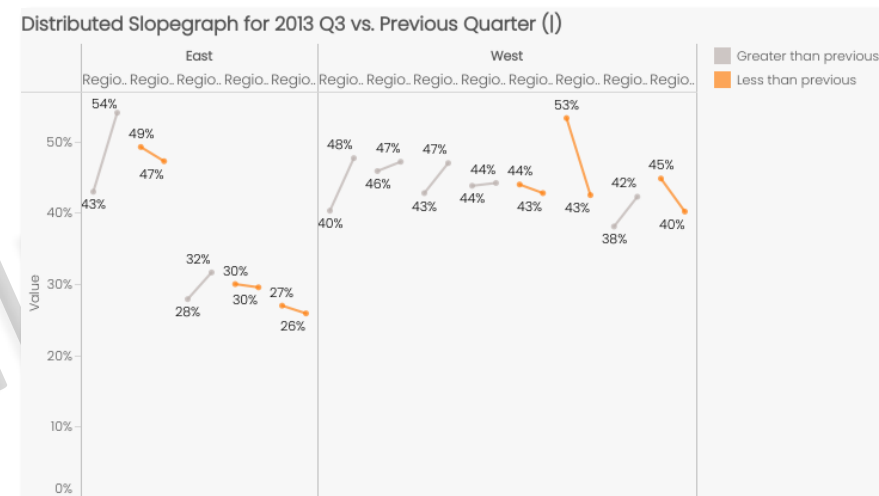
A typical and not terribly useful scorecard.

TRADITIONAL APPROACH – TO AVOID – SCORECARD.

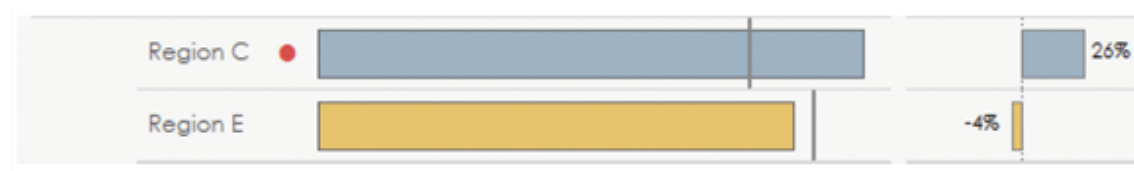
- The **colours** are based on **rank** and **not performance**, which could present a **problem**.
 - Most people equate **red** with **bad**, but in this case it **indicates last**.
- Indeed, all the scores within a division may be **very good**, but the least very good score still would be **red**.
- Consider Region H with 40.3 percent.
 - It's **red** because it is ranked **last**, but if it were in the East division, it would be light **green** or **yellow**.
- The traffic light colours will **alienate** people who suffer from a **colour vision deficiency** (about 8 per cent of the male population).
- The **key performance indicators** (the up and down pointing triangles) show only **increase** and **decrease**, **not the degree** of **increase** and **decrease**.
 - There's **no easy way** for readers to see where there are **big differences**.
- The colours for the key performance indicators **conflict** with the colour-coded cells.
 - That is, **green** indicates the top rank in one case but a simple **increase** in another.

OTHER APPROACHES.

- One approach is the **distributed slope chart** as it makes **sorting** by **performance** across divisions and seeing the degree of **change** between periods easy.



- Why use a **sorted bar chart** instead of a **slope chart**?
 - The **sorted bar chart** worked better with the other **elements** of the dashboard.
 - Specifically, the **sparklines**, which provide an **at-a-glance** longitudinal view, **would not complement** the slope chart.



COMMENTARY – ANDY COTGREAVE.

- You could argue that the bars showing the **percentage difference** are **not necessary**, since the bar and the reference line let you see that too.
- Sure, you could **remove** the **percentage difference** bar and let the **reference line** do all the work, but it would be much **harder** to parse multiple questions when viewing this dashboard.
 - On one day your **primary** question might be on the **highest** and **lowest satisfaction** rates.
 - If that's the case, **focus** on the bars on the left.
 - The reference lines give you some information of secondary importance.
 - On another day, you might want to know about the **percentage difference**.
 - In which case, you're not left trying to **gauge** the length of the gaps on all the bars.
 - Try working out which had the **highest percent** age change based on the bars alone.

COMMENTARY – ANDY COTGREAVE.

- The **percentage bar** makes it **easy** to switch from one question to the other and **compare** either set of values against a common baseline.
- You do need to consult with your audience as to which is the **most important** question and make that one **most prominent**.
 - In the dashboard it's "**What is the level of customer satisfaction?**"
 - The percentage question is of **secondary** importance.
- If you find the **percentage question** is the **most important**, then it's just a matter of **switching** the layout and bringing one into a more **prominent focus**.