# SIMPLYFYING DUAL AXIS

- Intended story.
  A graph that shows response rates and completion rates for the past few years for your company's email surveys to its user base. The completion rate is the proportion of users completing the entire survey and the response rate is the percentage of users who responded to the email survey by starting it.

- Before – Showing Data

Email campaign activity
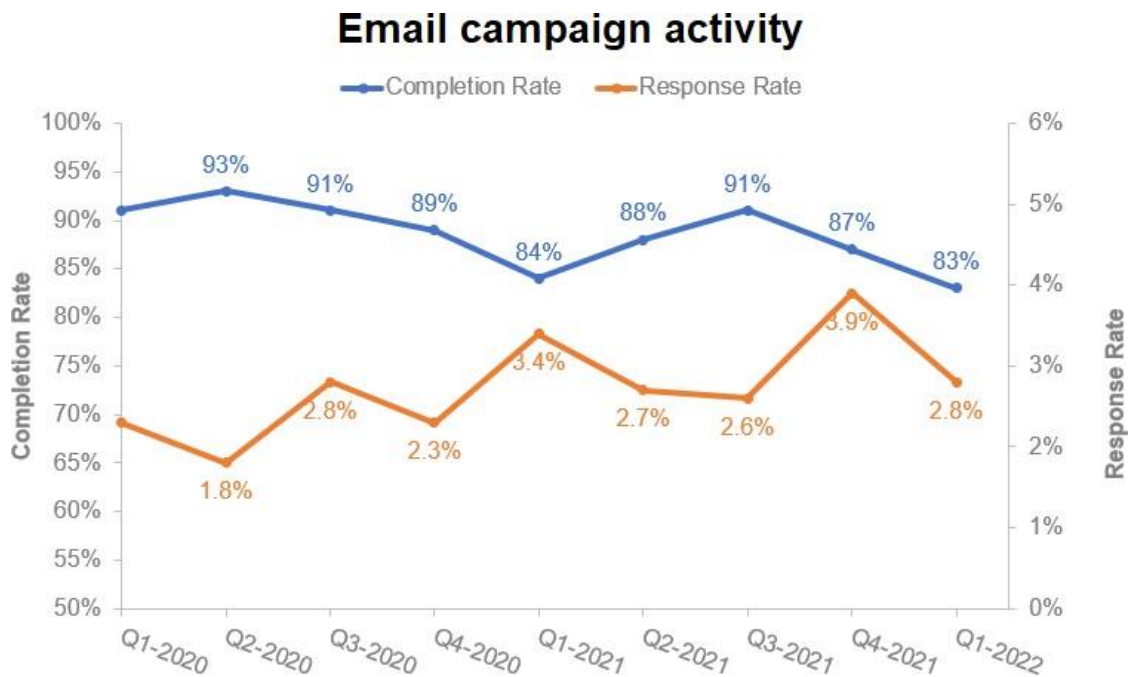
- Chart challenges
  - Displaying both axes make the chart look too busy and complicated.
  - Too many data labels
  - Long and untidy x-axis labels

- After – Story telling with Data.

Email campaign activity
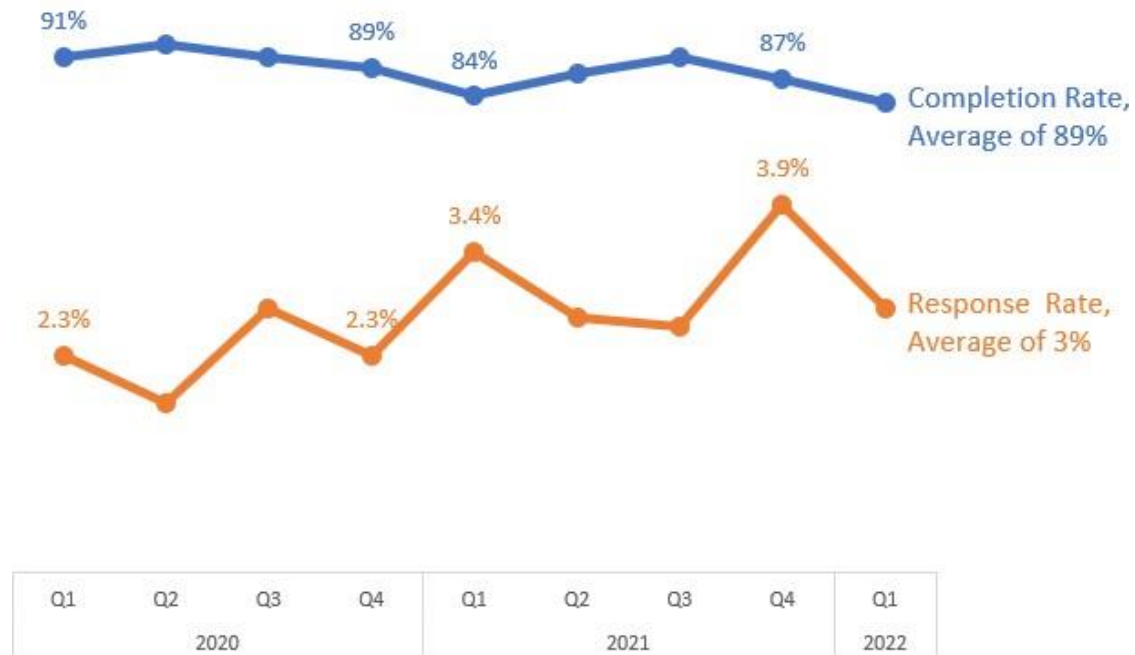
- o Design Changes
  - Only crucial points labeled and both axes removed.
  - X-axis labels grouped and simplified so that they fit horizontally.
  - Legend removed and group names added directly to the chart.
  - Average over time added for each category.
  - Chart name aligned to the left and de-emphasized.
  - Line thickness increased.

SIMPLYFYING STACKED BAR CHART AND TABLE

- Intended story.
  A graph that shows the length of hospital stay in days for patients after surgery in 2019 by quarter.

- Before – Showing Data

ORIGINAL VISUAL

Surgeries: length of hospital stay
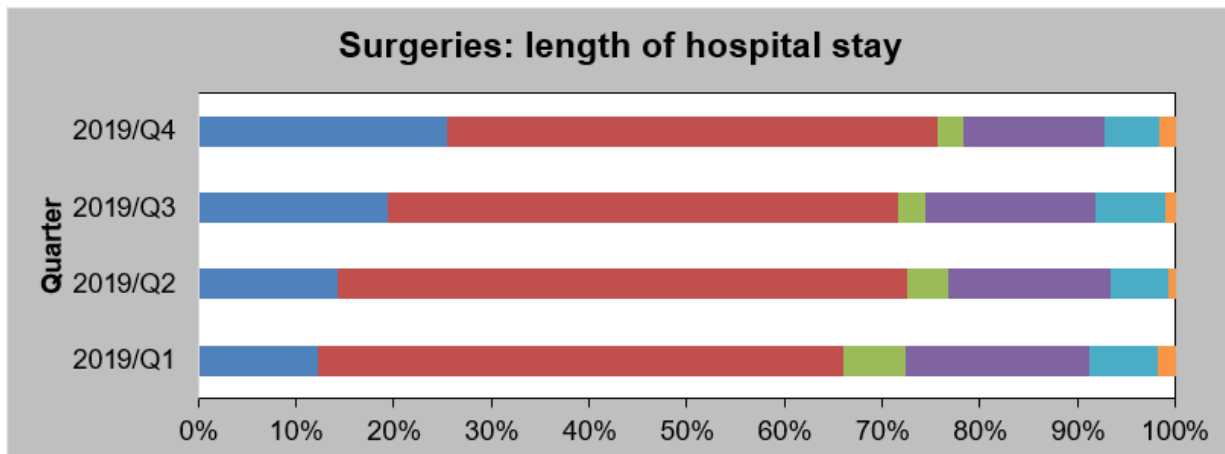
	<=24	24 and 36	36 and 48	48 and 59	>=60	Unknown
2019/Q1	12.2%	53.9%	6.3%	18.9%	6.9%	1.8%
2019/Q2	14.3%	58.3%	4.1%	16.7%	5.9%	0.7%
2019/Q3	19.5%	52.2%	2.8%	17.4%	7.0%	1.1%
2019/Q4	25.4%	50.3%	2.7%	14.4%	5.6%	1.7%
	17.8%	53.7%	4.0%	16.8%	6.4%	1.3%

- o Chart challenges
  - The title is not clear and easy to understand.
  - Showing the chart and table makes the visual look too busy and clustered.
  - Category labels and overlapping hence confusing.

- After – Story telling with Data.

Patient length of hospital stay after surgery (in Days) - 2019

Age group	Q1	Q2	Q3	Q4
24 and below	12%	14%	19%	25%
25 to 36	54%	58%	52%	50%
37 to 48	6%	4%	3%	3%
49 to 59	19%	17%	17%	14%
60 and above	7%	6%	7%	6%

The length of hospital stay for an average of 1.3% of patients is unknown each quarter
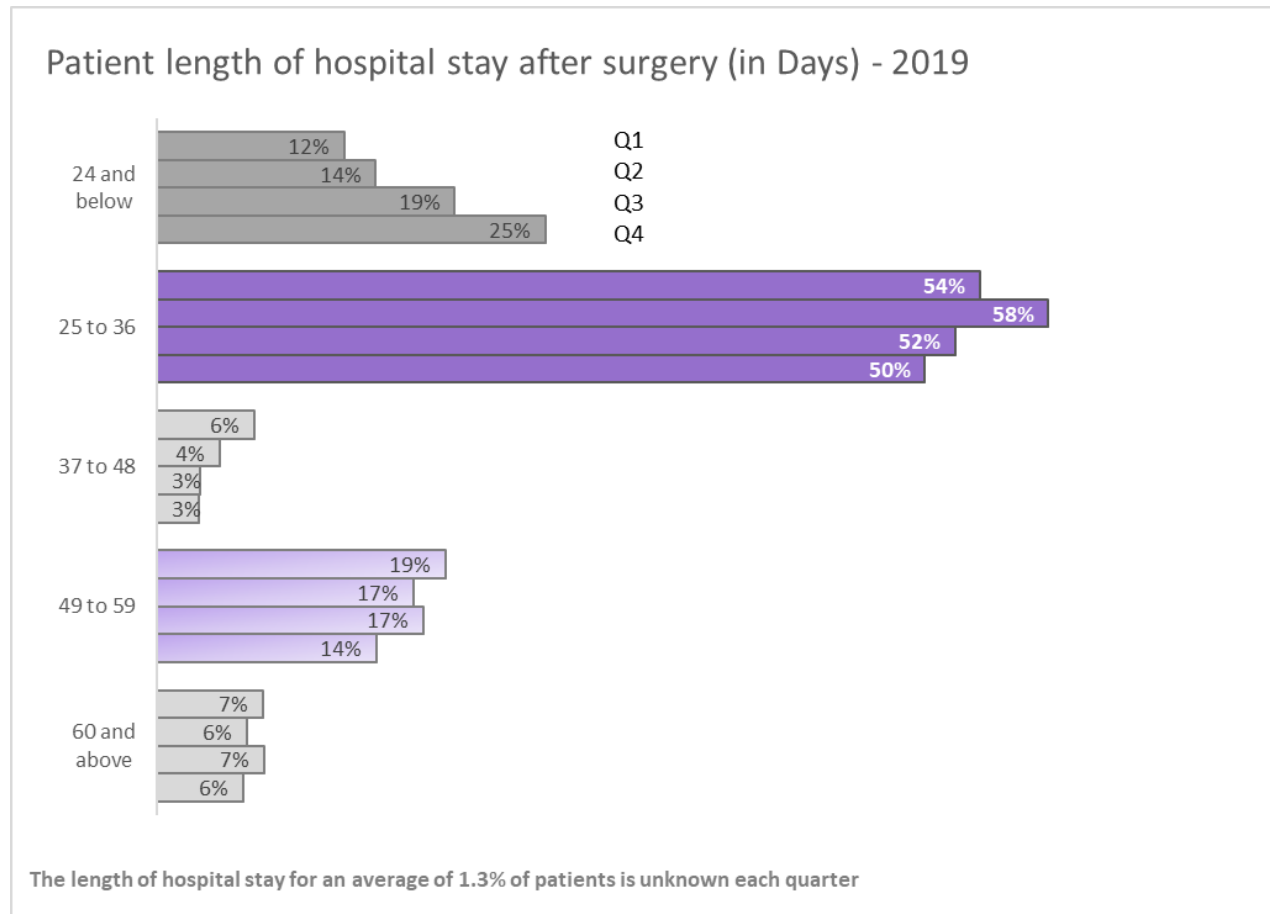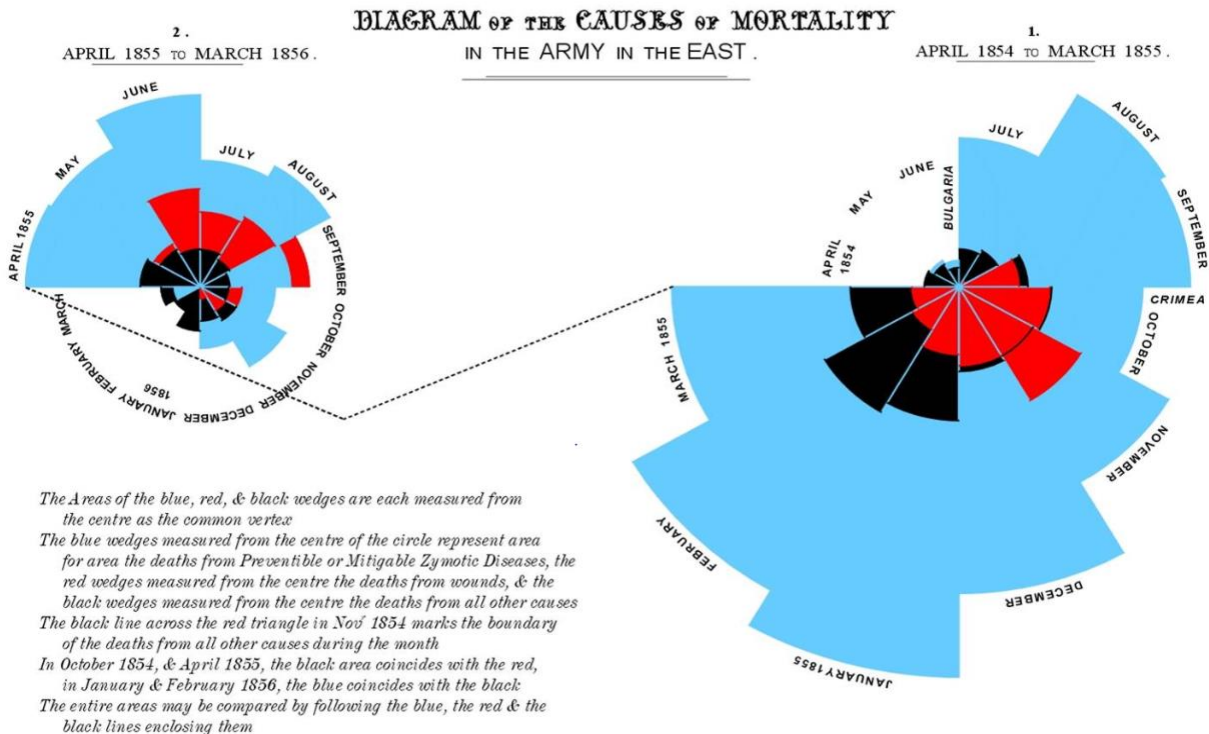
- Design Changes
  - Title edited to a simpler and easy to understand one.
  - Category labels changed and overlapping removed.
  - Table removed and data labels used instead.
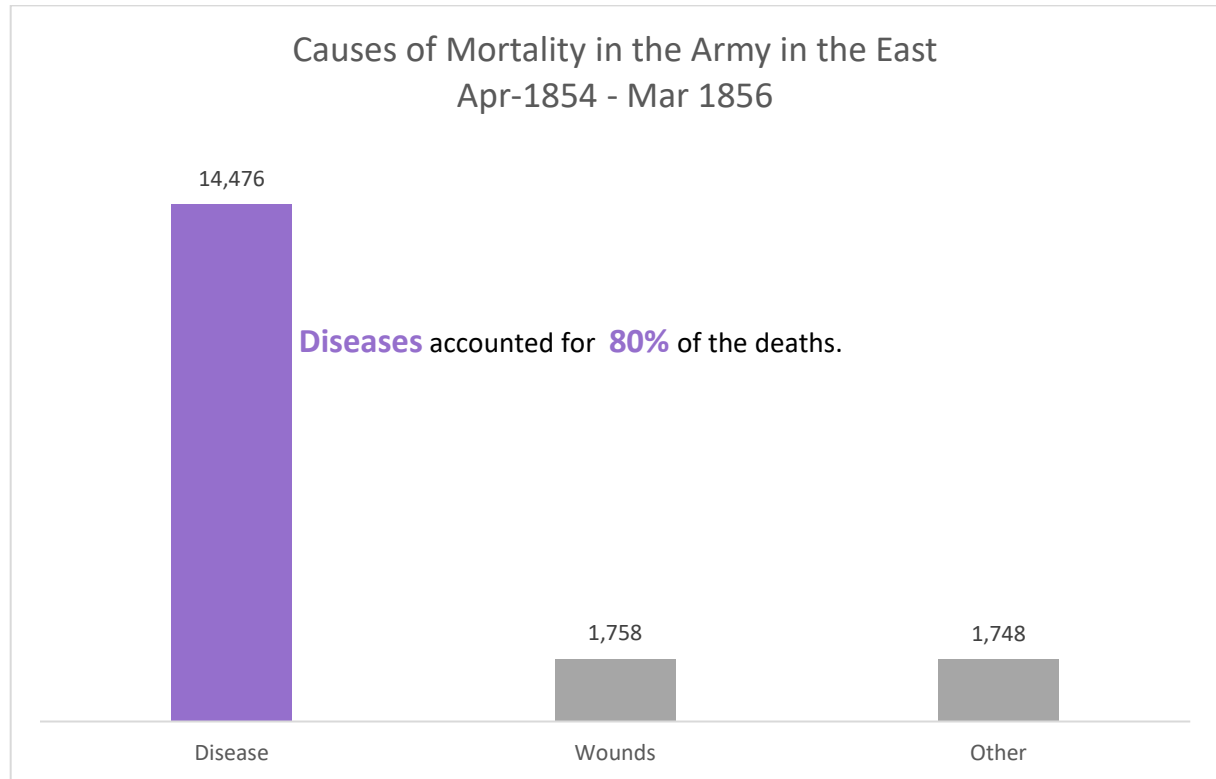 - Horizontal bars used instead of stacked bar.
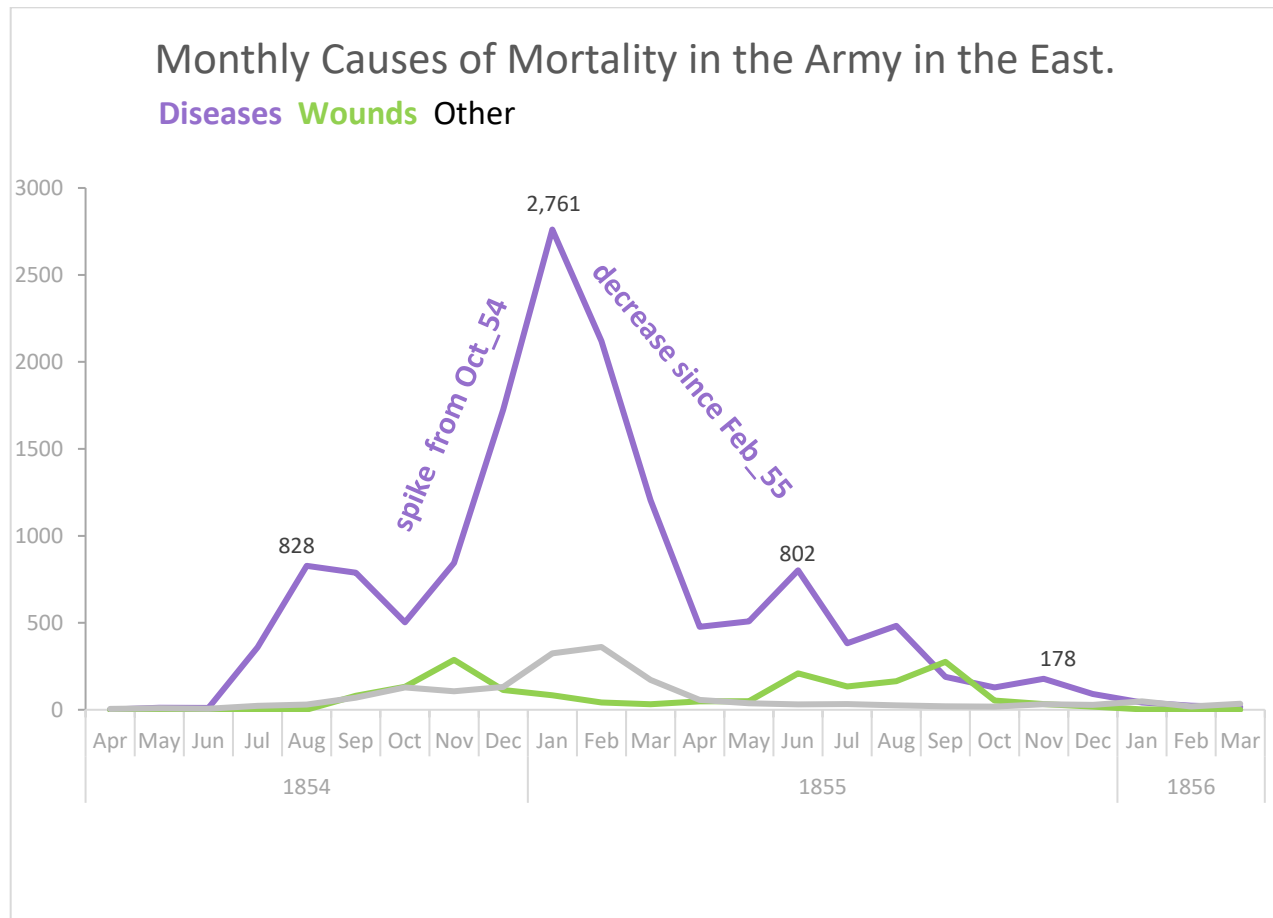
SIMPLYFYING A FAMOUS CHART

- Intended story.
  Florence Nightingale was a pioneer in data visualization and her innovative approach to representing data using her famous "Rose Chart" was ground-breaking for her time. She created a rose chart to highlight the number of unnecessary deaths during the Crimean War because of preventable infections.

- Before – Showing Data

The Areas of the blue, red, & black wedges are each measured from
  the centre as the common vertex
The blue wedges measured from the centre of the circle represent area
  for area the deaths from Preventible or Mitigable Zymotic Diseases, the
  red wedges measured from the centre the deaths from wounds, & the
  black wedges measured from the centre the deaths from all other causes
The black line across the red triangle in Nov 1854 marks the boundary
  of the deaths from all other causes during the month
In October 1854, & April 1855, the black area coincides with the red,
  in January & February 1856, the blue coincides with the black
The entire areas may be compared by following the blue, the red & the
  black lines enclosing them

- Chart challenges
  - The chart is generally complex to interpret.
  - It can only be used for a limited period.
  - The design elements are quite distracting from the data being presented.
  - It is difficult to easily identify the month-on-month trend.

- After – Story telling with Data.

Causes of Mortality in the Army in the East
Apr-1854 - Mar 1856

14,476

Diseases accounted for **80%** of the deaths.

1,758   1,748

Disease   Wounds   Other

Monthly Causes of Mortality in the Army in the East.

Diseases Wounds Other

spike from Oct_54

decrease since Feb_55

2,761

828

802

178

Apr May Jun Jul Aug Sep Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Jan Feb Mar

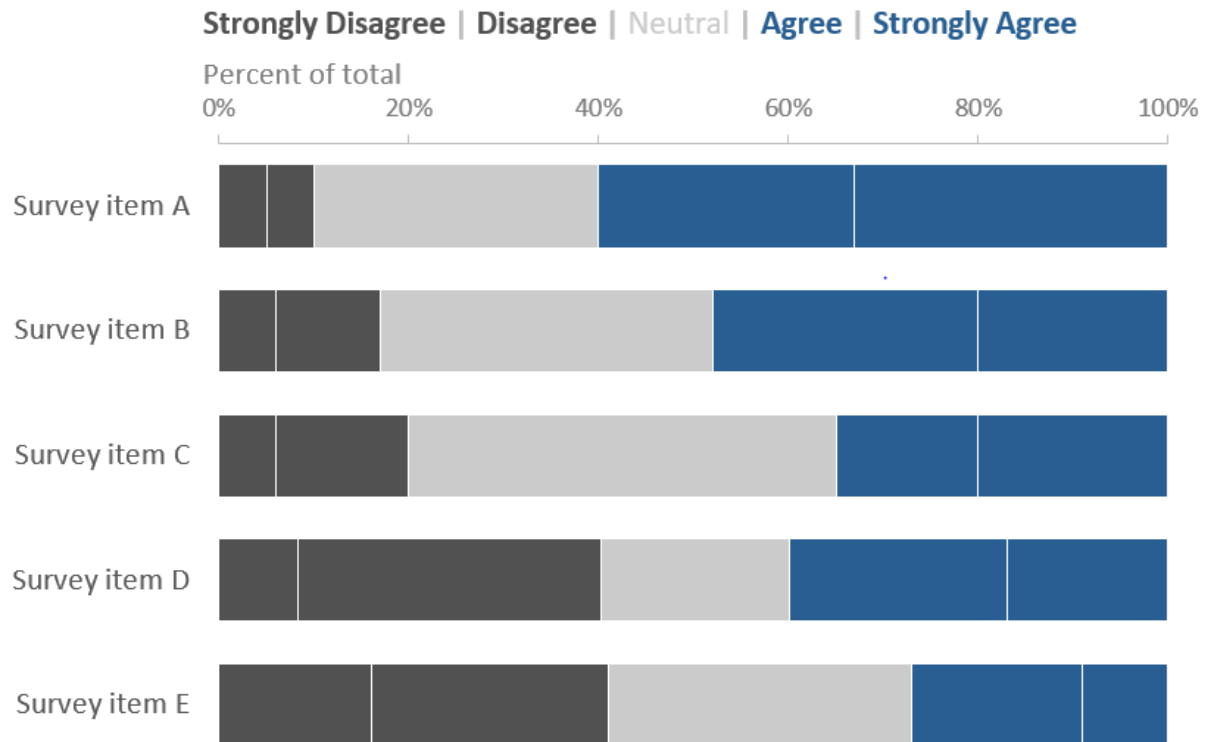1854

1855

1856

o   Design Changes
  ▪   Chart changed to a bar for overall comparison and line chart for monthly
      trend.

REMAKING A STACKED COLUMN CHART

- Intended story.
  A graph that compares categories across multiple survey items

- Before – Showing Data
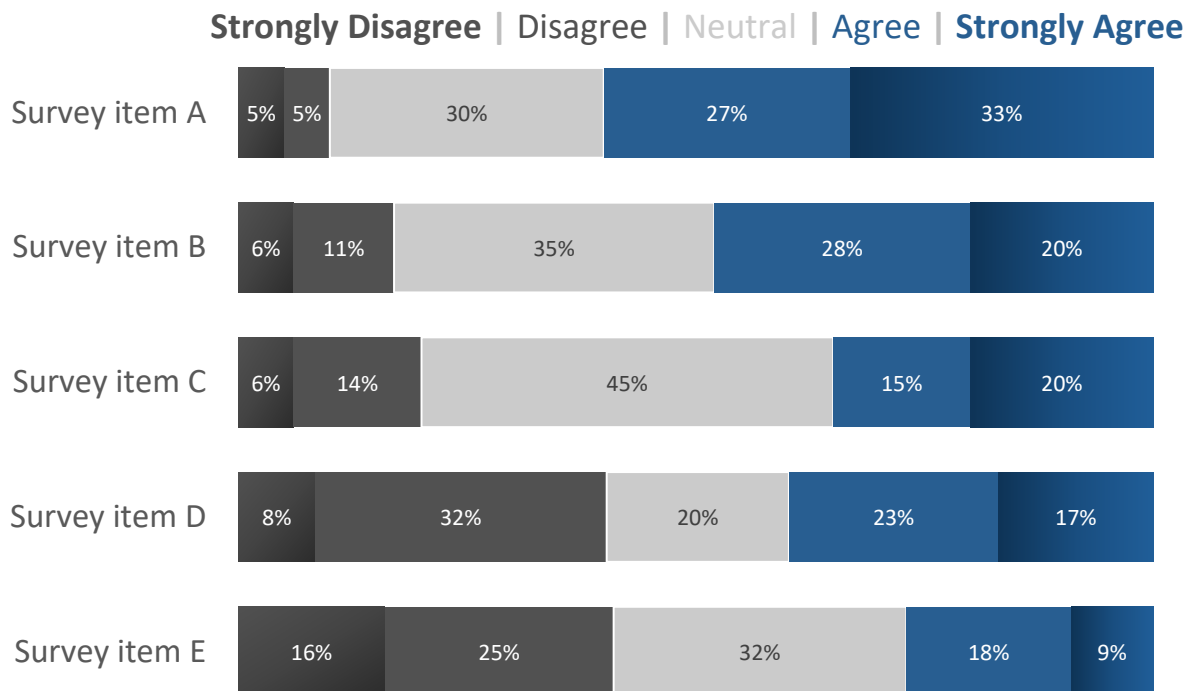

- What I like about the chart

  - A stacked column chart seems like a very good choice for this visual

  - The color selection for the left and right ends makes it quite easy for a simple comparison between Disagree-Neutral-Agree.

- After – Story telling with Data Version 1
  - Use case 1 – When the comparison between the 2 groups of agree and disagree is important.

Survey Results

Strongly Disagree | Disagree | Neutral | Agree | **Strongly Agree**

Survey item A	5% 5%	30%	27%	33%
Survey item B	6% 11%	35%	28%	20%
Survey item C	6% 14%	45%	15%	20%
Survey item D	8% 32%	20%	23%	17%
Survey item E	16% 25%	32%	18%	9%

  - Design Changes
    - Added data labels and removed the axis.
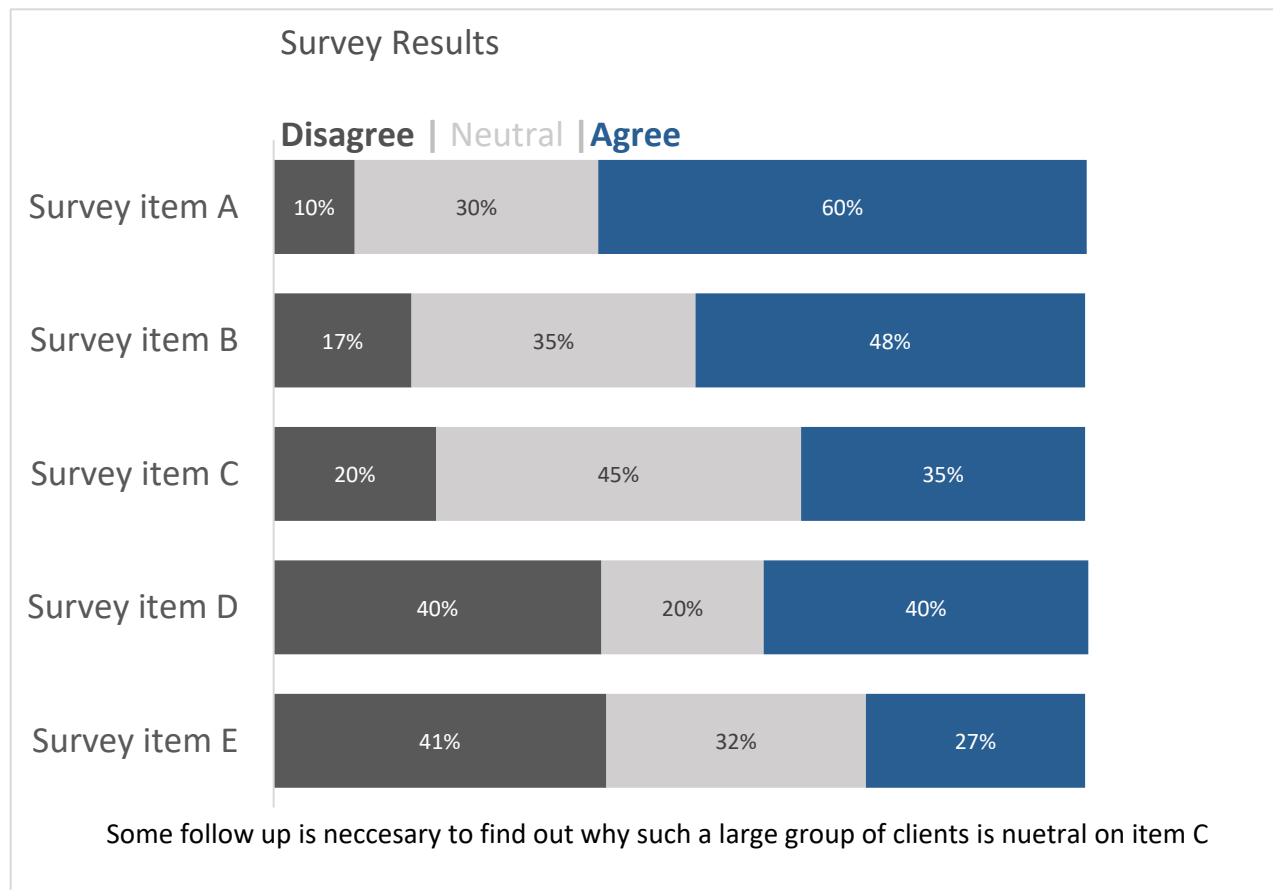   - Added 2 hues for the 2 agree and disagree categories. To facilitate comparing them as a group and separately

- After – Story telling with Data Version 2
  - Use case 1 – When the comparison between the 2 groups of agree and disagree is not important and more importantly we require the audience to group the chart as Disagree- Neutral - Agree

Survey Results

Disagree | Neutral |**Agree**

	Disagree	Neutral	Agree
Survey item A	10%	30%	60%
Survey item B	17%	35%	48%
Survey item C	20%	45%	35%
Survey item D	40%	20%	40%
Survey item E	41%	32%	27%

Some follow up is neccesary to find out why such a large group of clients is nuetral on item C

  - Design Changes
    - Added data labels and removed the axis.
    - Grouped the 2 groups of agree and disagree into 1 group each.

MAKING OR MISSING THE MARK -Visualizing progress against targets.

- Intended story.
  A graph that compares performances against set targets

2022 Sales Agent Performace Comparison
Achieved by **Agent 1** and **Agent 2** | Targets

Agent 2
- Q1 88%
- Q2 87%
- Q3 96%
- Q4 **110%**

Consistent ability to drive sales growth throughout the year, including off-season periods.

Agent 1
- Q1 **125%**
- Q2 36%
- Q3 **129%**
- Q4 40%

Excels in leveraging seasonality to achieve sales targets.