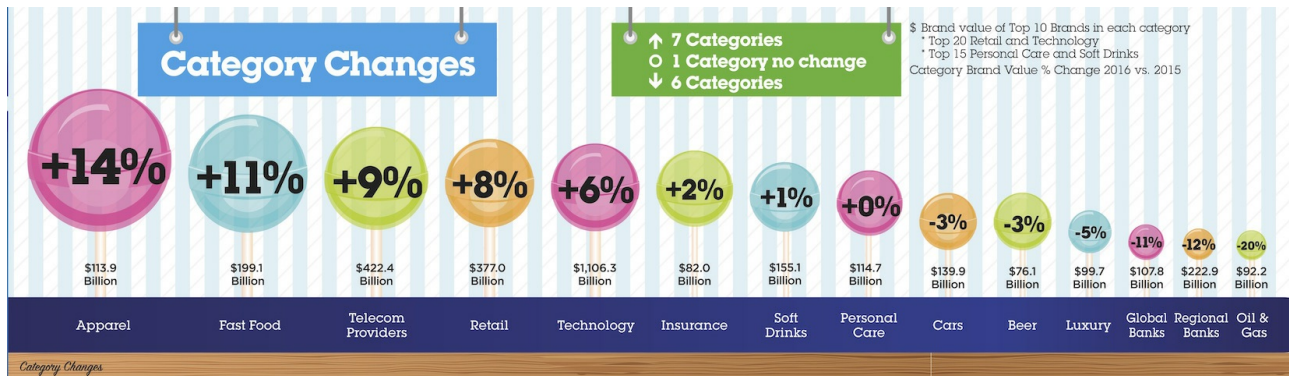# Exam simulation - Practice 11

15 January 2020

Analysis

Analyze the above graph according to the following criteria.

Question

Is it clearly defined one of more questions addressed by the visualization?

> The aim of the graph is to highlight the change in value of some categories of brands from 2015 to 2016.

Data

Is the data quality appropriate?

> The data available completely answers the question, but it is limited.
> In particular, the absolute value values refer to the top 10 brands and not to the overall value of the category.
> There are two exceptions: for Retail and technology the top 20 are considered; for Personal care and Soft drinks the top 15 are considered. This leads to values that are not directly comparable.
> Instead, the variation, presumably, refers to the variation of all the brands in the category and not just of the top 10.

Visual

Are the visual features used in a proper way?

Visual integrity should be assessed with reference to the following aspects.

Proportionality

Are the values encoded in a uniformly proportional way?

> The percentage change values are not reported with a uniform proportion in the size of the bubbles. There is a zero value that theoretically should correspond to a zero dimension.
> Negative values are represented as smaller, without a clear proportionality or coding rule.
> The position of the bubble centers relative to the base of the graph could potentially represent the value, however this is not explicit.

Utility

All the elements in the graph convey useful information?

> There are several purely decorative elements that distract from the quantitative message: the striped background, the stylized reflections on the bubbles (lollipops), the sticks that support the bubbles, the wood effect strip at the base of the graphic.
> The sign with information on how many rise / fall or are stable could be deduced from the graph and it is essentially redundant.
> The variable font size with the percentages is of little use in transmitting relative values.

Clarity

Are the data in the graph clearly identifiable and understandable (properly described)?

> The legend on the values shows the two measures in inverse order: at the top it mentions the absolute value in $ which is at the bottom while at the bottom the % of variation that is at the top.
> Negative percentages are reported with a very small font size.
> In the hypothesis that the position of the bubbles represents the variation values, a possible vertical axis and a line corresponding to zero are missing.
> Furthermore, the label with the absolute value, shown on the vertical section, may suggest that the height represents this value instead (but it is not).

Design

Design the visualization based on the following data structure.

Field	Type	Description
Category	Dimension	The category of the brand: apparel, fast food, etc.
Percentage	Measure	The change of brand value in percentage: 14%, 11%, etc.
Value	Measure	The change of brand value in billion of dollars: 113.9, 199.1, etc.

Design schema

Schema	Description
Rows	Category
Columns	SUM(Percentage), SUM(Value)
Type	Bar
Color	Stepped color with 2 steps for SUM(Percentage), one color for SUM(Value)
Size	Default value
Label	No label

Draft of the resulting graph.

Category changes