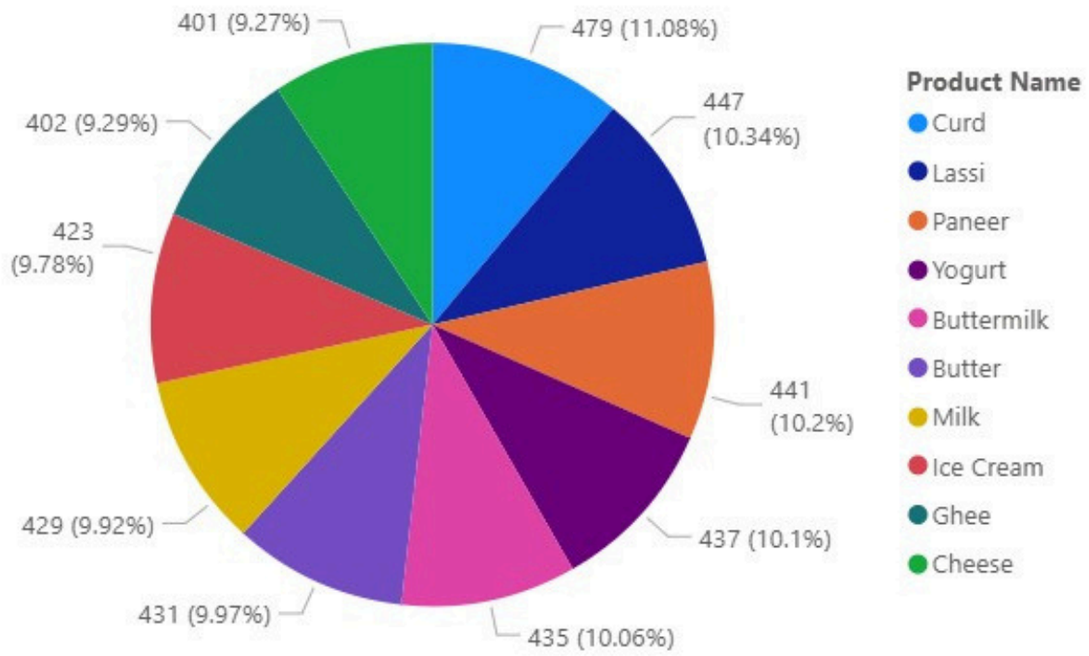
Small Changes

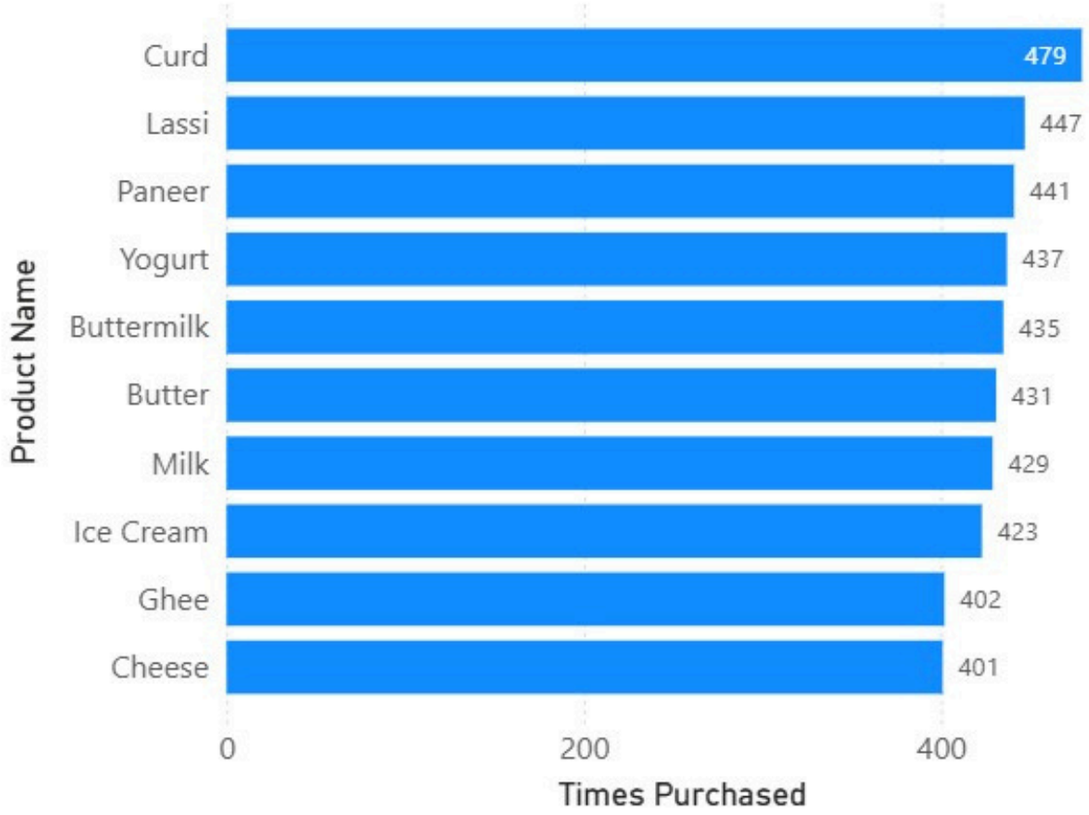
BIG

IMPACT

Frequency - Purchasing Dairy Products



Frequency - Purchasing Dairy Products

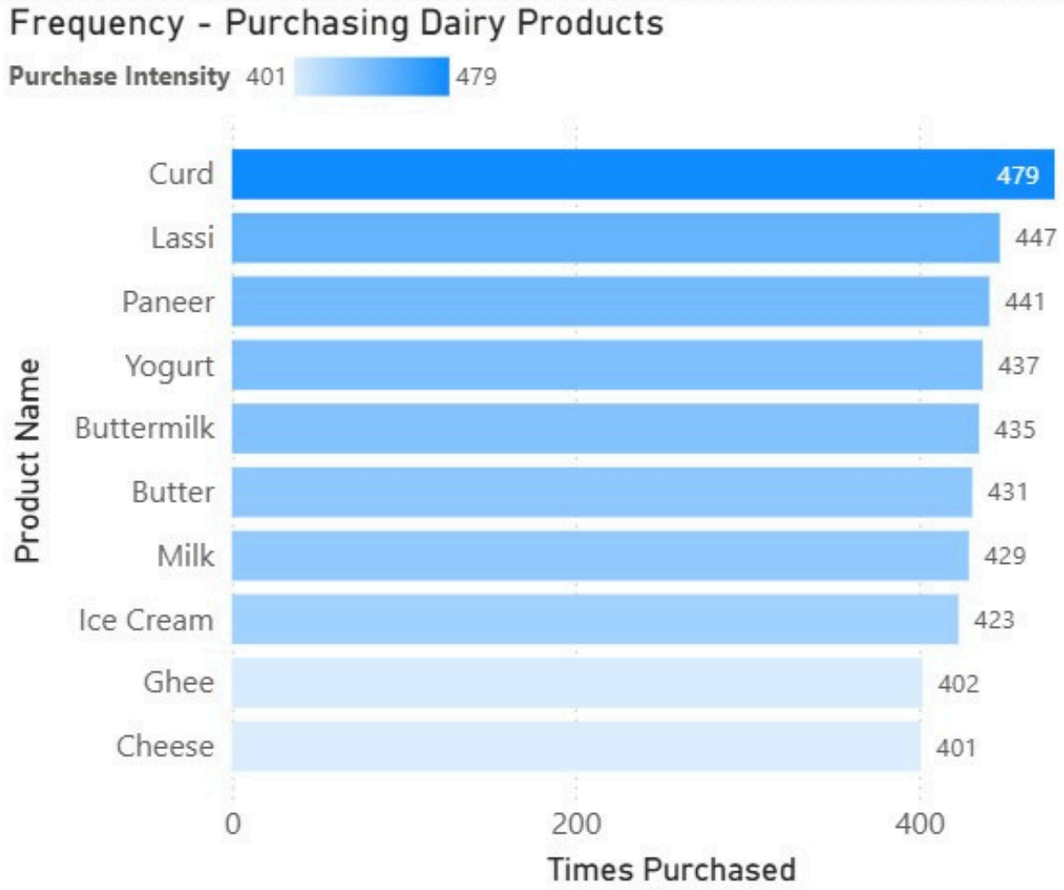


Clarity in Comparison: It's instantly easier to rank products and see which is purchased most (Curd) and least (Cheese). Comparing bar lengths is simpler than comparing pie slice angles.

Precision with Similar Values: For products with close purchase numbers (e.g., Milk, Butter, Buttermilk, Yogurt), the bar plot clearly shows their subtle differences, which get lost in similar-looking pie slices.

Clean and Readable Labels: The bar plot neatly displays all product names on one axis without clutter or the need for a confusing legend.

Accurate Data Perception: The ordered bar plot makes it easy to see the actual quantitative differences between each product, preventing the mis-judgment of values that pie charts often cause for large number of categories.



Consistency in Interpretation

- Left chart: The use of red and green can subconsciously trigger "loss vs gain" interpretation, which is misleading here because we're just comparing frequencies, not profit or risk.
- Right chart: Gradient maintains neutrality and avoids unnecessary emotional bias.

Avoiding Misleading Prioritisation

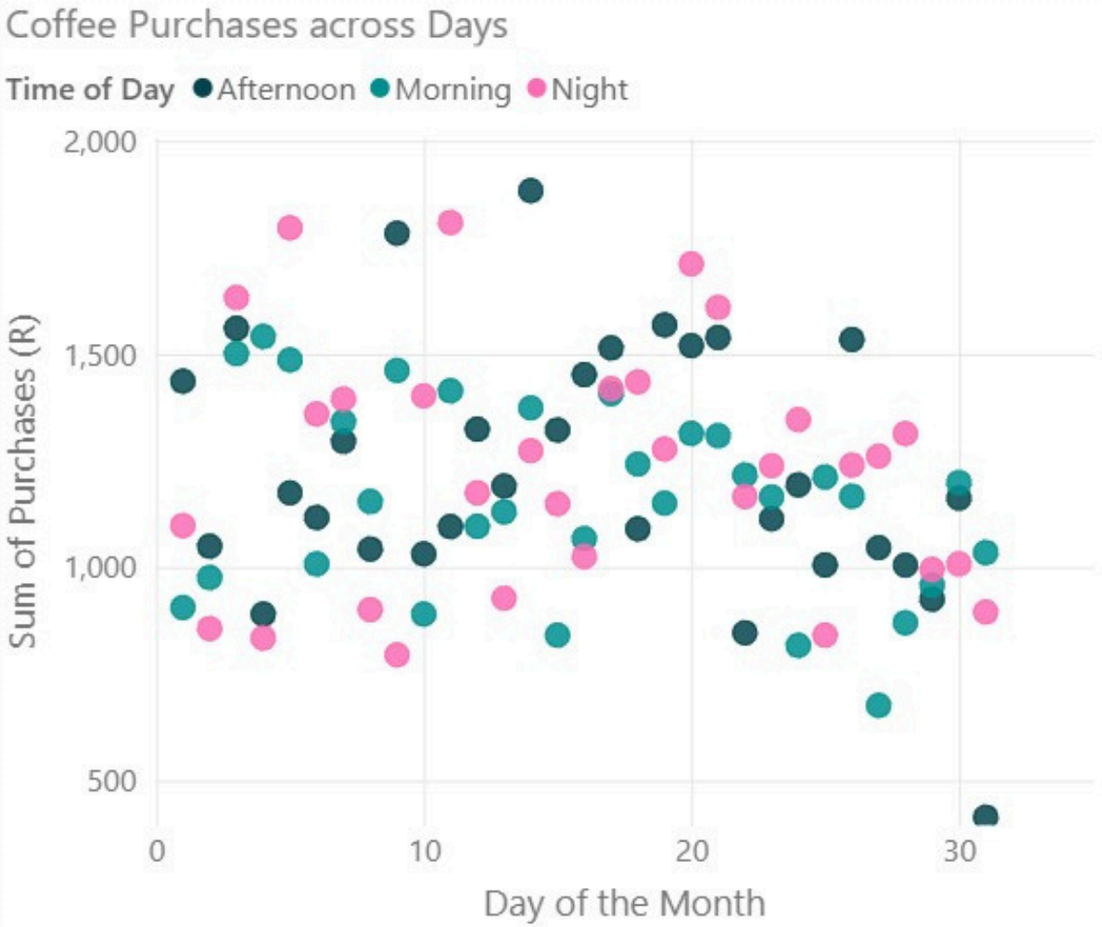
- Left chart: Highlighting only the first and last item implies they are more important than the middle ones.
- Right chart: All items are shown in the same scale, and the gradient naturally emphasises the differences without distorting the narrative.

Clarity

- Left chart: Bright colors distract from the actual numbers and can make the chart look like it's about "traffic lights" (stop/go decision-making).
- Right chart: Subtle gradient puts focus back on the numbers and trends.

Cognitive Load on the Viewer

- Left chart: Viewers spend time wondering *"Why is cheese red? Is it bad?"* instead of simply understanding purchase frequency.
- Right chart: Viewer immediately sees that all bars belong to the same category (dairy products), and the focus shifts to the relative scale.

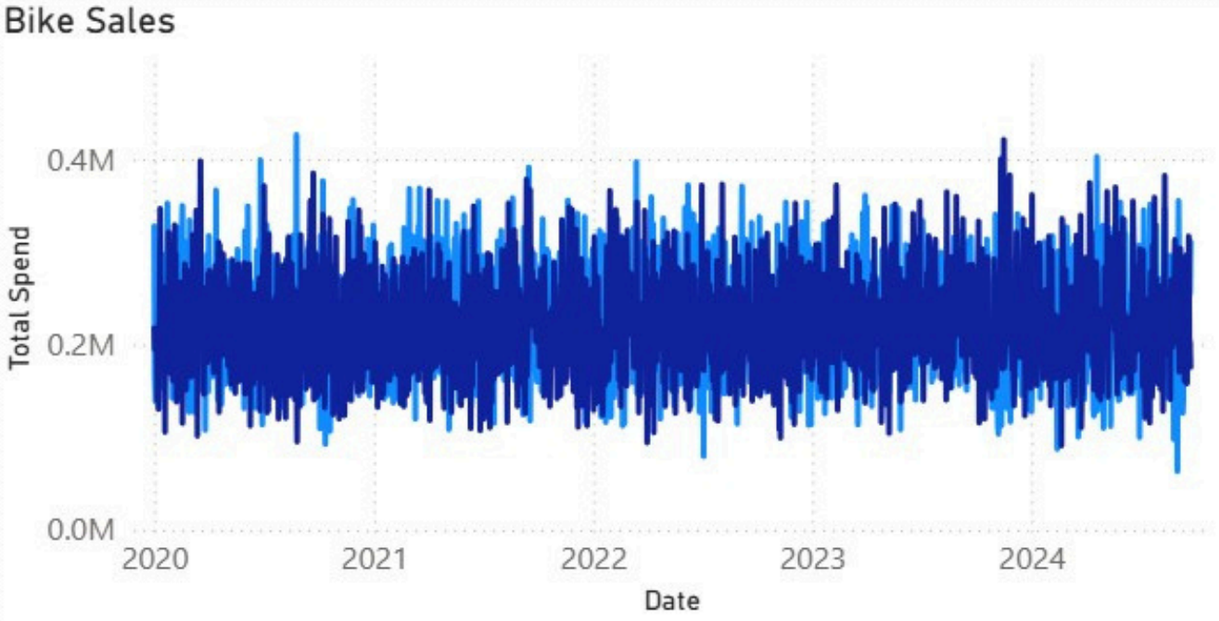


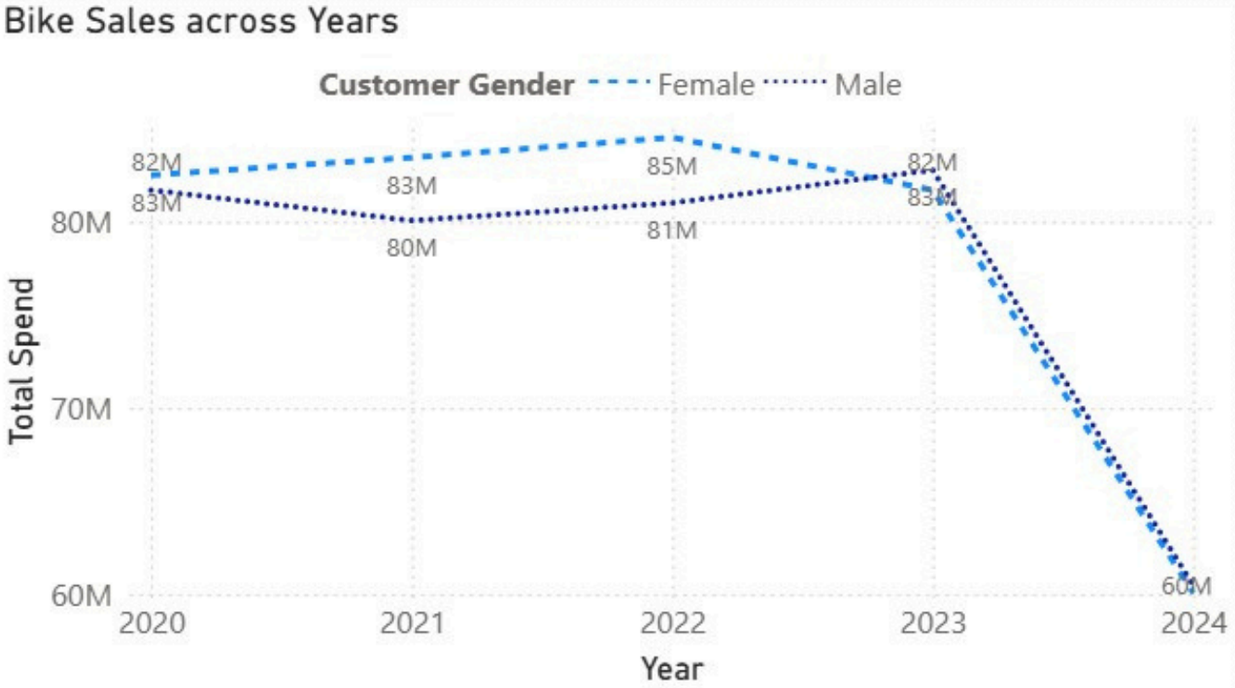
Visual Design & Accessibility:

- Both plots use the same colour-blind friendly palette.
- Left uses only circular points for all time categories
- Right employs different shapes (circles, squares, triangles) for each time period, making it much more accessible for black-and-white printing.
- These plots demonstrate that effective data visualisation requires considering all potential use contexts - not just selecting the right colour palette, but also anticipating scenarios like monochrome printing.
- These features should be utilised whenever possible and necessary for creating effective data visualisations.

Data Distribution & Patterns:

- Left appears to have more scattered data points with some clustering
- Right chart shows similar overall trends but with clearer visual separation between time periods due to shape differentiation.





Clarity and Accessibility:

- Left chart: Dense daily data creates visual chaos, obscuring any discernible patterns
- Right charts: Clear storytelling through separated time periods - yearly overview plus seasonal monthly detail

Data Interpretation:

- Left chart: Daily noise drowns out meaningful sales insights.
- Right charts: Instantly reveals 2024 decline and spring/summer seasonal peaks

Visual Design:

- Left chart: Solid blue bars form an overwhelming data wall
- Right charts: Distinct line styles enable easy gender comparison, even when printed in monochrome

Gender Comparison:

- Left chart: Cannot differentiate between male and female patterns
- Right charts: Gender spending differences are clearly visible while showing similar trend behaviours