HIGH SCHOOL EDITION
Journal of Student Research
Volume 13 Issue 2 (2024)

How Color Brightness of a Company's Logo Affects the Perceived Value of its Products

Prajna Jain[1] and Robert Muratore[#]

[1]Portledge School, USA
[#]Advisor

ABSTRACT

The use of color in marketing is usually not thought about by the average consumer. However, something as miniscule as a shade change between colors can affect how customers perceive a company and its products. Thirty-four high school students were surveyed. Individually, they looked at a screen and were asked questions pertaining to the price ranges of products from five different fictitious companies. They were presented with one logo to correspond to each of the questions and were asked to color the designs based on the price of the products. The data was put into a scatter plot that was fitted with a linear trend line with an R^2 value of 0.335. Between the data results and the feedback from the participants, darker colors were seen as more luxurious and expensive while lighter colors were seen as cheap. Of the thirty-four participants, 29 of them used one of the two darkest colors when faced with the question of what a logo would look like for a brand with products that cost between $600 to $1,000. On the other hand, 24 out of the 34 participants used one of the two brightest colors when asked what the logo of a company selling $20 to $60 clothing would look like.

Introduction

Colors are everywhere and we might not always notice them, but they can play a big role in how people perceive the world. Companies take advantage of that in their brand identity. A study conducted at the University of Missouri-Columbia (Ridgway, 2014) found that certain colors used in a company's logo can invoke certain emotions from consumers. Green logos can make a customer see a company as more environmentally friendly, while purple logos exude femininity and glamor. Logos can even make shoppers more confident in the brand as a whole. Blue logos inspire feelings of success and reliability and red logos evoke feelings of expertise. The same colors evoke similar feelings about the company itself. However, a shade difference between two otherwise identical colors can affect how consumers perceive the monetary value of a company's products. The two main components of the present study were the 5 shades of the original color and the price ranges that were given to the participants. The color model that affects the shade of a color is the HSV color model, specifically the saturation and value aspects. I chose to manipulate the value of a color because the vibrancy was still the same, but there was a noticeable difference. With saturation, the color gets continuously paler until it eventually becomes white. I chose to see how the perceived value of a product is affected by color because there were so many other studies done on the effects of color on other aspects of a brand's identity. There were a multitude of studies similar to Ridgway's, but perceived value can affect whether a consumer chooses to interact with a company, especially when a logo is one of the first interactions a customer can have with a brand.

Methods

Set-Up

The swatches and logo designs were created using Adobe Fresco digital painting app (Adobe, Inc., San Jose California). The logos were chosen to be based on clothing companies because clothing can be sold for any amount of money, while other products may have a preconceived notion on the price. The shapes of the logos were initially created using Adobe Logo Maker after choosing an icon that would be in almost all of the designs. A neutral gray was chosen for the background for the logos, while the logos themselves were an active layer in the program. For the coloring to be easy, the logo was erased into the background instead of being drawn on top, to not concern the participants with drawing inside the lines. The color swatches were chosen by finding a color with a 100% value as the starting swatch. Then, the value percentages of that color were changed (80%, 60%, 40%, 20%) to get the rest of the swatches. The RGB values and hex codes for the colors used are in Table I and the illustrated colors are seen in Figure 1.

Table 1. Color swatch codes.

Color	RGB	Hex
Bright pink	255, 0, 162	#FF00A2
Medium bright pink	204, 0, 129	#CC0081
Medium pink	153, 0, 97	#990061
Medium dark pink	102, 0, 65	#660041
Dark pink	51, 0, 32	#330020

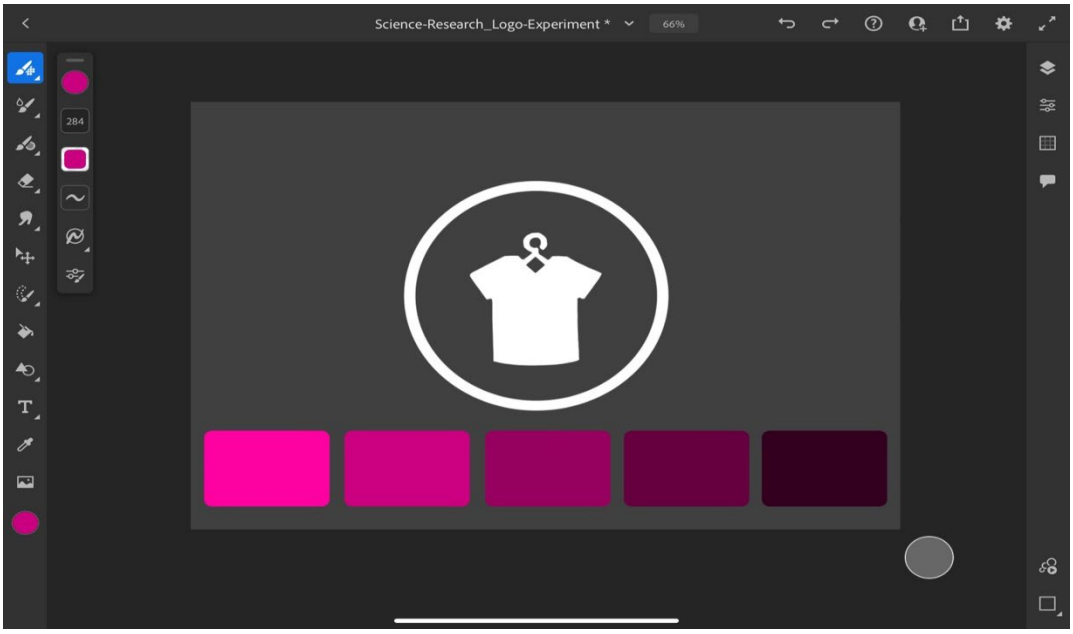

Figure 1. A screenshot of the set up of the experiment, with one of the logos participants saw during the survey

Google Sheets spreadsheet program (Google subsidiary of Alphabet Inc., Mountain View California) was used to create the order and combinations of logos and questions that were asked to the participants. The questions were assigned a number 1-5, the question with the cheapest price range being #1, and so on. The logos were assigned a-e arbitrarily. A Google Sheets function was used to randomize the combinations and order for the participants, to reduce the possibility of other variables influencing the results. (An example of a confounding effect would be participants simple following the order of the color palette.) Each participant was

assigned an ID number so that the data could be properly organized, while maintaining privacy when analyzing and presenting the results.

Experiment

All of the participants were found in an independent school in the Northeast United States and were in grades 9-12. Participants were each asked five questions, with each question using a different logo as the topic of discussion. I sat across from the participants and they were handed a tablet and stylus after an explanation of how to use them. The following script was read to them, with the order of the questions and logos being previously determined by Google Sheets:

- During this experiment, you will be asked to color a company's logo based solely on the type of products they sell.
- The color of the logo has no relation to the color of the clothing they sell
- Using the Apple pen, tap the eyedropper tool *(point to the icon)* and then tap the color you want to use for the logo. To paint simply drag the apple pen over the logo to fill it in with the color. If you want to change the color simply repeat the process. You can color as many times as you want before giving your final answer and you can repeat colors throughout the experiment. However, the logo has to be one solid color. Tell me when you have finished.

1. This brand wants to have cheaper clothing that is in the $20 - $60 range. Color the logo so that you think it best represents this company's goals.
2. This company sells clothing that isn't outrageously expensive but isn't extremely cheap either, in the $60 - $100 range. Color the logo so that you think it best represents this company's products.
3. This logo is from a company that wants their clothing to cost between $100 - $400. Color the logo so that you think it best represents this company's goals.
4. The company that has this logo would like to sell clothing that costs around $400 - $600. Color the logo so that you think it best represents this company's goals.
5. If this company were to sell luxury clothing that costs between $600 - $1,000, color the logo so that you think it best represents this company's products.

Once the participants answered, their answers were marked down as the non-percentage form of their chosen color's value (20% = 20, 40% = 40, etc) in a table in Google Sheets. Some participants provided feedback following the conclusion of the experiment. A color offset column was used to take the input answers and add one-tenth of the participant's ID number to make sure every data point was visible on the final graph.

Results

The experiment included 34 people, the results of which are detailed in Figure 2. The x-axis of the graph represents the 5 questions with varying price ranges for the imaginary companies' products. The y-axis shows the brightness of the color they chose in response to what the products of the companies are supposedly worth.

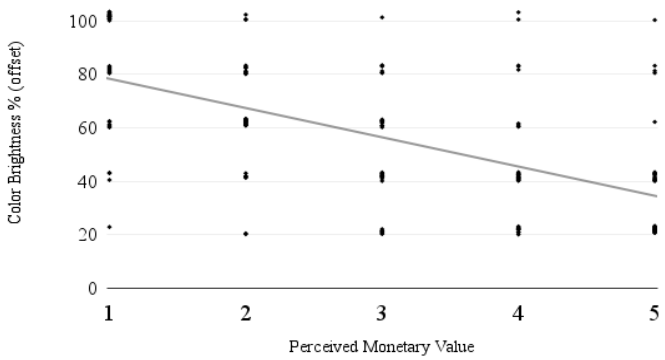

Figure 2. The data from all 34 participants from the experiment. There was a color offset to ensure the data points would not overlap. A trend line, -10.9*x + 89.3, was fitted to show the correlation between the two variables.

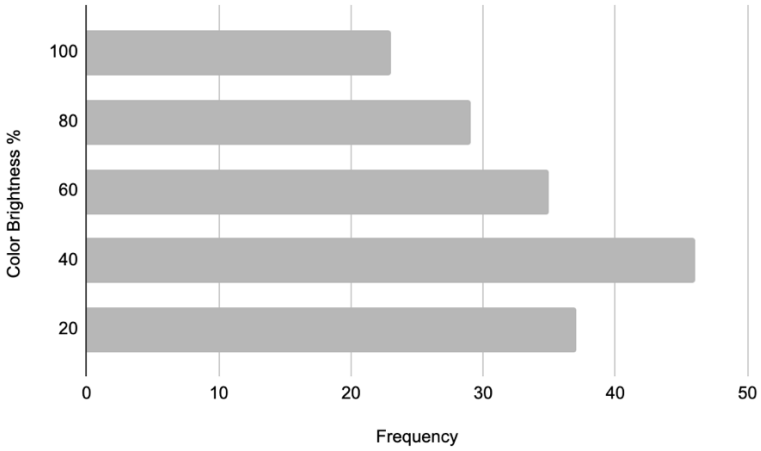

Figure 3. The distribution of the answers from all of the participants.

The trend line for the scatter plot in Figure 2 has an R^2 value of 0.335. A second trend line, fitted for a scatter plot with the original data without the color offset, had an equation of -10.9*x + 87.5 and an R^2 value of 0.336. The histogram in Figure 3 shows the frequency of the answers of each participant in the experiment. An equivalent histogram of the perceived monetary value would be uniformly distributed because all participants were asked every question only once.

Discussion

The results of this experiment support the idea that color shades can affect how consumers perceive the value of a company's products. Even when a participant's answers did not align exactly with the hypothesis, their feedback was parallel to what the results were expected to be. The fitted trend line on the scatter plot also supports the hypothesis. Without the color offset, the trendline ended up having an R^2 value of 0.336, which shows a correlation that supports the hypothesis. However, this experiment only reached a small sample size of people who would not necessarily be in every company's target demographic. The location for this experiment, an independent school in the Northeast of the United States, houses a specific group of people that do not

represent the greater whole. Anybody older or younger could have significantly different perceptions of color. The experiences of people other than the high school students that were surveyed would also change the results of a similar test within different age groups of geographic locations. The results also could have been affected by the frequency of the colors that were used by each participant. As shown in Figure 3, there was a large difference between how much the darker colors were used versus the usage of the two brightest colors. Also, anecdotally, there was a small portion of the participants who commented on how the brightest shade of pink was obnoxious and did not seem to fit as a color in a company's logo. This suggests that, while lighter colors are seen as cheaper, colors that are lighter and brighter are not as appealing in general.

Conclusion

Darker swatches of an otherwise identical color are usually associated with more expensive products from a company. Conversely, lighter colors were seen as generally cheaper.

Acknowledgments

I would like to thank my advisor for the valuable insight provided to me on this topic.

References

Ridgway, J., & Myers, B. (2014). A study on brand personality: consumers' perceptions of colours used in fashion brand logos. *International Journal of Fashion Design, Technology and Education*; 7 (1): 50 https://doi.org/10.1080/17543266.2013.877987