

Dashboard Design Final Project

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Links

Tableau Public: https://public.tableau.com/profile/mitchell.beckner#!/vizhome/UdacityProject3_15828210803730/Dashboard1?publish=yes

Typography Document: https://github.com/mitchb63/General_Docs/blob/master/Dashboard%20Design%20Final%20Project%20Typography.pdf

Summary

This project was created as part of Udacity's Data Visualization Nanodegree program. The data used is from Tableau's Superstore sample dataset that is provided with their software. It includes fictional information on product sales, categories, locations, etc. over a period from 2015 to 2018. The objective of this project was to design a dashboard prototype that answers a set of specific business questions for top level executives. The final deliverable for this project is a fully functional, production ready dashboard and a document capturing the text hierarchy of the dashboard design. The business questions that the dashboard will address are:

- What are the top-level revenue, profit, profit ratio, and units sold figures for 2018?
- What is the Year over Year performance by customer segment?
- What is the monthly trend of the current year by segment and metric?
- What is the performance by sub-category by the various metrics?
- What are the best performing sub-categories for each customer segment?

The nature of the questions asked suggested that the information would be used to make strategic rather than tactical or operational decisions. Therefore the assumed graphicacy level of the dashboard was targeted to be medium to low in order to accomodate the end users. The information is presented in an explanatory manner such that the main takeaways are easy to identify. The preliminary sketches created to answer each specific question are shown in the next section.

Sketches

- What are the top-level revenue, profit, profit ratio, and units sold figures for 2018?

Since this dashboard is designed for high level executives with limited time, it was decided to display these numbers using large text so that there is no chance for confusion or mis-interpretation. A similar approach was taken for the both the company as a whole and for each of the business segments.

- What is the Year over Year performance by customer segment?

This question was addressed by the inclusion of large symbols and dynamic text indicating the increase or decrease in performance over the prior period.

- What is the monthly trend of the current year by segment and metric?

This question was addressed by the addition of line charts to the right of each of the segment BANs. Sketches demonstrating all three of these ideas are shown in Figure 1

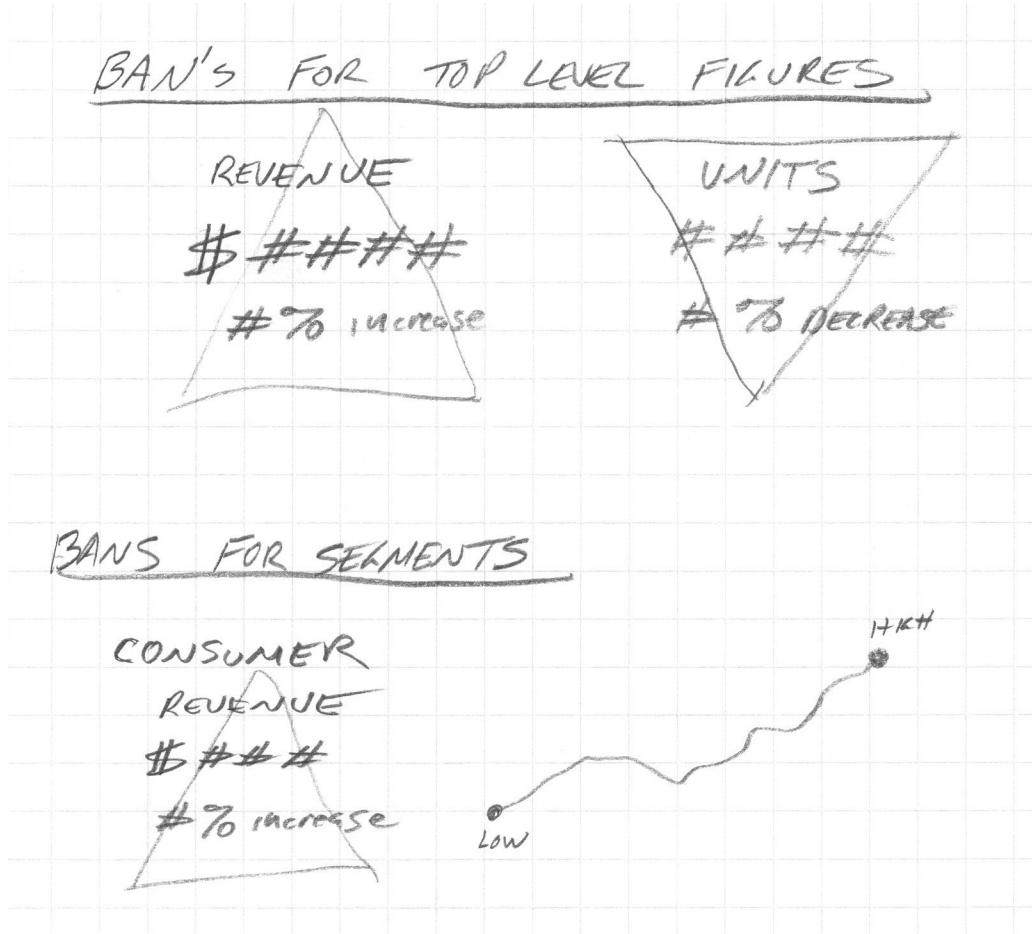


Figure 1: BAN Sketches

- What is the performance by sub-category by the various metrics?
- What are the best performing sub-categories for each customer segment?

Several ideas were explored for this chart. Dot plots and multi-column bar charts were considered (see Figure 2) before deciding on a simpler bar chart that could be dynamically filtered as shown in Figure 3.

Wireframes

Once the preliminary sketches were completed, the dashboard's overall layout was constructed. Wireframe sketches were produced and refined before moving on to actual dashboard creation in Tableau. The initial and refined wireframe sketches are shown below.

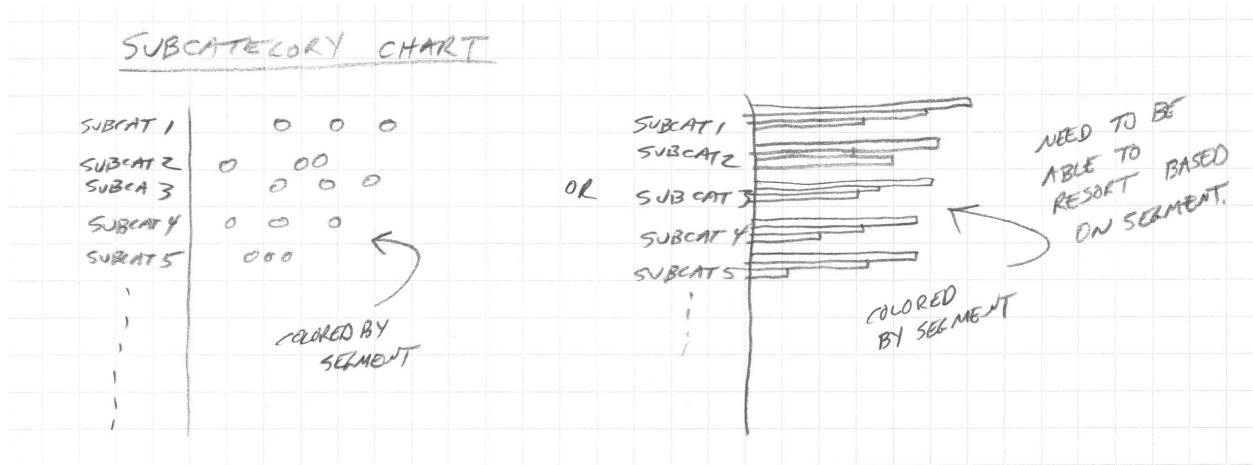


Figure 2: Preliminary Sub-category Chart Sketches

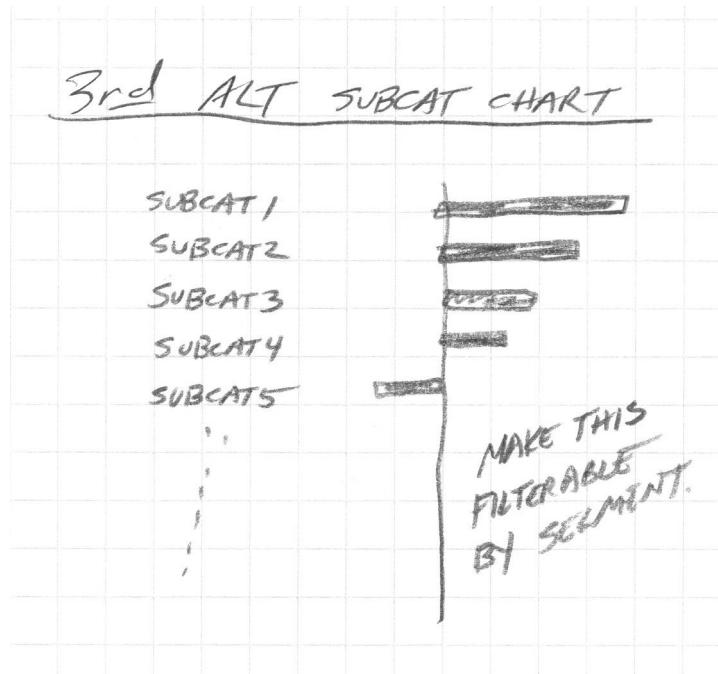


Figure 3: Final Sub-category Chart Sketch

- Initial Wireframe Ideas See Figure 4

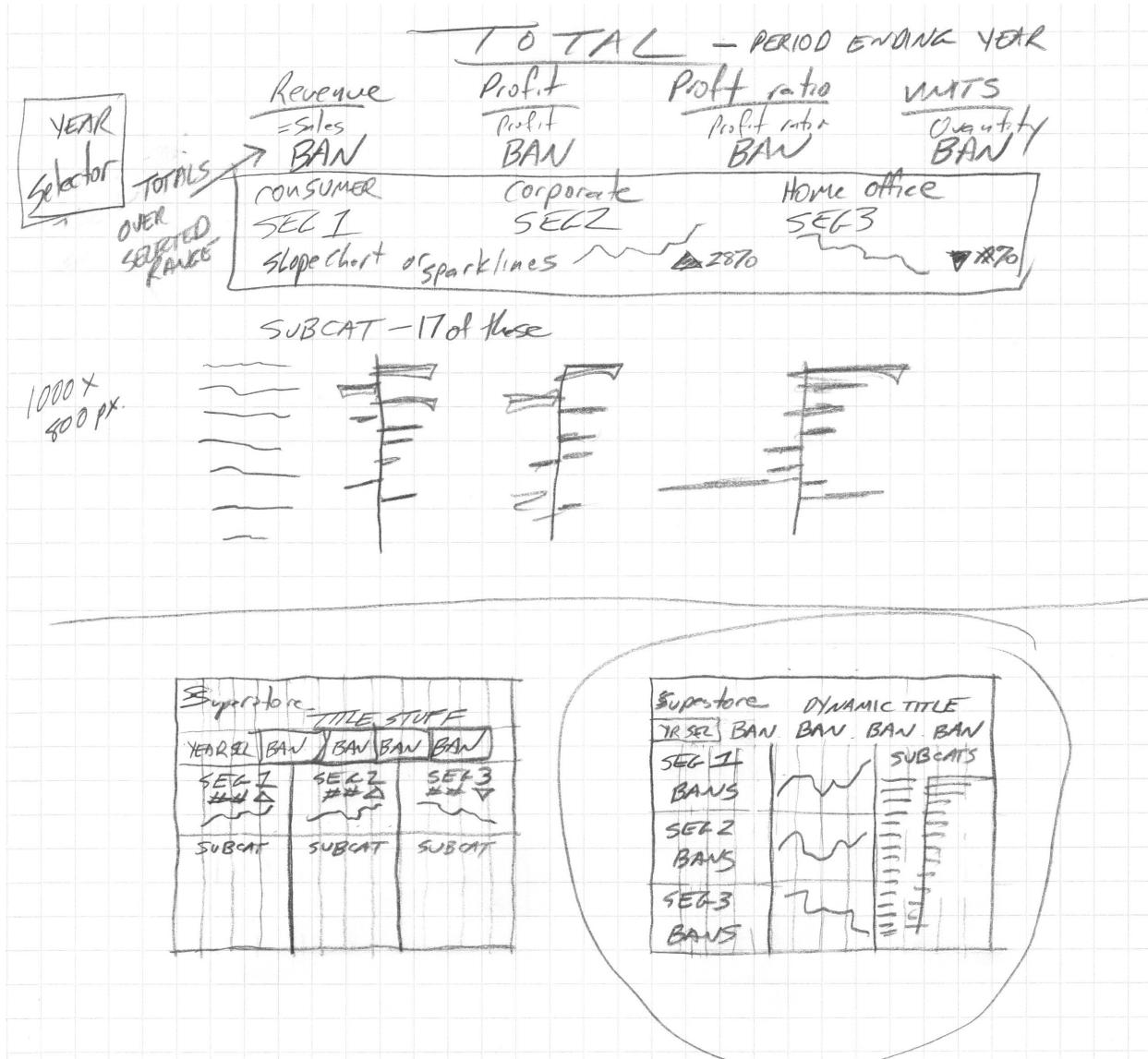


Figure 4: Preliminary Wireframes

- Final Wireframe Design See Figure 5

Dashboard Creation

The final dashboard can be found at the link above and was created using Tableau Desktop software. Each of the business questions can be answered and additional functionality and interactivity was added to allow the user to investigate the data in more detail. Dynamic text labels were included to clarify the displayed time periods and to point out specific information of interest.

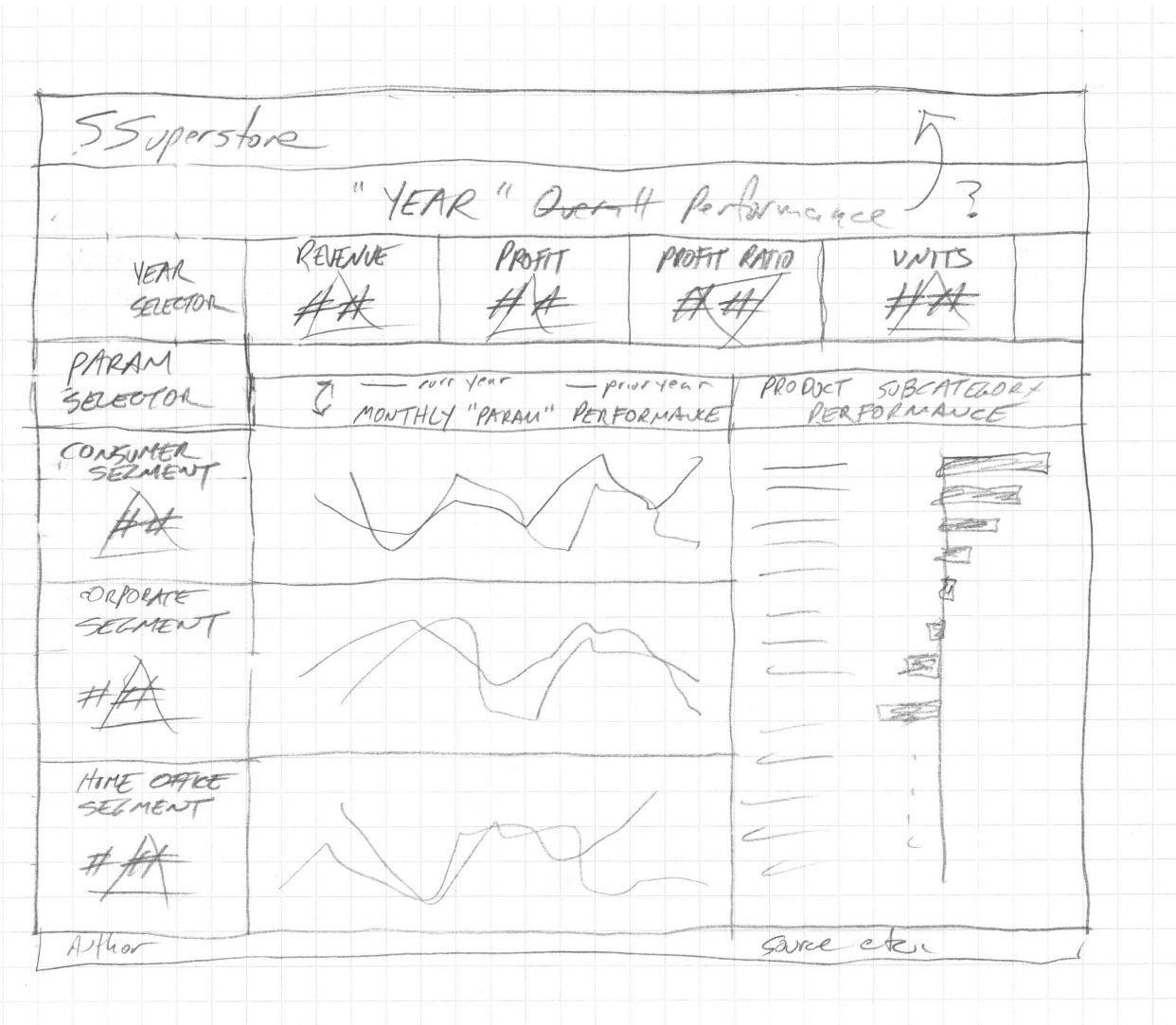


Figure 5: Final Wireframe

Color

The use of color was reserved for highlighting specific points of interest. Four colors were included in the design. Black was used for the top level metrics in the BAN text and grey for all other text and the majority of graphic elements. Blue and red hues were selected from Tableau's colorblind palette and used to highlight metrics that increased (blue) or decreased (red). Blue was also used to dynamically highlight the top 5 performing sub-categories and the show the current period in the line charts.

Typography

In order to ensure that the design would upload to Tableau Public as desired, only Tableau fonts were used. Tableau Bold was used for the majority of graphic elements in the dashboard with Tableau Book used when a large amount of text was being presented such as in the Help text. The type hierarchy was determined using the Type Scale generator found at <https://type-scale.com/>. It uses a base size of 16px and the '1.250 - Major Third' scale (Church, n.d.). A link to the text hierarchy document is provided above and summarized below:

- 28px - Main heading and top level BAN numbers
- 21px - All BAN labels and business segment BAN numbers
- 16px - Sub-category chart title
- 12px - Detail text below each BAN and selection legends
- 9px - Chart axis labels, help text and citations

Alignment

The dashboard alignment was based on a grid structure that placed the top level information horizontally across the top. Below this, on the left three quarters of the dashboard, the segment data was presented in three stacked, horizontal sections as well. The lower right corner of the dashboard was used for the sub-category chart as shown in Figure 6.

Annotation

Dynamic text was added to the section titles and to the detail text beneath each of the BANs to aid in the explanation of the information being presented. A legend was added to the line charts to ensure the viewer understood what each line represented. Tooltips were provided that provide additional information including annual max and min values when the user hovers over points on the line charts. Additional help is given when hovering over "?" icons for each section. This text provides explanations and instructions to the end user.

A static view of the completed dashboard is shown in Figure 7.

References

Church, Jeremy. "A Visual Type Scale." Type Scale - A Visual Calculator, type-scale.com/.

Sleeper, Ryan. "How to Make Your New Favorite Tableau Date Comparison Filters." How to Make Your New Favorite Tableau Date Comparison Filters, 4 Oct. 2018, www.ryansleeper.com/how-to-make-new-favorite-tableau-date-comparison-filters/.

Sleeper, Ryan. Practical Tableau: 100 Tips, Tutorials, and Strategies from a Tableau Zen Master. O'Reilly Media, 2018.

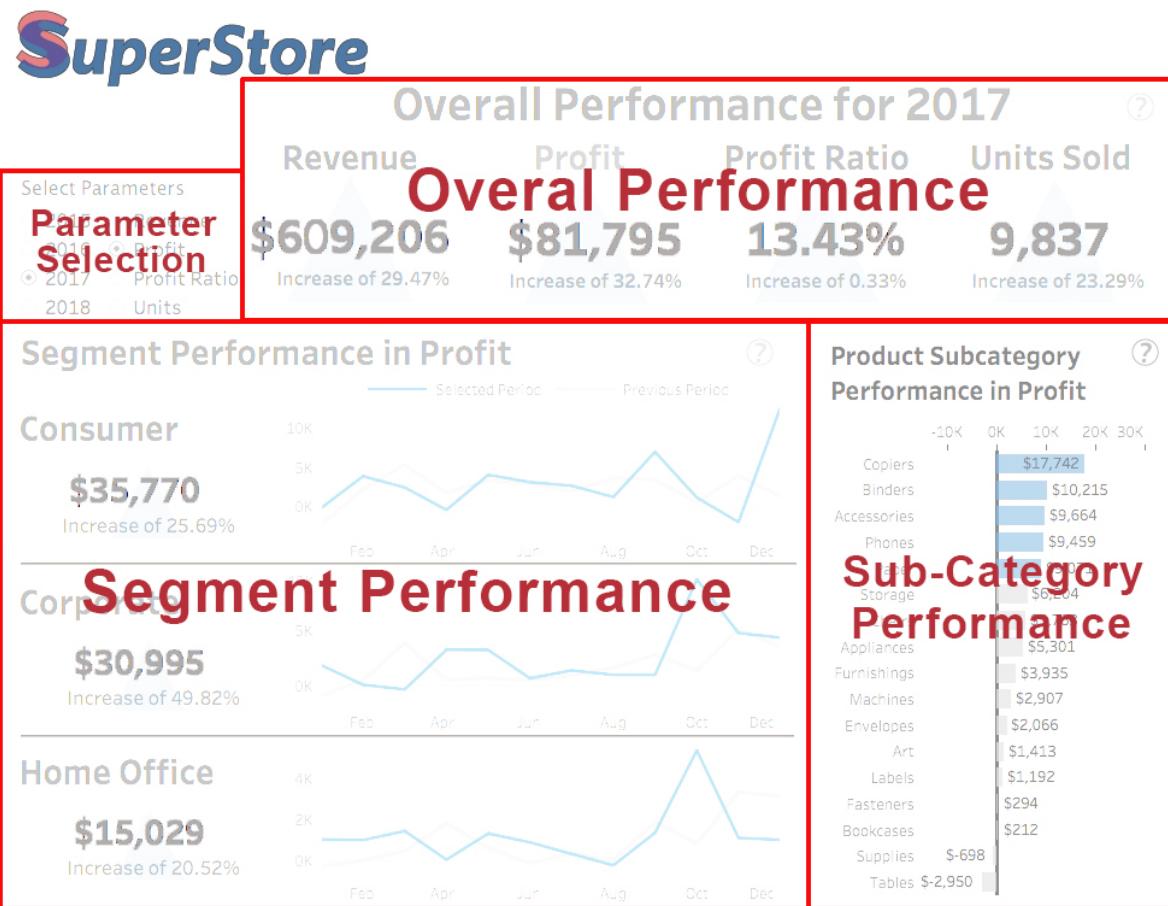


Figure 6: Alignment of Sections

SuperStore

Overall Performance for 2017

(?)

Select Parameters

- 2015 Revenue
- 2016 Profit
- 2017 Profit Ratio
- 2018 Units

Revenue

\$609,206

Increase of 29.47%

Profit

\$81,795

Increase of 32.74%

Profit Ratio

13.43%

Increase of 0.33%

Units Sold

9,837

Increase of 23.29%

Segment Performance in Profit

(?)

Consumer

\$35,770

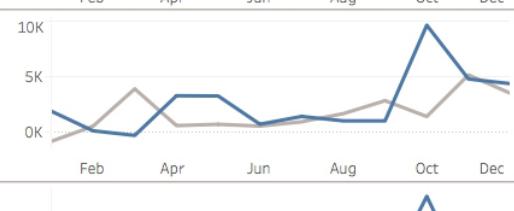
Increase of 25.69%



Corporate

\$30,995

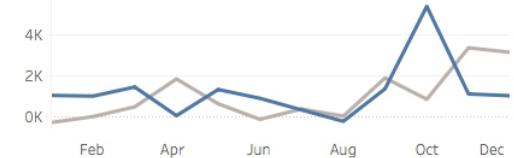
Increase of 49.82%



Home Office

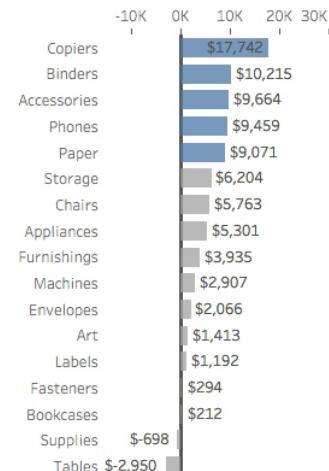
\$15,029

Increase of 20.52%



Product Subcategory Performance in Profit

(?)



2020 Created by Mitchell Beckner using the Sample-Superstore dataset

Figure 7: Completed Dashboard