

Design and Representation

Learning Objectives

- Understand the Basic of
 - Colour usage
 - Decorating visualization
- Design the visualisation considering:
affordances, accessibility, aesthetics and
acceptance .

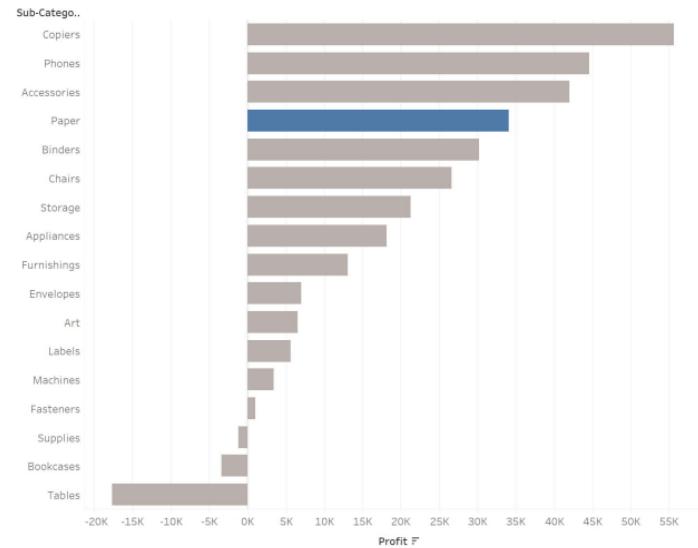
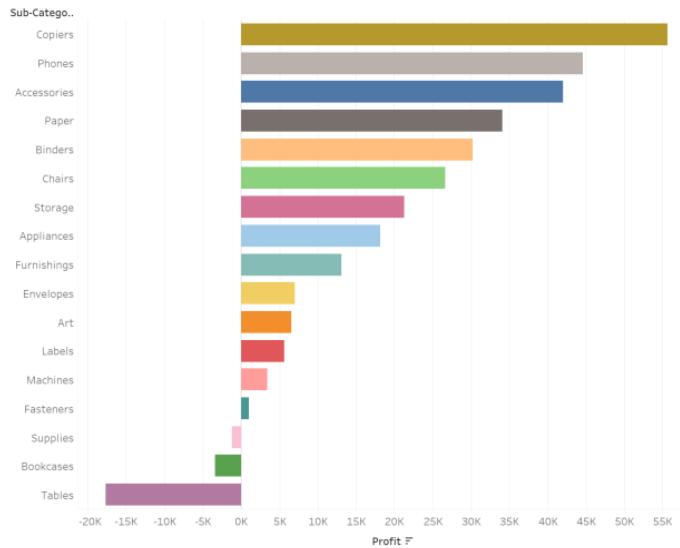
Appropriate design and representation

- Colour
- Decoration
- Bar Chart
- Line Graph
- Chart selection

Selecting Appropriate Colours

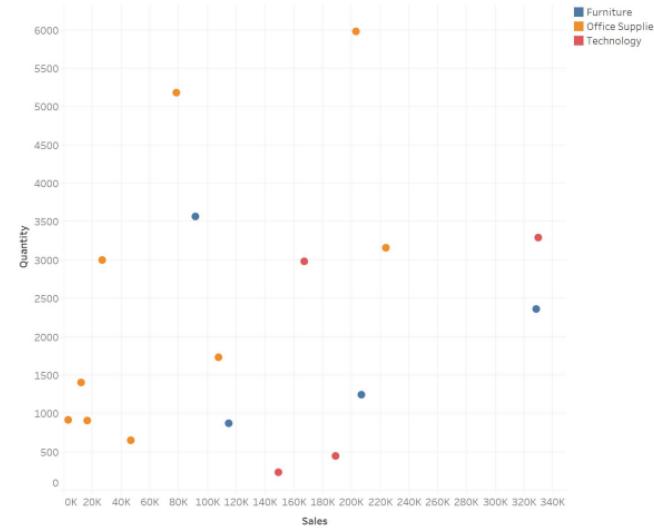
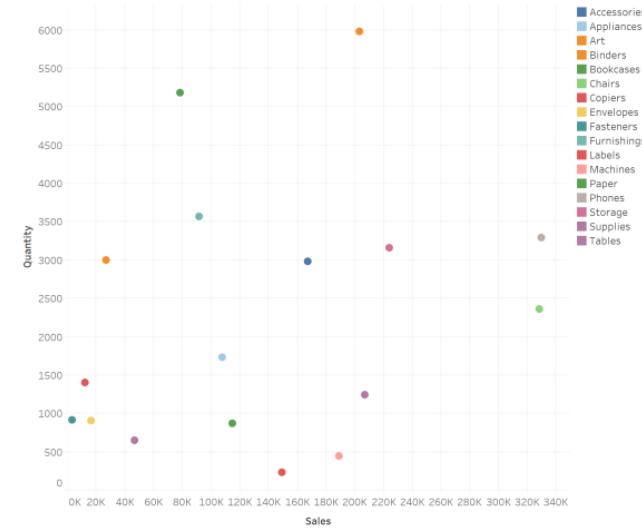
Colour (1)

- Use colour where you wish to highlight



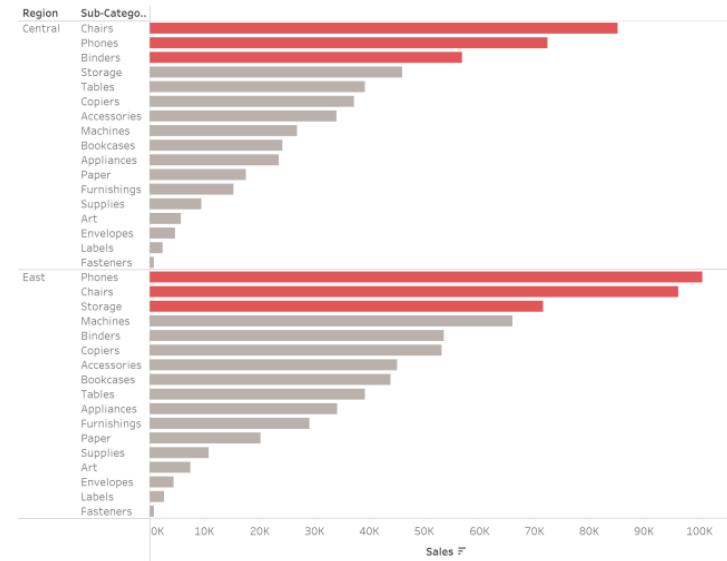
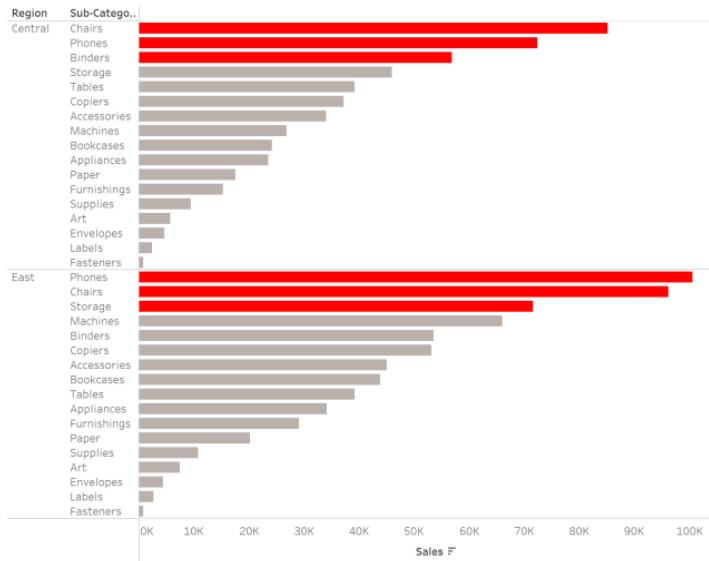
Colour (2)

- Limit the number of colours



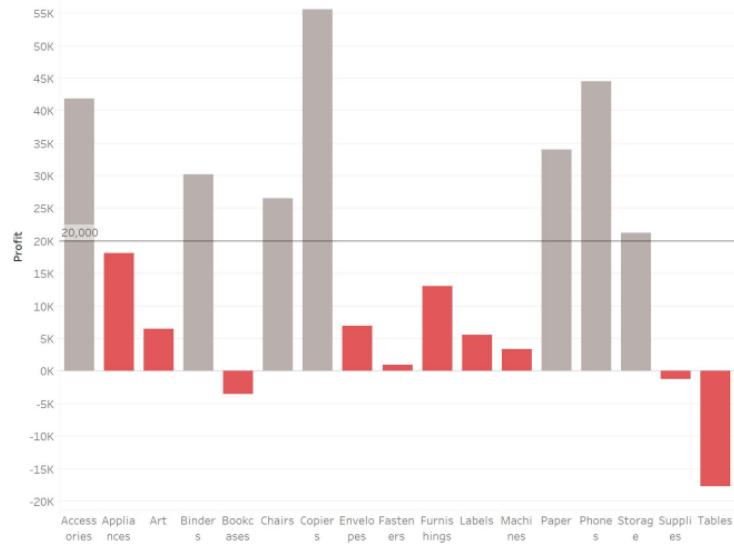
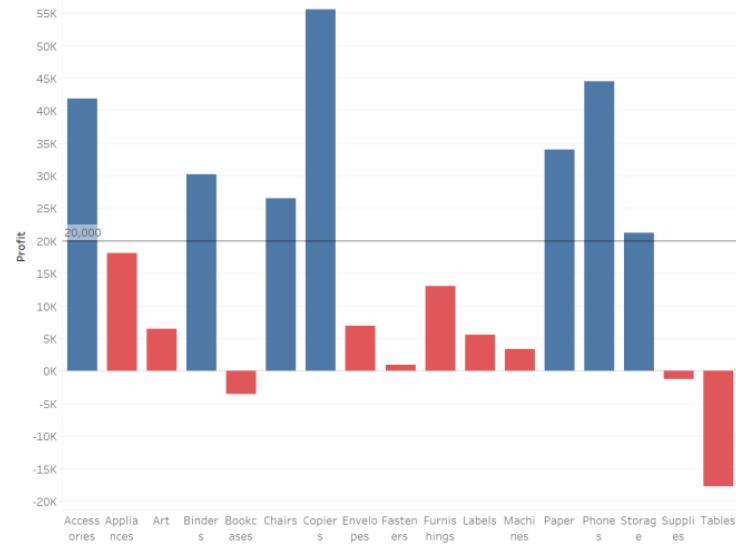
Colour (3)

- Prevent exaggeration with a low chroma.



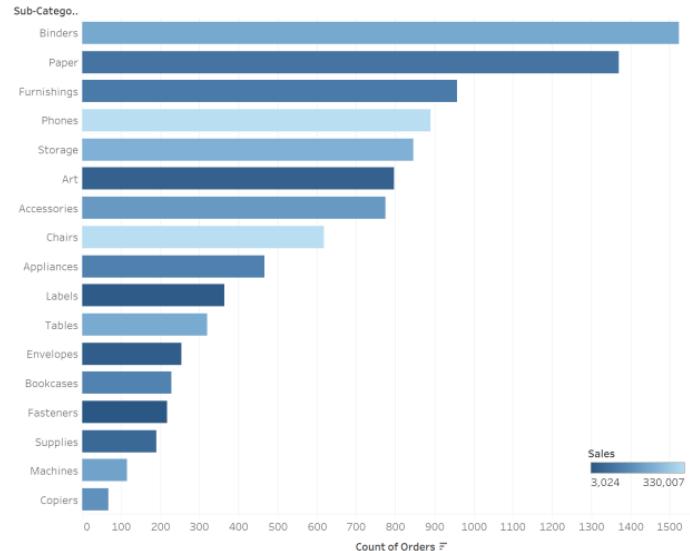
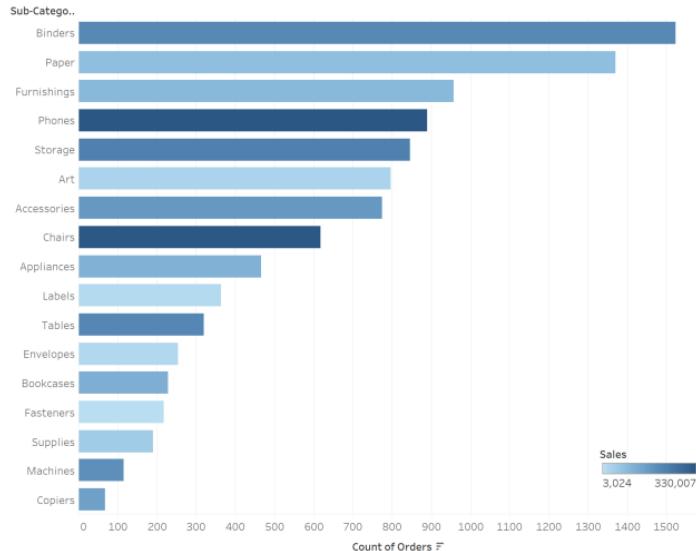
Colour (4)

- Lose focus with two separate hue



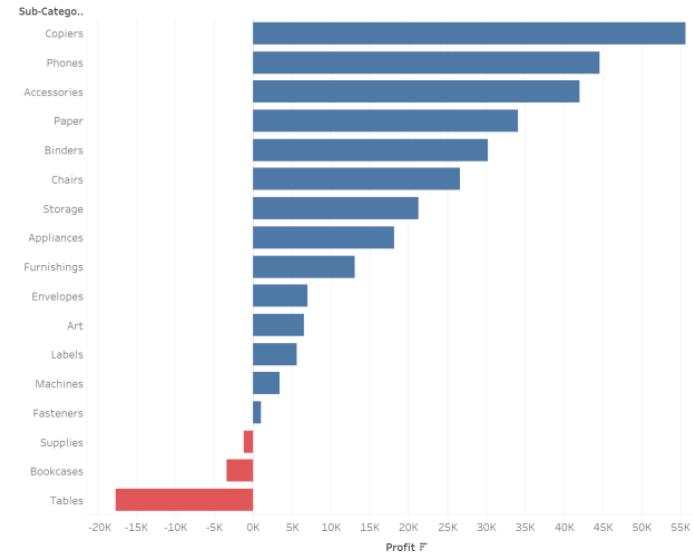
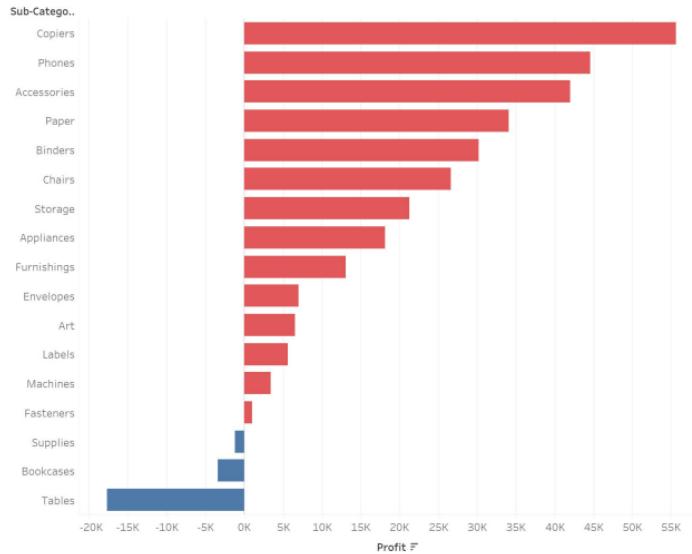
Colour (5)

- Use of colour can give different attention.



Colour (6)

- Utilise the perception associated with colours.



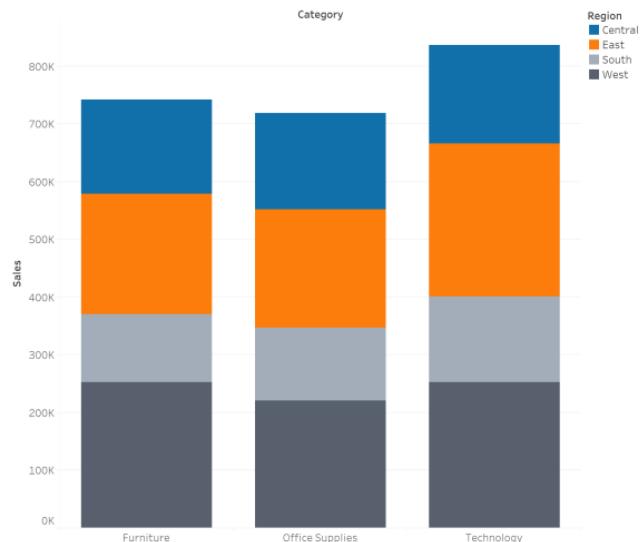
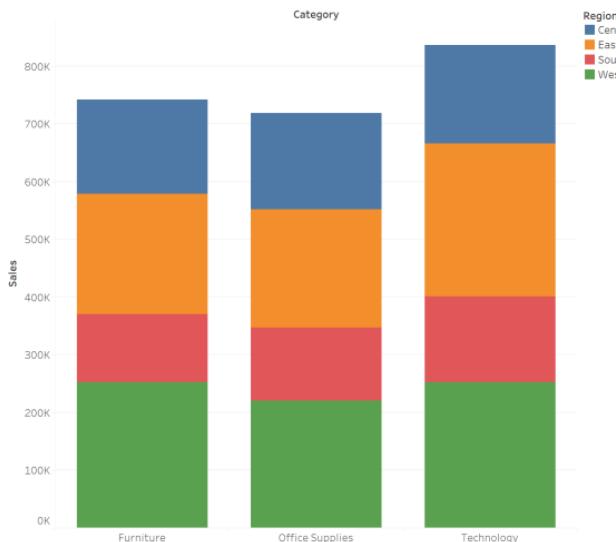
Colour (7)

- Do not assign different meaning to the same colour.



Colour (8)

- Consider visually impaired.



Colour (9)

- Meaningful background.

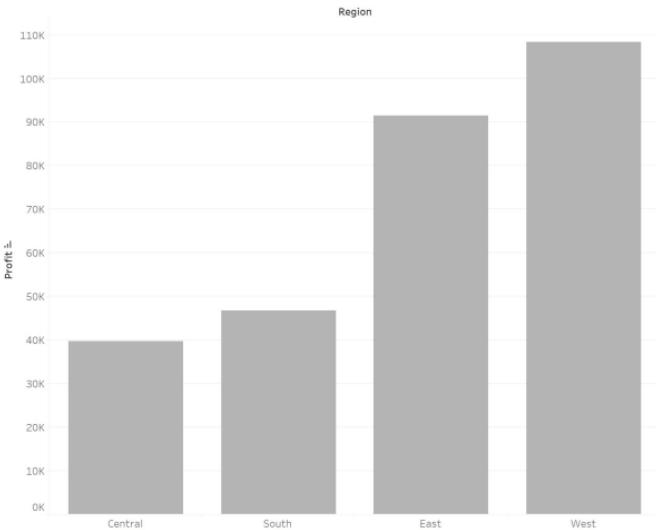
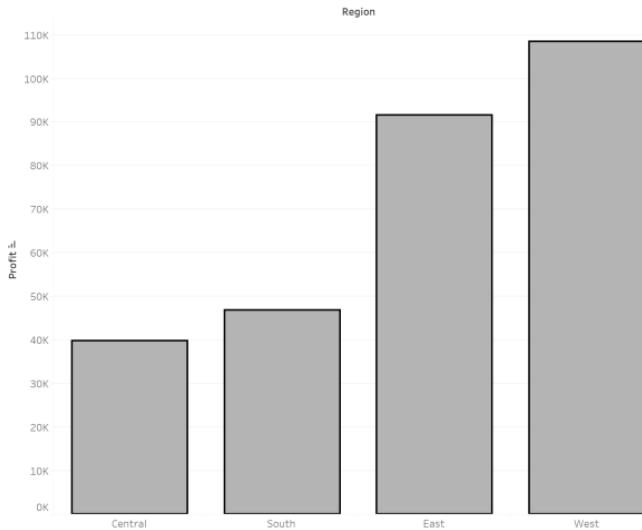
Sub-Catego..	2019	Order Date 2020	2021	2022
Accessories	25,014	40,524	41,896	59,946
Appliances	15,314	23,241	26,050	42,927
Art	6,058	6,237	5,961	8,863
Binders	43,488	37,453	49,683	72,788
Bookcases	20,037	38,544	26,275	30,024
Chairs	77,242	71,735	83,919	95,554
Copiers	10,850	26,179	49,599	62,899
Envelopes	3,856	4,512	4,730	3,379
Fasteners	661	545	960	858
Furnishings	13,826	21,090	27,874	28,915
Labels	2,841	2,956	2,827	3,861
Machines	62,023	27,764	55,907	43,545
Paper	14,835	15,288	20,662	27,695
Phones	77,391	68,314	78,962	105,341
Storage	50,329	45,048	58,789	69,678
Supplies	14,394	1,952	14,278	16,049
Tables	46,088	39,150	60,833	60,894

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Selecting appropriate decorative visual features

Decoration (1)

- Remove unnecessary attention que.



Decoration (2)

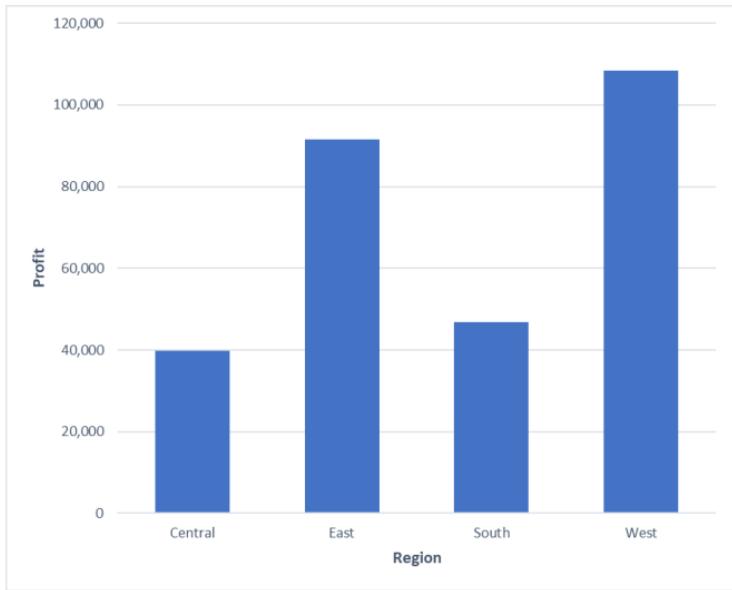
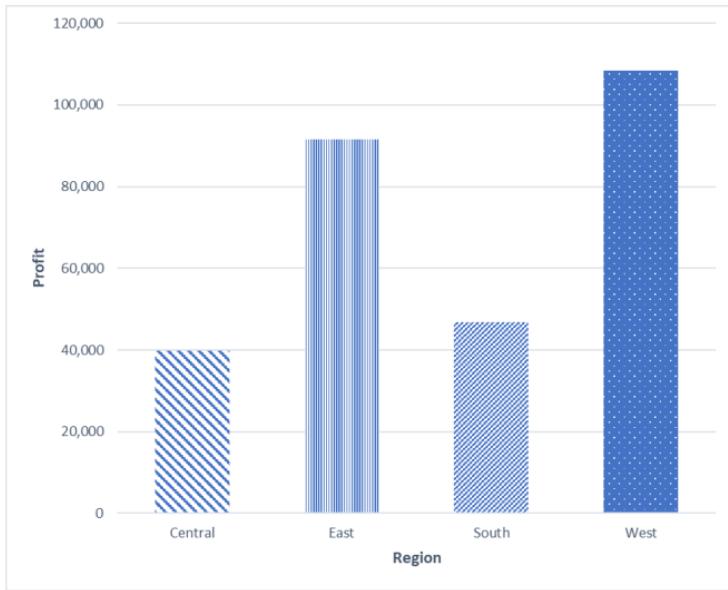
- Remove unnecessary boundary lines.

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	2019	2020	2021	2022
Accessories	25,014	40,524	41,896	59,946
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Bookcases	20,037	38,544	26,275	30,024
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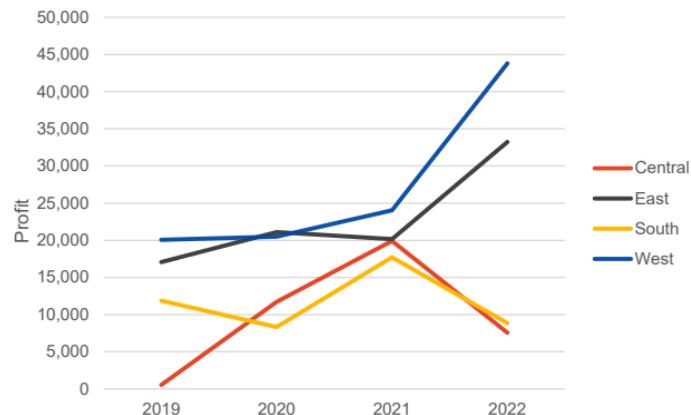
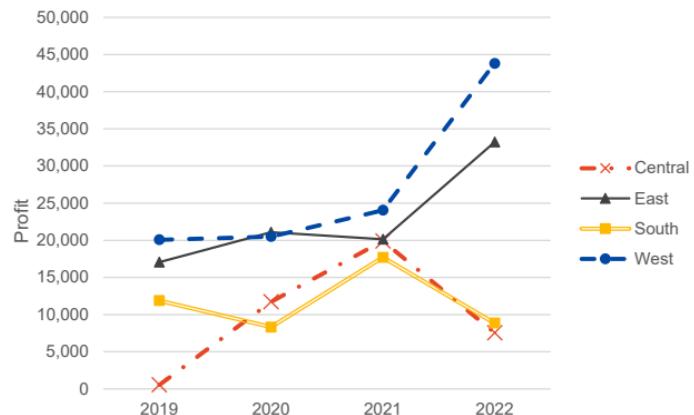
Decoration (3)

- Avoid unnecessary decoration (visual variables).



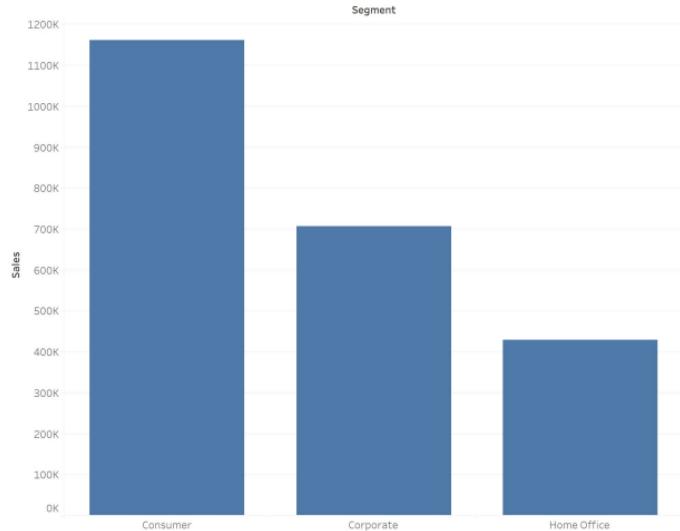
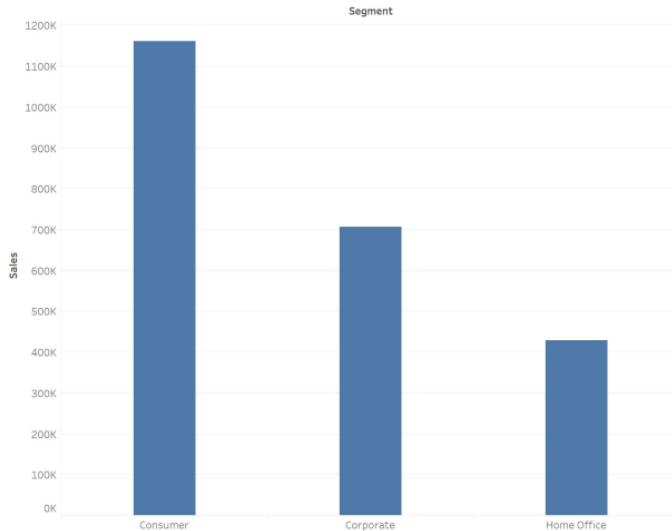
Decoration (4)

- Avoid unnecessary decoration.



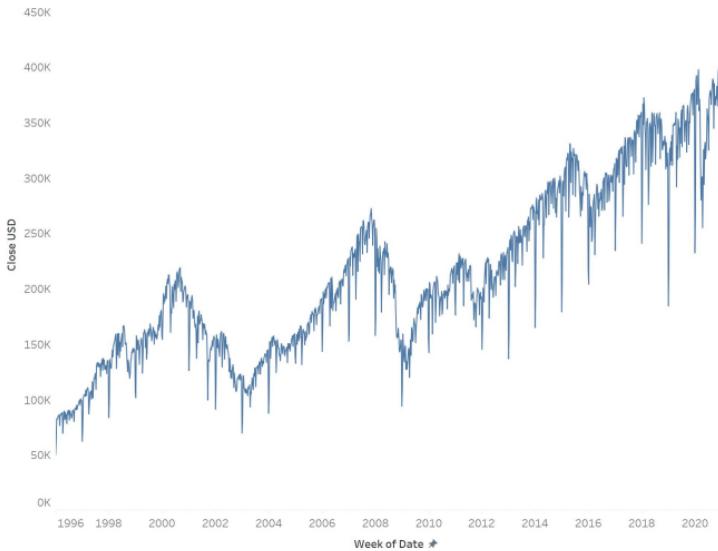
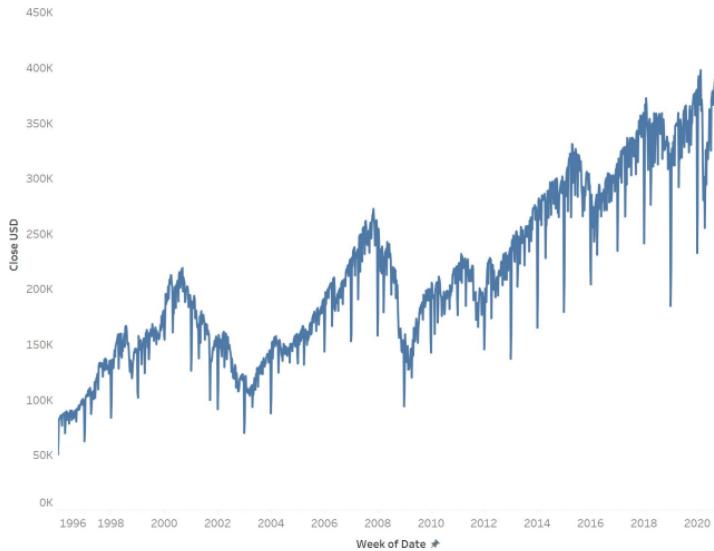
Decoration (5)

- Consider the appropriate use of thickness (vs white space).



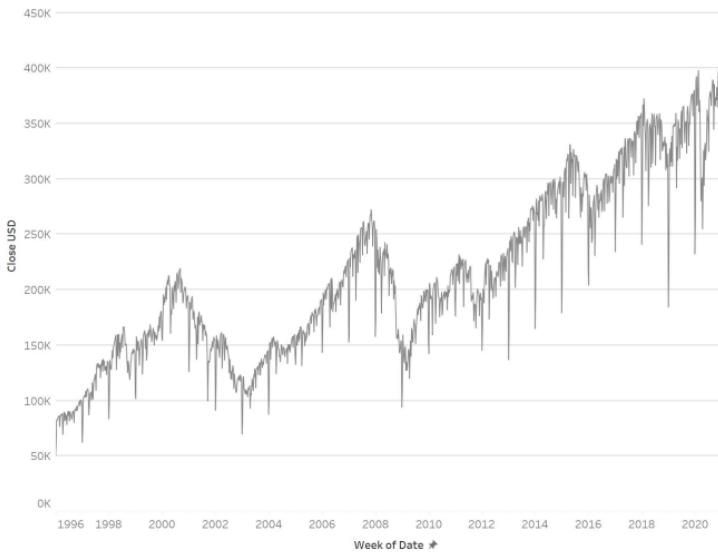
Decoration (6-1)

- Consider the appropriate use of thickness



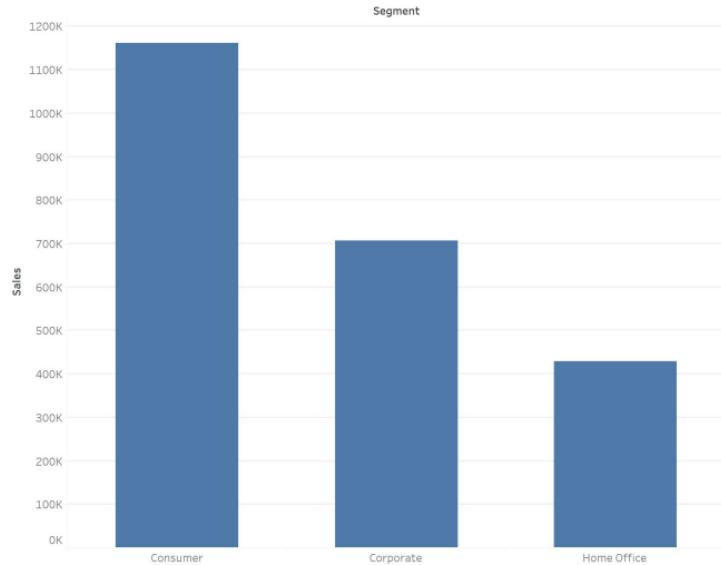
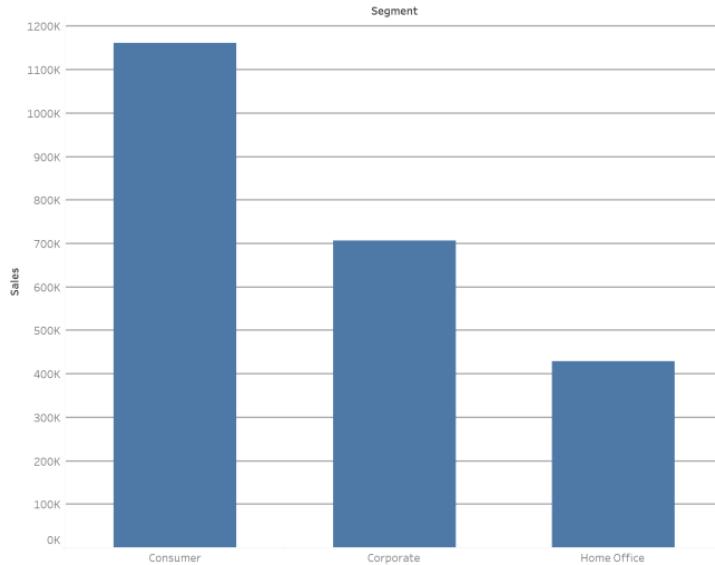
Decoration (6-2)

- Consider the appropriate use of thickness



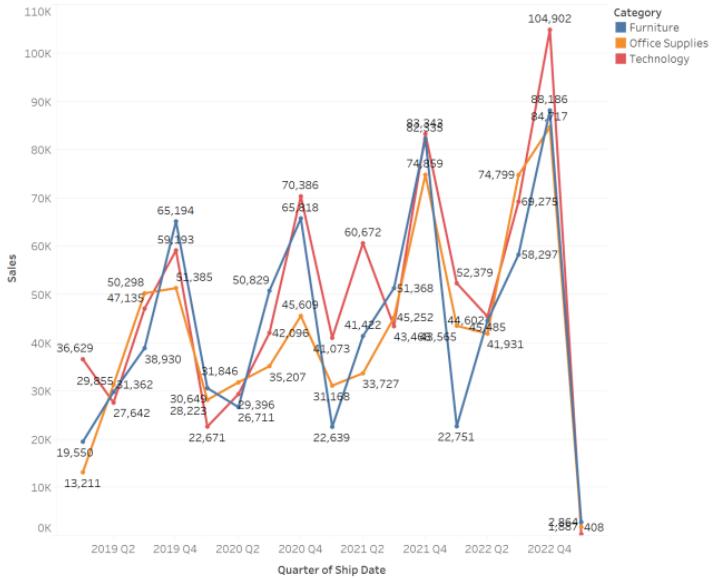
Decoration (7)

- Do not take away the attention



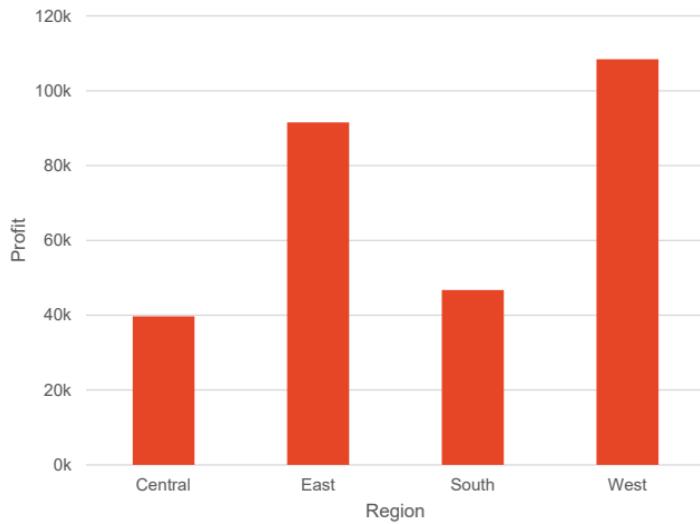
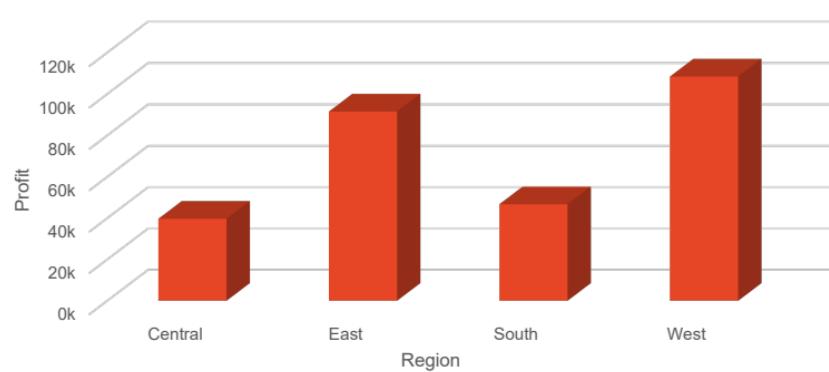
Decoration (8)

- Do not abuse “labelling”



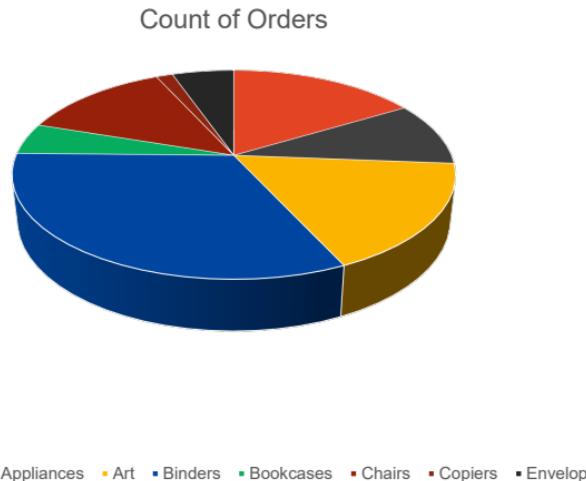
Decoration (9)

- Avoid 3D-effect



Decoration (10)

- Avoid 3D chart

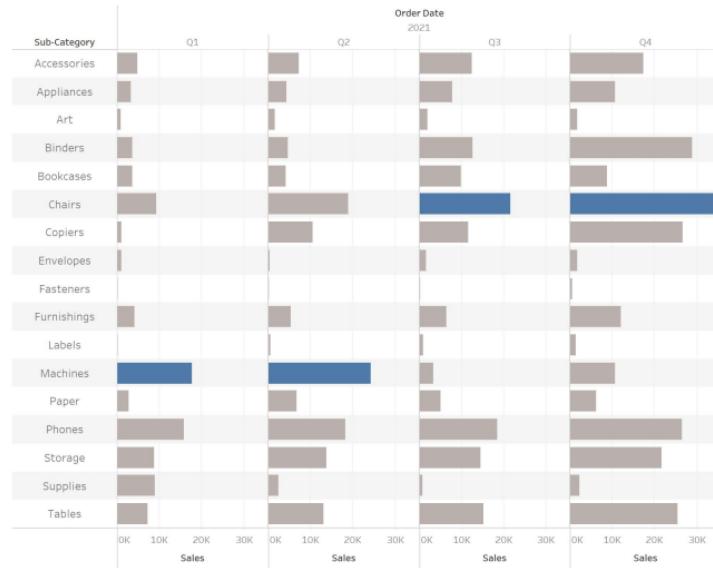


Representation using a Bar Chart

Bar Chart (1)

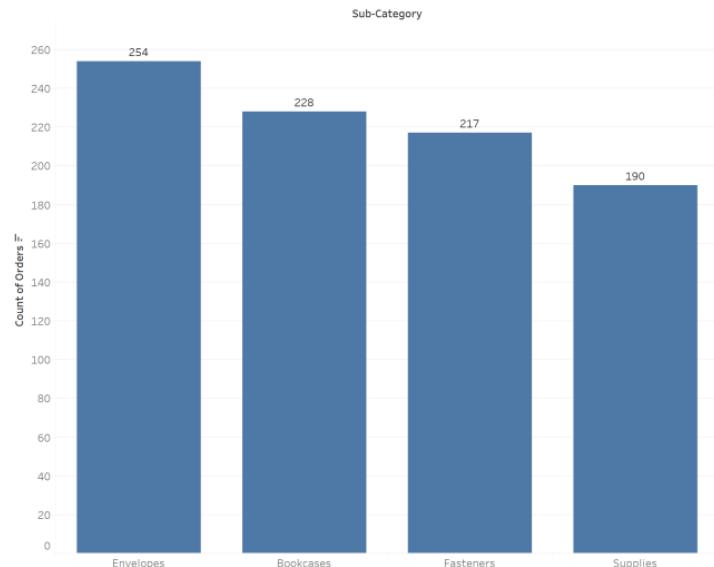
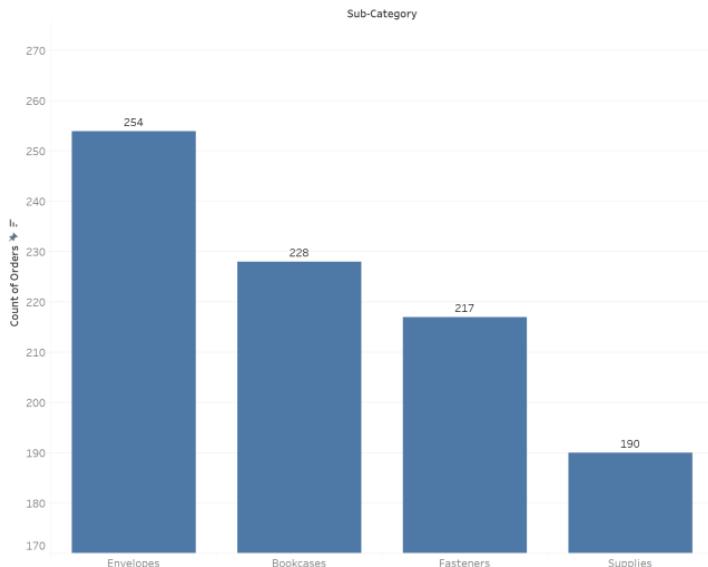
- Use a Bar chart for comparison.

Sub-Category	Order Date 2021			
	Q1	Q2	Q3	Q4
Accessories	4,891	7,223	12,445	17,337
Appliances	3,274	4,327	7,762	10,687
Art	846	1,468	1,870	1,777
Binders	3,542	4,688	12,604	28,850
Bookcases	3,571	4,154	9,760	8,790
Chairs	9,349	18,979	21,556	34,035
Copiers	960	10,440	11,620	26,580
Envelopes	1,082	417	1,587	1,644
Fasteners	88	151	248	473
Furnishings	4,198	5,269	6,339	12,068
Labels	132	572	826	1,296
Machines	17,744	24,273	3,310	10,579
Paper	2,734	6,710	5,061	6,157
Phones	15,851	18,159	18,450	26,501
Storage	8,848	13,805	14,447	21,688
Supplies	8,894	2,445	743	2,195
Tables	7,231	13,000	15,160	25,442



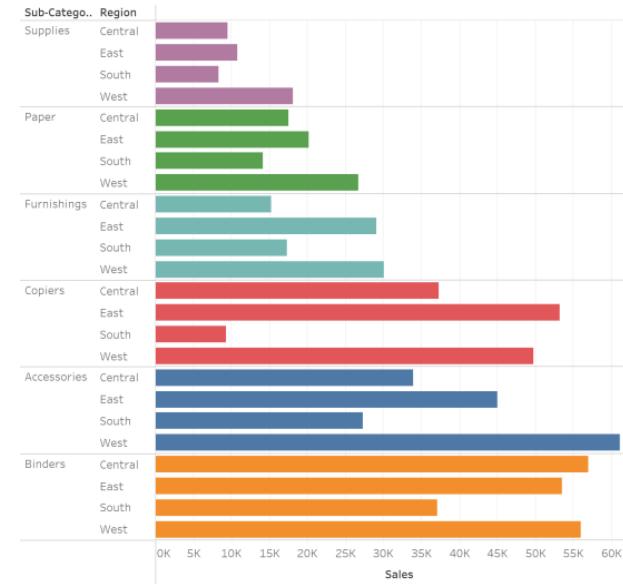
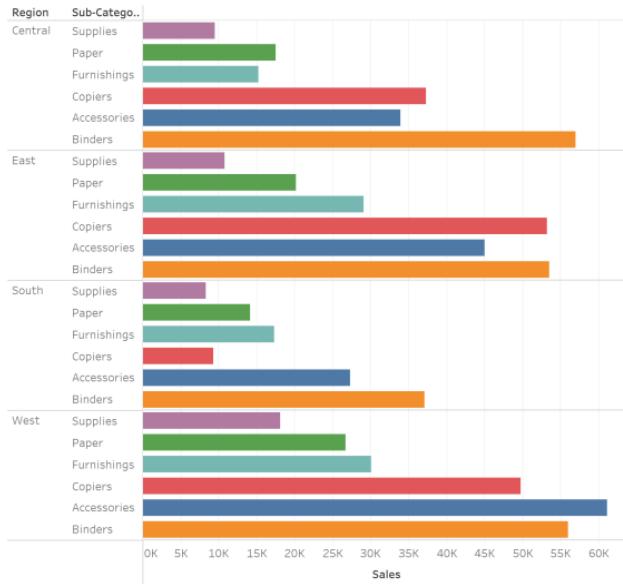
Bar Chart (2)

- Explicit reference point (Zero).



Bar Chart (3)

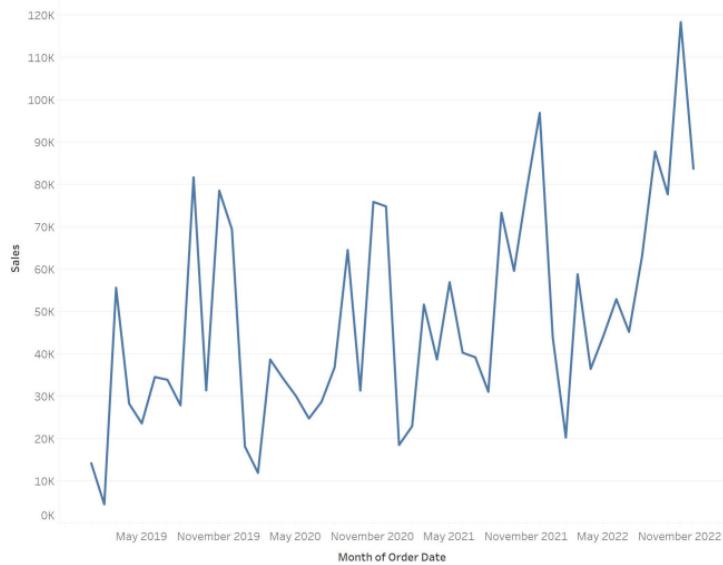
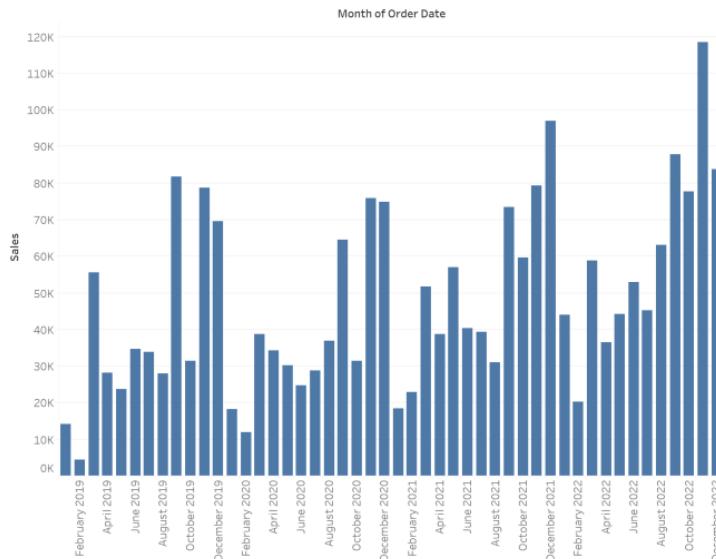
- Reduce the amount of comparison.



Representation using a Line Graph

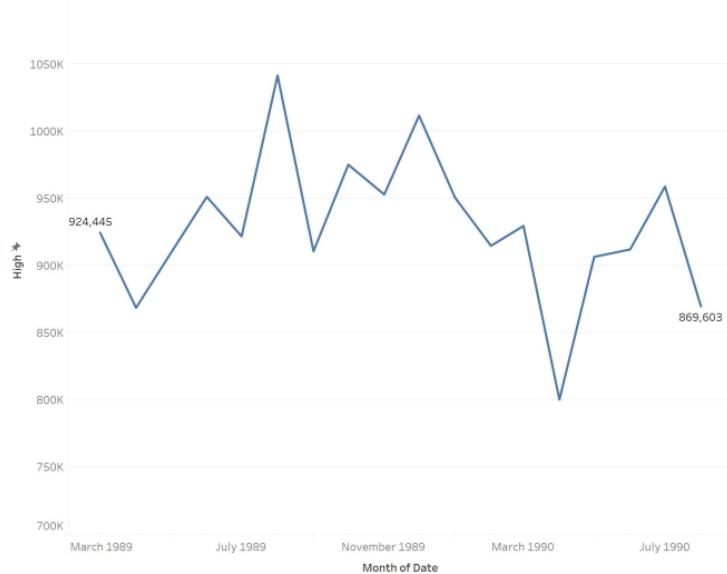
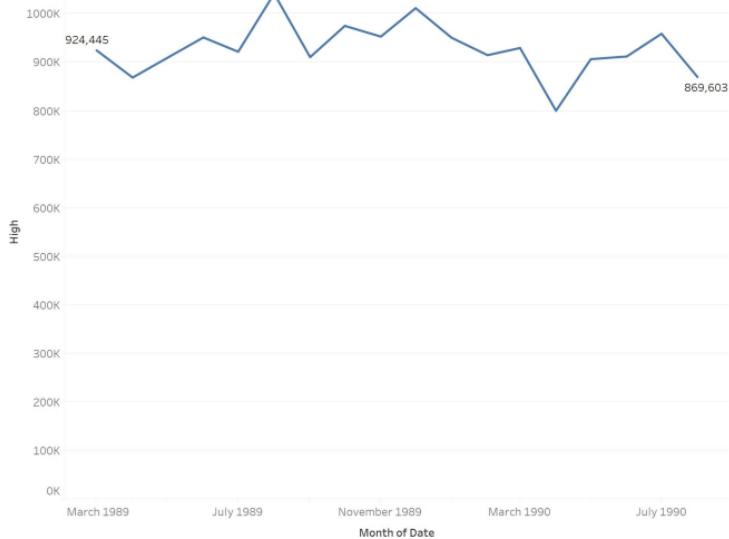
Line Graph (1)

- Use a line graph for visualizing “trend”.



Line Graph (2)

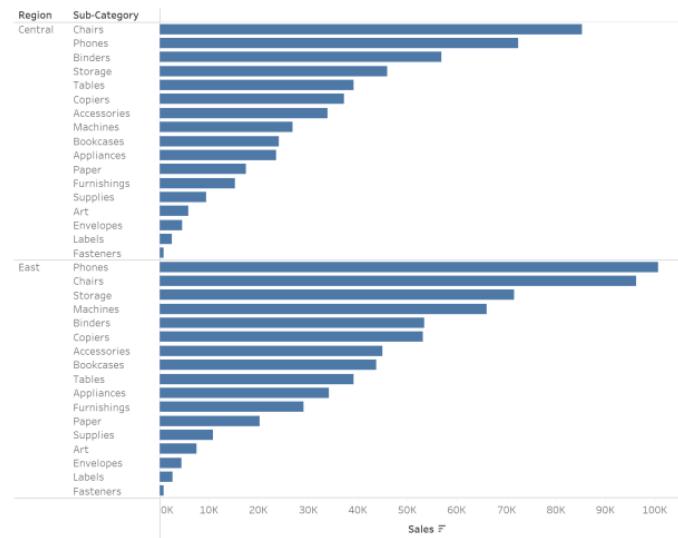
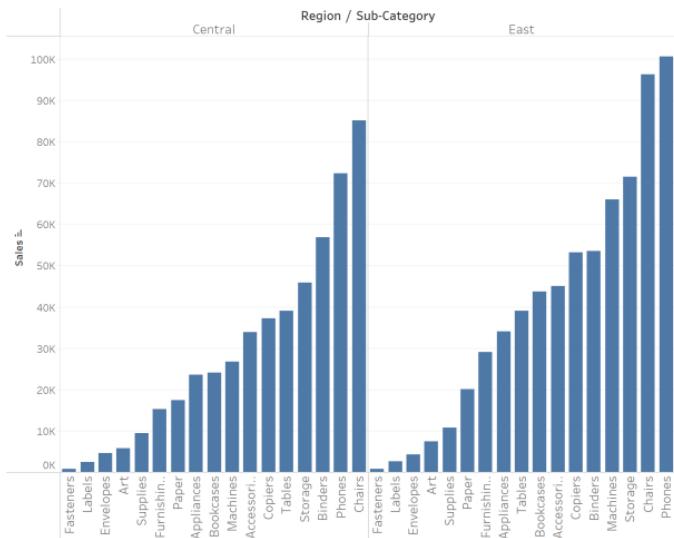
- For visualising “trend”, you may omit the reference point.



Selecting an appropriate chart

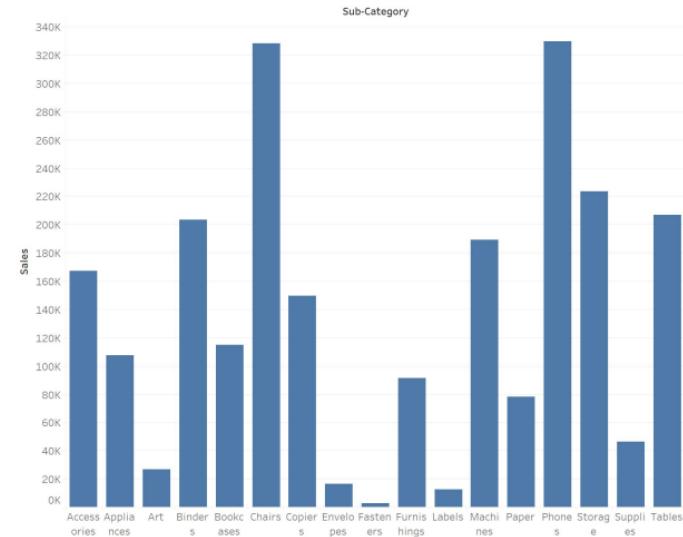
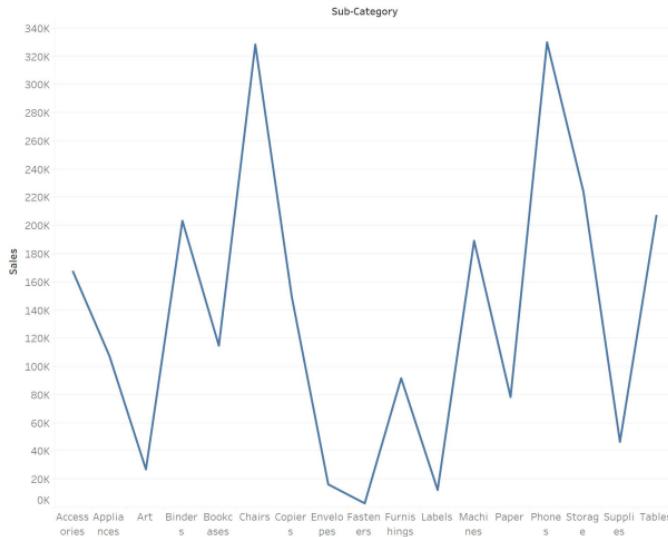
Selecting a chart (1)

- Angled texts are harder to read



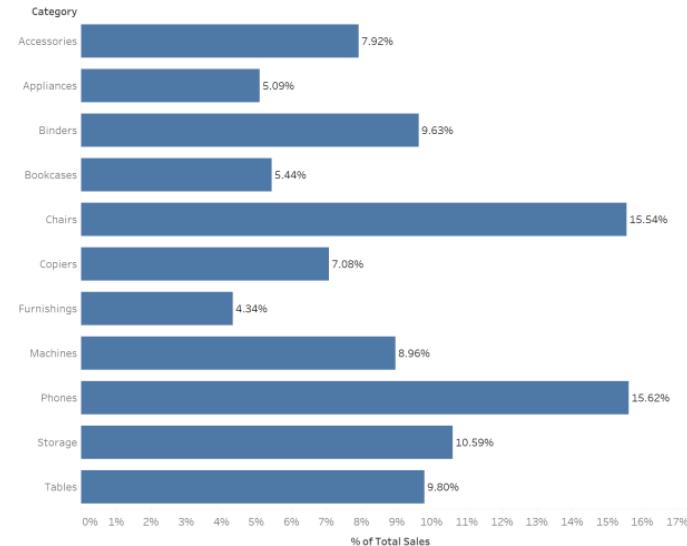
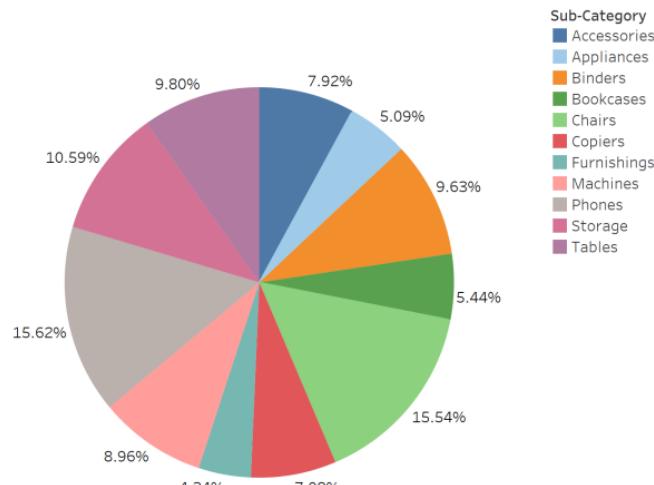
Selecting a chart (2)

- If there is no continuity, do not use a line graph



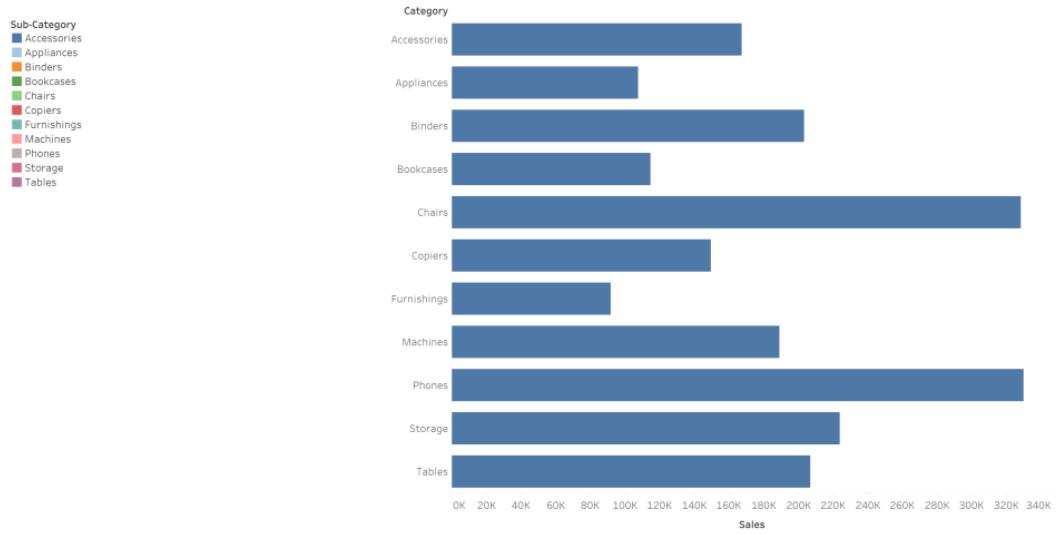
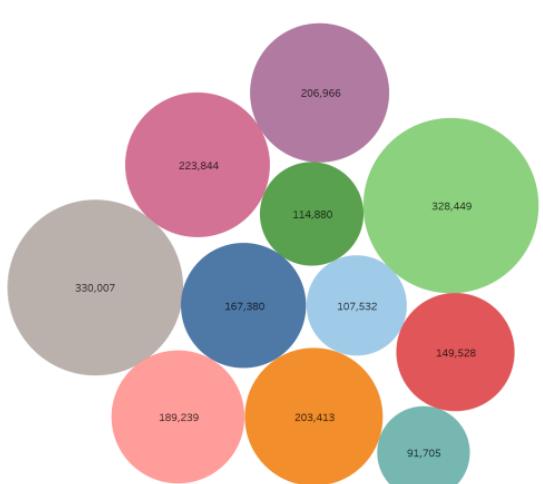
Selecting a chart (3)

- Detailed comparison is rather difficult with a Pi chart



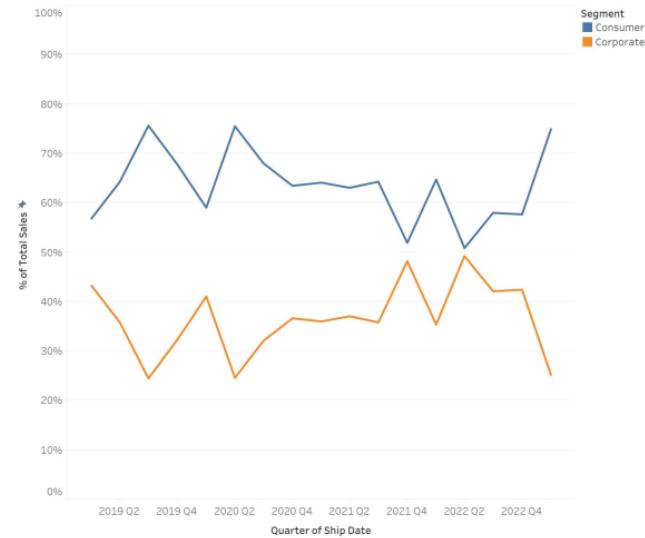
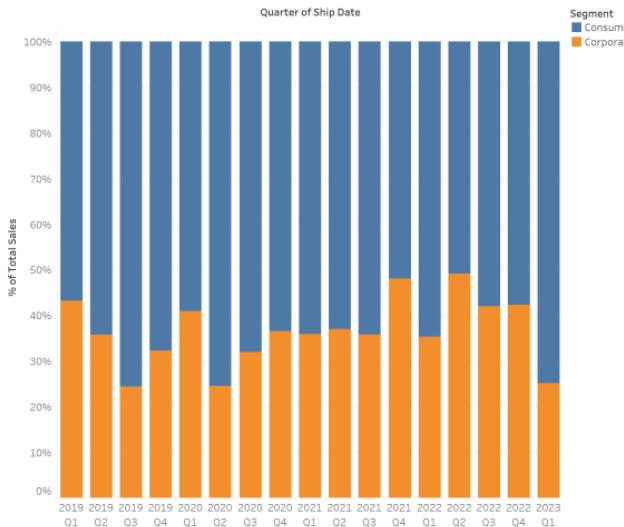
Selecting a chart (4)

- Comparing value with the size/area of Glyph is difficult



Selecting a chart (5)

- “Trend” of “composition” also appreciates the use of a line graph.



Summary

Design the visualisation considering:

- Selecting appropriate colours,
- Selecting an appropriate chart,
- Selecting an appropriate visual variables,
- Selecting appropriate decorative visual features.



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