# RANKIG BY NOW COMPARING WITH THEN DASHBOARD.

AGENDA.

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ACCESSING TABLEAU PUBLIC AND THE EXAMPLE RANKING DASHBOARD.

- Click below to access the public dashboard:

Ranking Dashboard
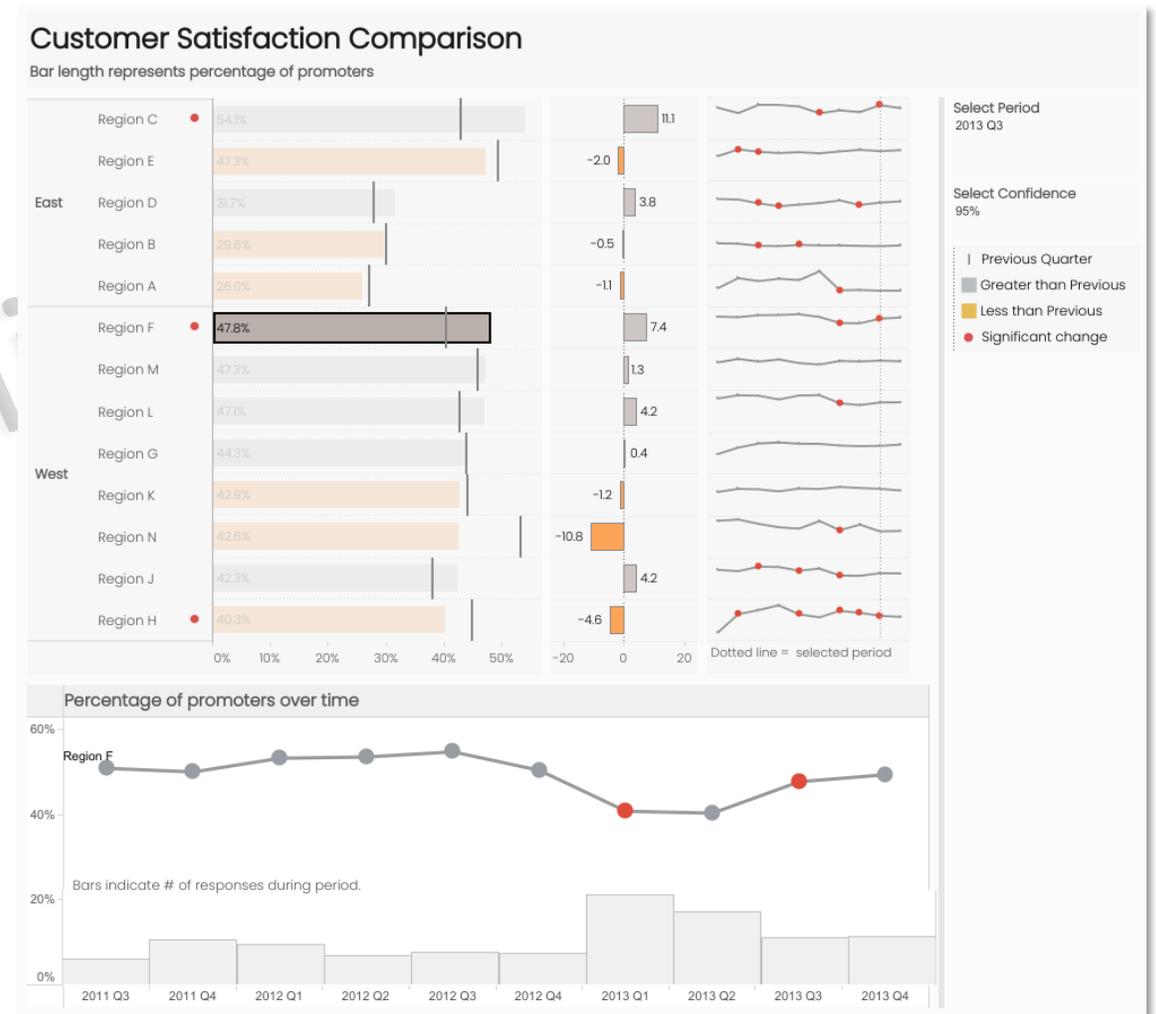
SCENARIO – BIG PICTURE.

- 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.

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.
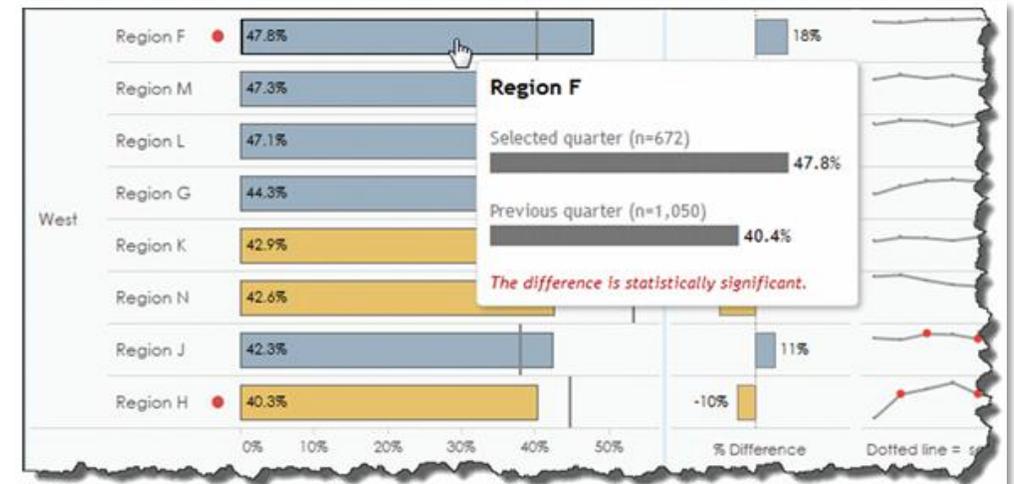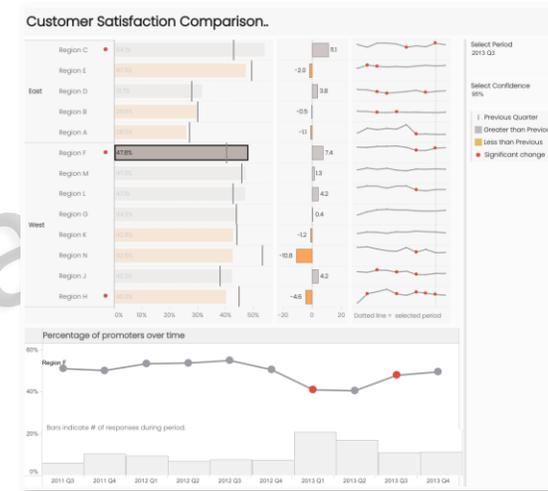
WHY THIS WORKS – VERTICAL LINES & BAR COLOURS.

- 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.
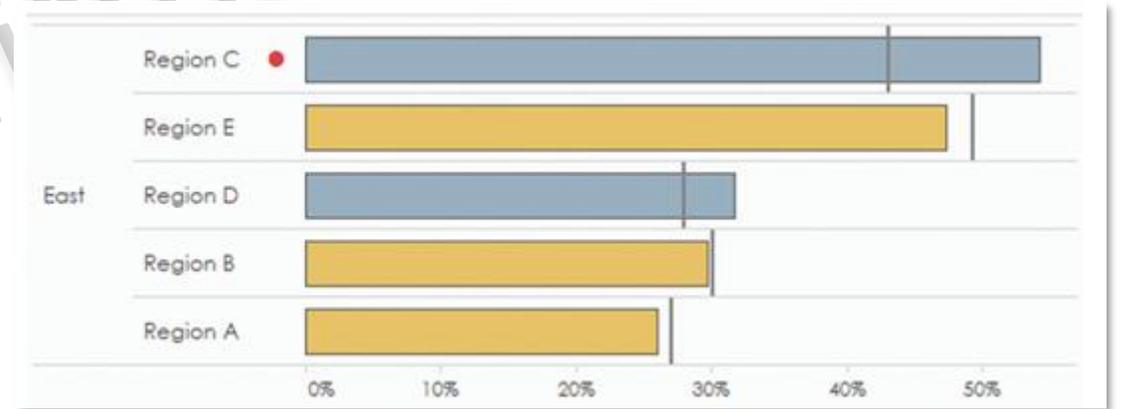
WHY THIS WORKS – VERTICAL LINES & BAR COLOURS.

- The **vertical** lines make it easy to see how much **better** or **worse** a region faired.

  - 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**.
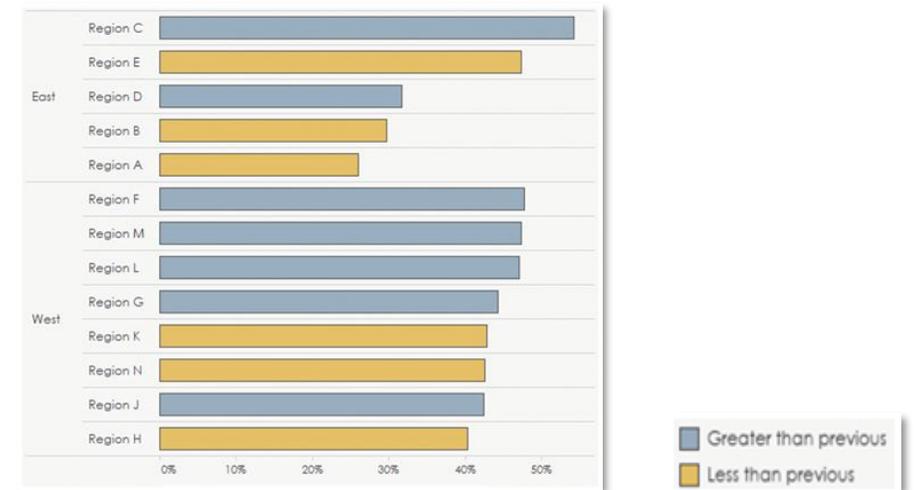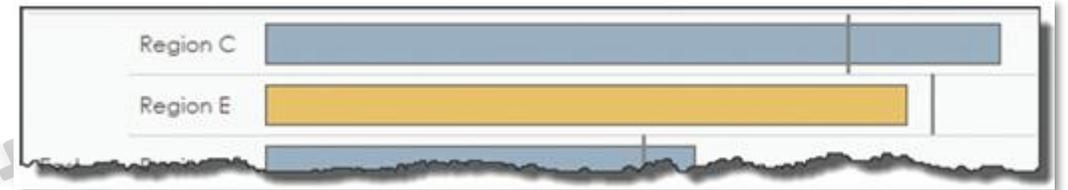
WHY THIS WORKS – PERCENTAGE CHANGE FROM PREVIOUS PERIOD.

- 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**.
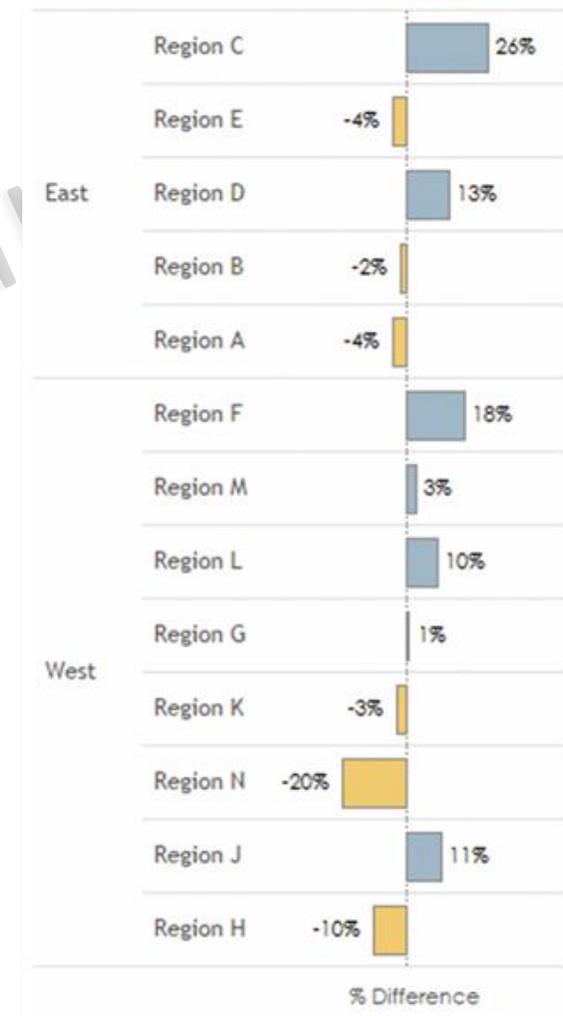
WHY THIS WORKS – RED DOTS.

▪ 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.
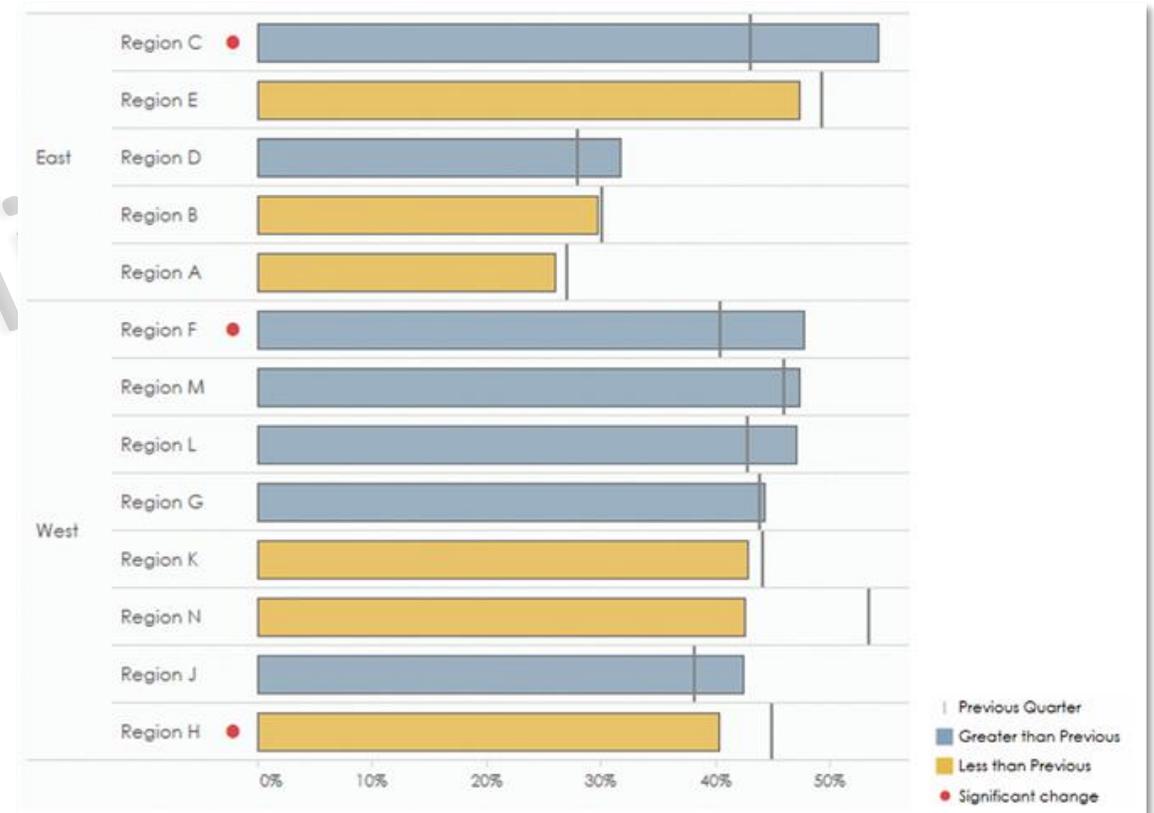
WHY THIS WORKS – SPARKLINES.

- 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.
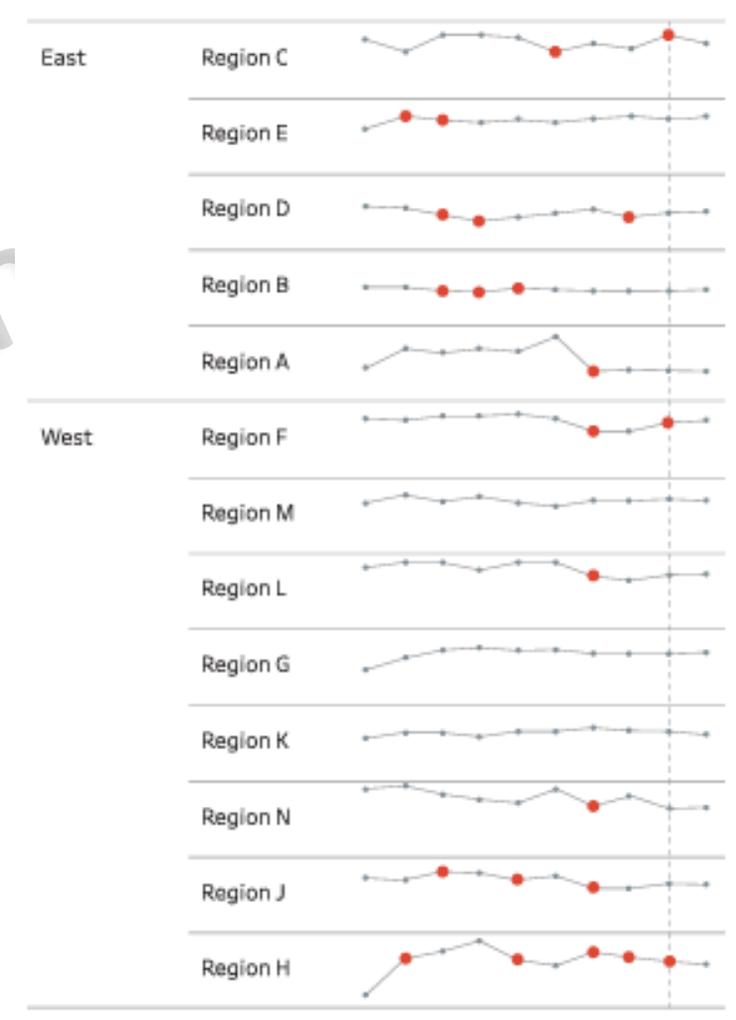
WHY THIS WORKS – SELECT PERIOD.

▪ 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.

Select Period

2013 Q3

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**?

|		Current	QoQ
East	Region C	54.1%	▲ 11.1
	Region E	47.3%	▼ -2.0
	Region D	31.7%	▲ 3.8
	Region B	29.6%	▼ -0.5
	Region A	26.0%	▼ -1.1
West	Region F	47.8%	▲ 7.4
	Region M	47.3%	▲ 1.3
	Region L	47.1%	▲ 4.2
	Region G	44.3%	▲ 0.4
	Region K	42.9%	▼ -1.2
	Region N	42.6%	▼ -10.8
	Region J	42.3%	▲ 4.2
	Region H	40.3%	▼ -4.6
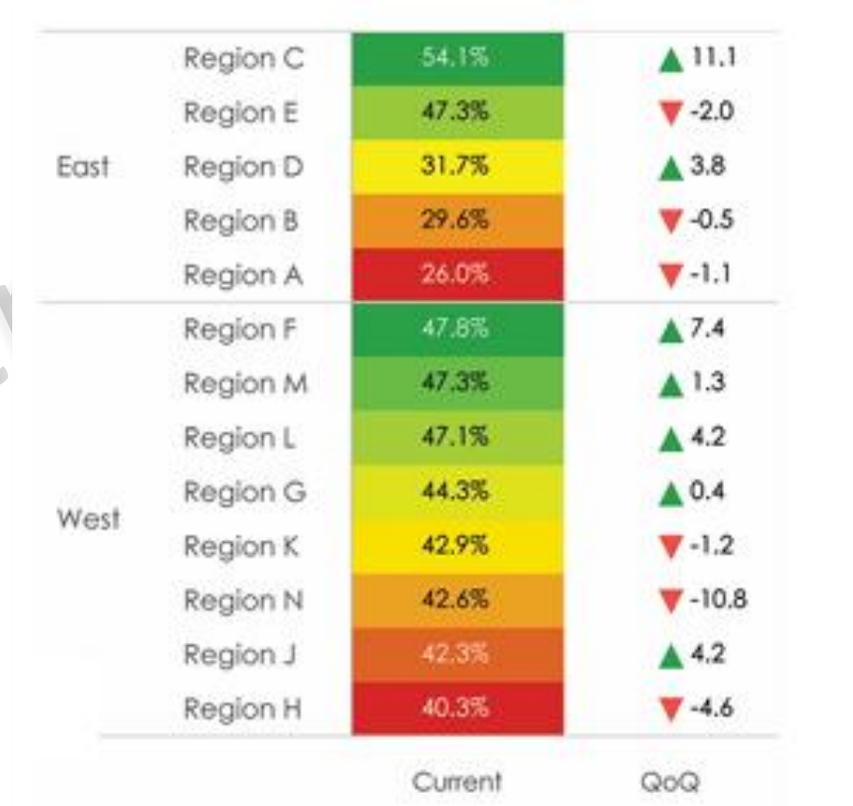
A typical and not terribly useful scorecard.

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.
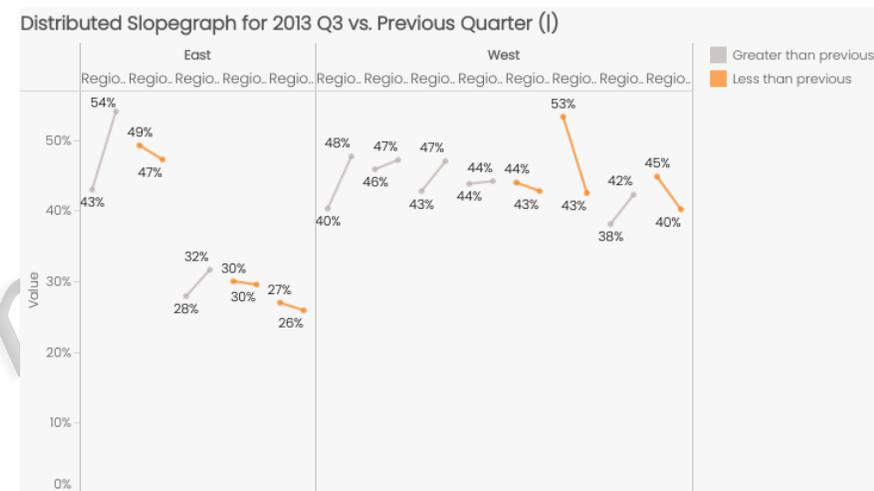
- Why use a **sorted bar chart** instead of a **slope chart**?

  - 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**.