

Interaction Design Project: Final Report

Group Member Names : Nicholas Amari, Ishna Barwey, Arya Chethikattil, Tomas Mesquita

Website Name: ZARA

Website URL: <https://www.zara.com/us>

Your Prototype Site URL: <https://mxix10.axshare.com/>

Executive Summary:

In this experiment, our goal was to develop a website which improved the usability and user experience of an existing retail site using the fundamental design principles of human-computer interaction (HCI). In order to do this, a website was first chosen which we believed was difficult to navigate because it violated many design guidelines. Analyzing several websites, we identified Zara as a site with difficult navigability, and we found ways to improve on the current design while ensuring that the site's intended purpose could still be fulfilled.

To improve the usability of the site, a number of changes were made, including: changing the menu to be visible and open by default; changing page layouts to have more consistent sizing and spacing; simplifying cart operations; and adding options which allow users to filter based on size or color of the article of clothing. By implementing these changes, we were able to significantly decrease the perceived difficulty as well as the number of errors on the site.

Method:

In order to determine if any improvements were made to the site, we first had to determine how long it would take users to complete a specific set of actions. The user would need to buy a set number of items - some with colors and sizes specified. Once they had completed the task, we would calculate the total time it took for them to complete each task in addition to asking them questions about their satisfaction levels using the site.

We then repeated these tasks, but this time the tasks needed to be completed on the redesigned site. With the original website as our baseline, we measured the improvement of the site based on both changes in the task time as well as user satisfaction scores.

After the experiment was completed, we then watched back through the recordings of their experiments and counted the number of errors in the website.

Participants were chosen based on availability, but we did largely try to keep an even distribution between the control and experimental groups to ensure the validity of our results. Thus, each group had similar samples, with age, computer usage, and shopping experience being held the same in both groups.

Who we tested:

We tested 6 participants which had the following characteristics and performed the tasks on the original ZARA website.

AGE	COMP USAGE	PARTICIPANT TYPE
17-26	0 to 15 hrs. wk.	Online Shopper
27-36	16 - 25 hrs. wk.	In-person Shopper
37-46	26+ hrs. wk.	
47-56		
TOTAL	TOTAL	TOTAL
6	6	6

Table 1: Participant Demographics, Original Site

We tested 6 more participants which had the following characteristics and performed the tasks on the ZARA website redesign.

AGE	COMP USAGE	PARTICIPANT TYPE
17-26	0 to 15 hrs. wk.	Online Shopper
27-36	16 - 25 hrs. wk.	In-person Shopper
37-46	26+ hrs. wk.	
47-56		
TOTAL	TOTAL	TOTAL
6	6	6

Table 2: Participant Demographics, Redesigned Site

What participants did:

1. Task begins right away: In the Women's section, find the cheapest option for black boots in any available size. Add it to the cart.. (if there is a tie, choose one)
2. Upon first task completion: Find the cheapest option for men's black, straight-leg jeans, and add them to the cart. (if there is a tie, choose one)
3. Upon second task completion: From the beauty page use the Shade Finder tool to purchase a concealer with your desired shade. Add it to the cart.
4. Upon third task completion: Use the site navigation tool to find the cheapest option for men's green sweatshirts. Add it to your cart. (if there is a tie, choose one)

This entire process generally took around 10 minutes to complete. After the participants had completed their tasks they were asked to take a short survey on their satisfaction and ease of use with the website.

Time Tables for Tasks:

Participants / Tasks	Task 1			Task 2			Task 3			Task 4			Total Task Time
	Start Tim e	End Tim e	Task Tim e	Start Time	End Tim e	Task Tim e	Start Time	End Time	Task Time	Start Time	End Time	Task Time	
Participant 1	0:04	2:02	1:58	2:03	2:59	0:56	3:00	4:16	1:16	4:17	5:23	1:06	5:19
Participant 2	0:03	1:35	1:32	1:36	2:16	0:40	2:17	3:19	1:02	3:20	4:52	1:32	4:49
Participant 3	0:00	2:12	2:12	2:13	3:03	0:50	3:04	4:09	1:05	4:10	5:02	0:52	5:02
Participant 4	0:06	2:09	2:03	2:11	3:55	1:44	3:57	6:15	2:18	6:16	7:28	1:12	7:22
Participant 5	0:03	2:03	2:00	2:04	3:20	1:16	3:21	4:00	0:39	4:01	5:03	1:02	5:00
Participant 6	0:00	2:04	2:04	2:05	3:40	1:35	3:41	4:46	1:05	4:47	5:55	1:08	5:55

Table 3: Original website Task Times

Participants / Tasks	Task 1			Task 2			Task 3			Task 4			Total Task Time
	Start Tim	End e	Task	Start	End Tim	Task e	Start Time	End Time	Task Time	Start Time	End Time	Task Time	
Participant 1	0:02	0:29	0:27	0:30	1:03	0:33	1:04	2:33	1:29	2:34	3:11	0:37	3:09
Participant 2	0:03	0:45	0:41	0:47	1:26	0:39	1:27	2:26	0:59	2:28	3:10	0:42	3:07
Participant 3	0:02	1:04	1:02	1:02	2:18	1:16	2:18	3:40	1:22	3:40	4:24	0:44	4:22
Participant 4	0:00	0:24	0:24	0:24	0:50	0:26	0:50	1:27	0:37	1:27	2:05	0:38	2:05
Participant 5	0:00	0:34	0:34	0:34	1:01	0:27	1:01	1:32	0:31	1:32	2:16	0:44	2:16
Participant 6	0:00	0:36	0:36	0:36	1:14	0:38	1:14	2:16	1:02	2:16	2:56	0:40	2:56

Table 4: Redesign website Task Times

What metrics were collected:

Combined metrics were collected in this study. We first recorded the time it took each participant to go through the four tasks mentioned above. We then collected the participant's demographic information and asked them to answer questions about their experience in a self reported satisfaction survey.

Concretely, we measured time on task, satisfaction, and errors in the form of lostness.

For time on tasks, the time tables display the information in its raw form. Operationally, our study used a timer running in the background to keep track of participant time trials.

Satisfaction was measured through a survey supplied to participants upon completion of the tasks. We used a google survey to collect this information and analyze the results from both participants on the original and redesigned website.

Error was tracked on a case by case basis for all participants based on how their actions deviated from the tasks. An example of this would be adding an item that was not being asked for to the cart.

The tables for this data can be found above in the Time Tables for Tasks section; and, below in the **Overall Findings and Recommendations** section where we review it.

What improvements were made to the site:

The most impactful change that we implemented in the site was rather simple. We adjusted the settings for the navigation menu so that it is opened/expanded by default when the site loads. This would allow users to clearly see where the navigation options are and save time navigating to that page.



Image 1: ZARA Homepage

Currently, the ZARA website violates the “Use Black Text on Plain, High-Contrast Background” principle from the Universal Principles of Design. As shown in the image above.

Not only does the homepage have a thin and hard to read font, but has scrolling backgrounds that rapidly change or play videos. This proved to cause confusion among our participants that were tested on the original site. It was also one of the main focuses of our

redesign's improvement, along with making the navigational menu more clear as described above.

This is a screen capture of the clarity that was added in the redesign of the website:

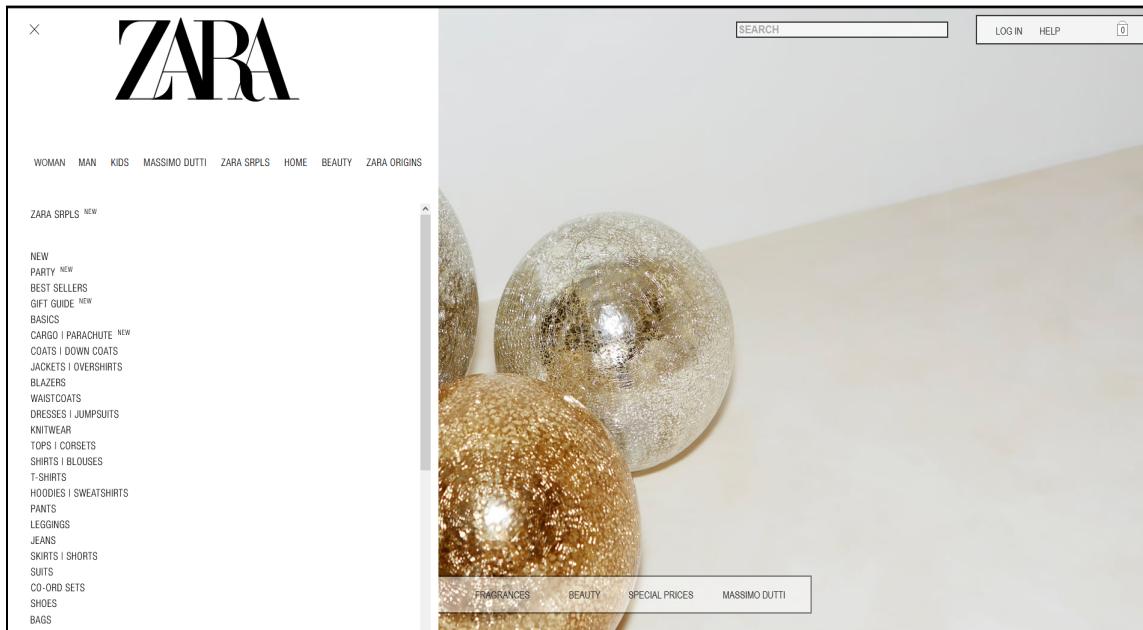


Image 2: Redesign website Homepage

Our new site retains the same functionality and stylish look, while making it easier to navigate by adding high contrast backgrounds to the navigational items. These images also demonstrate the improvement our redesign made in another principle from the Universal Principles of Design: “Use Clear Category Labels”. The redesigned site tackled many design improvements in this area, the two mentioned are specifically important.

The original ZARA website lacked much clarity in terms of a direction to point the user. Our redesign wanted to improve upon this by following Hick's Law of design. This meant taking options away from the user, so the task flow of purchasing items was more streamlined. Following Hick's Law more closely in our design seemed to make an impact on the relative quickness to which participants could complete the tasks. Examples of streamlining the decision making process are more clear in the redesign of the shopping pages as described below.

The shopping pages are outlined very differently than on the original site. Instead of products' images shown with different sizes and changing the number of products per column, there is now a grid of products on each shopping page. The product layout is now consistent and

allows users to see more products at a time, and it is less confusing. This improvement to the layout served two-fold, as it took away some options from the user in order to make the options they had for viewing and limiting selection more clear. It also changed the website to more closely follow Jakob's Law of design as well; by formatting the shopping pages more similarly to how many other online stores do. See example below:

Redesign Look for Shopping Page:

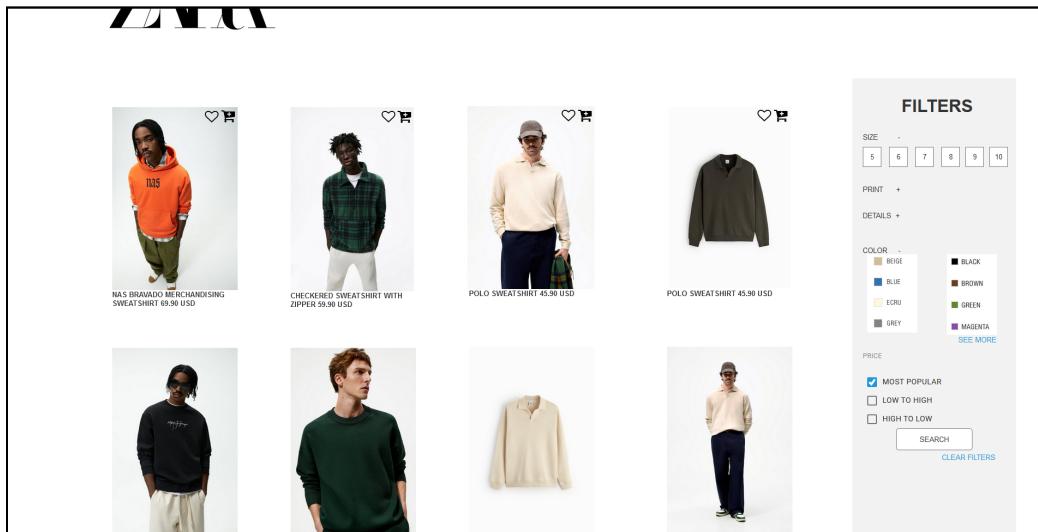


Table 3: Redesign Shopping Page

Original Look for Shopping Page:

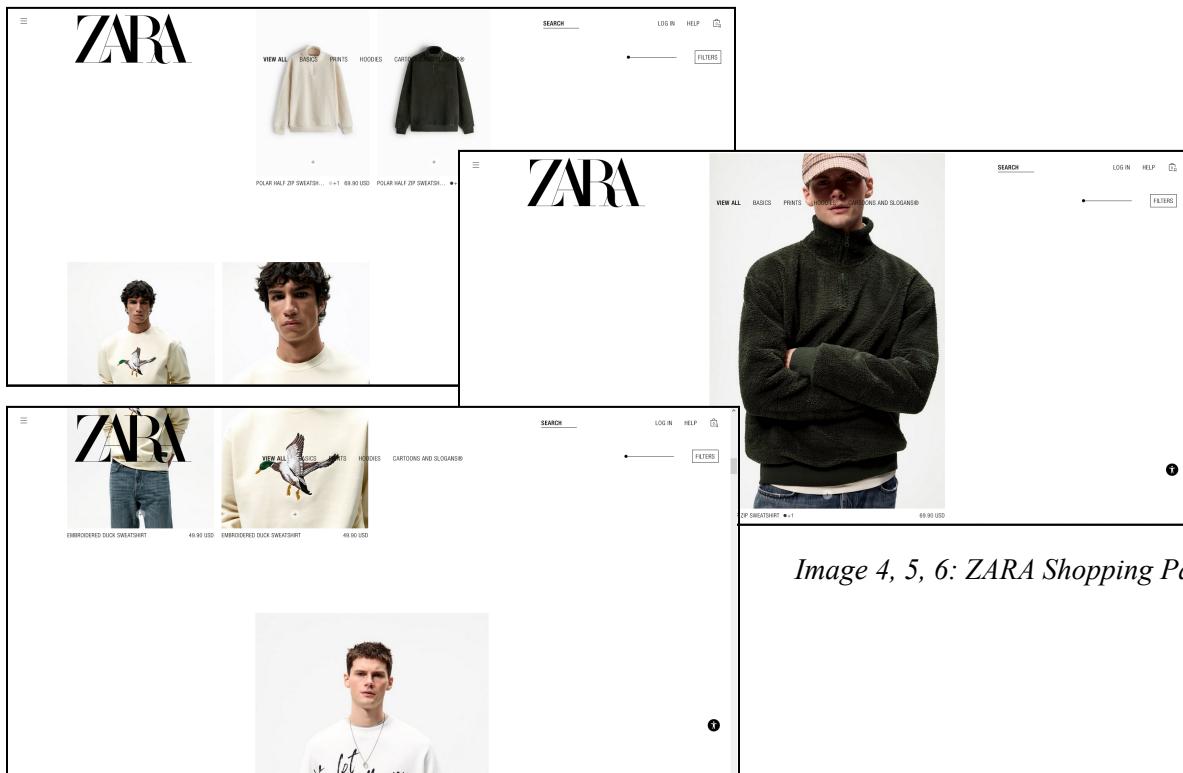


Image 4, 5, 6: ZARA Shopping Page

Overall Findings and Recommendations:

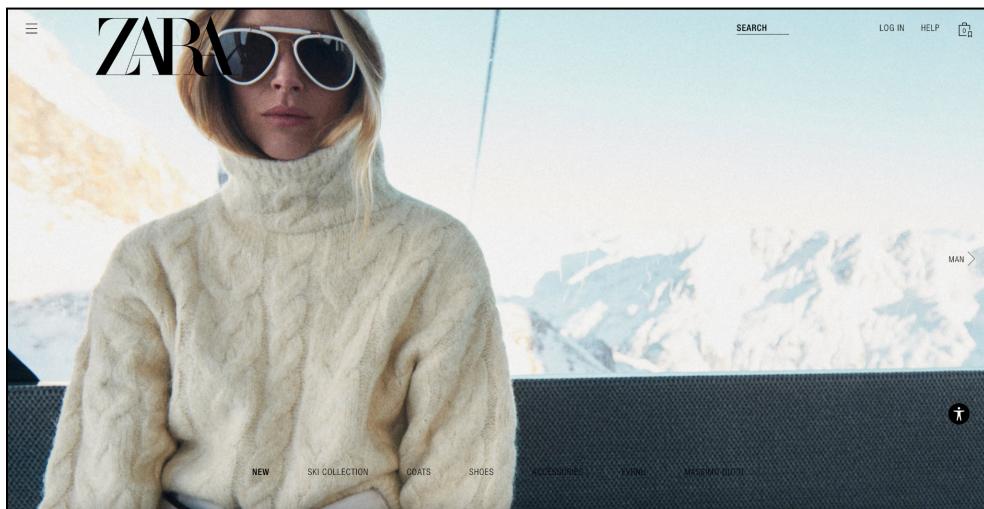
The redesign created a more streamlined shopping experience through short form testing.

Illustrating the Finding

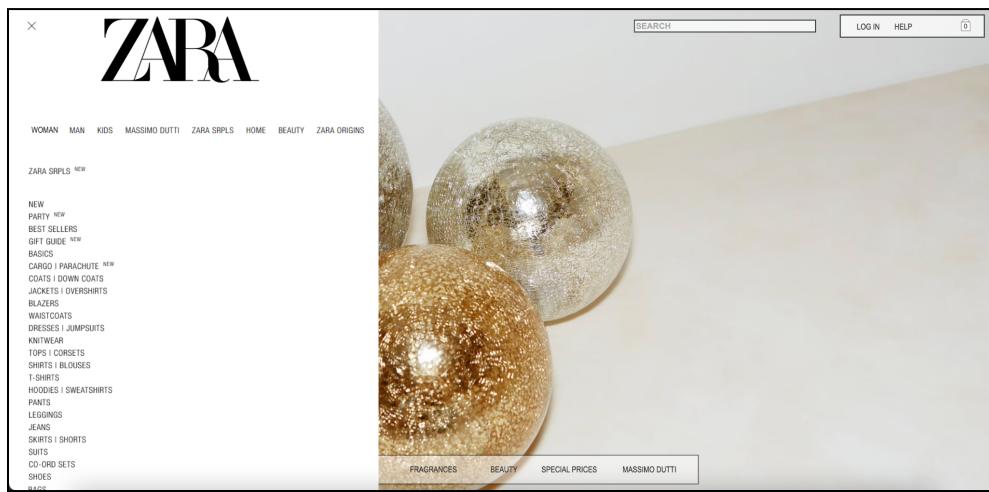
Homepage Issues

Finding [#1]: The navigation menu is not clearly visible

Finding Screenshot:



Redesigned Screenshot:



Supporting Evidence:

The time taken for the user to identify the navigation menu and be able to begin the first task can be found in the start time of Task 1 for each participant. The average time spent on the home page before beginning navigation on the original ZARA site is 2.67 seconds, while the average

time for the redesigned homepage is 1.167 seconds. This is a significant decrease which can be attributed to the visible navigation menu, which creates a clear call to action on the home page.

Forms

Finding [#2]: Users cannot sort items on catalog pages in any ascending/descending order.

Finding Screenshot:

The screenshot shows a vertical list of filter categories with a plus sign icon to the right of each: COLOR, DETAILS, TYPE OF PRODUCT, SIZE, COLLECTION, and PRICE. The PRICE section contains a horizontal slider with two dots at 29.99 USD and 510.00 USD. Below the slider is a checkbox labeled 'JOIN LIFE' with an unchecked square icon.

Redesign Screenshot:

The redesign features a 'FILTERS' header. It includes sections for 'SIZE' (with numbered buttons 5-10), 'TYPE OF PRODUCT' (listing BOOTS, SANDALS, CLOGS; LOAFERS, PLATFORMS, SLIDES; and SNEAKER, SPORT, FLATS), and 'COLOR' (with a grid of color swatches: BEIGE, BLACK, BLUE, BROWN, ECRU, GREEN, GREY, MAGENTA, and a 'SEE MORE' link). A 'PRICE' section contains three sorting options: 'MOST POPULAR' (checked with a blue checkmark), 'LOW TO HIGH', and 'HIGH TO LOW'. At the bottom are 'SEARCH' and 'CLEAR FILTERS' buttons.

Supporting Evidence: 80% of all errors made in the participant videos for the original ZARA site some from task 1 and 2, both of which heavily involve sorting clothing items by price to find the lowest priced item in a category. There were no errors found in these tasks in the redesign participant videos.

Content

Finding [#3]: The products on each shopping page do not have a consistent layout and make it difficult to see multiple items.

Finding Screenshot:

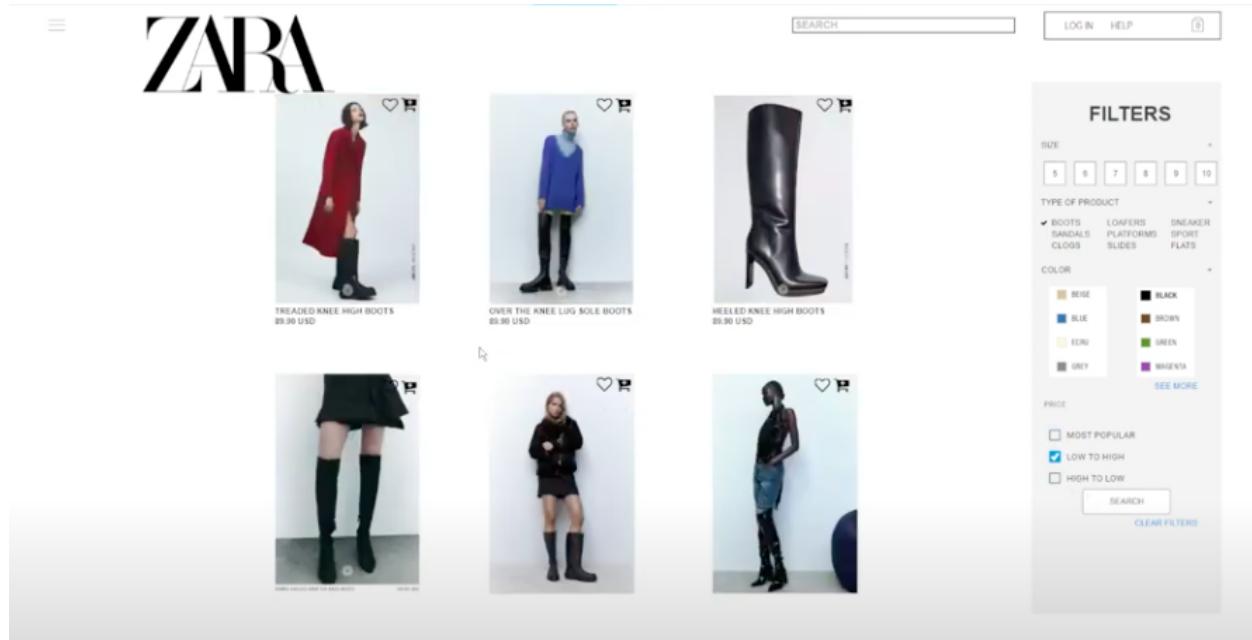


SHOES FOR WOMEN

SHOP OUR ONLINE COLLECTION OF WOMEN'S SHOES AND DISCOVER THE PERFECT PAIR TO COMPLETE EVERY OUTFIT. KITTEN HEEL [MULES](#), MINIMAL STRAPPY [STILETTOS](#), STATEMENT OCCASION FLATS, AND EASY FASHION SNEAKERS ARE AMONG THE SEASON'S HERO STYLES, RENDERED IN GLOSSY LEATHERS, PARTY [See more](#)



Redesign Screenshot:



Supporting Evidence: As mentioned above, the majority of participant errors recorded came from tasks where they had to find a specific item. Apart from the filtering changes mentioned above, the clear and organized layout allows users to view, compare, and make decisions on

multiple items at a time. The previous layout also requires much more effort from the user since they have to scroll through many products to see multiple options.

Evidence to Support the Finding

Time on Task Metrics (see time tables)

On our redesigned website there was a significant decrease in how long the tasks took to complete on average, and also an increase in time on task compared to total task time.

Time Spent On Task	Total Task Time Average	Time on Task Average
ZARA	5:37	5:23
Redesign	2:32	2:30

Table 5: Task Time Metrics

Satisfaction and Difficulty Metrics

On our redesigned website there was an increase in average satisfaction levels and a decrease in participant difficulty rating. These few testimonials support our findings about the redesign.

Original Site	Satisfaction Rating	Difficulty Rating
Participant 1	Neutral	Difficult
Participant 2	Satisfied	Difficult
Participant 3	Unsatisfied	Neutral
Participant 4	Unsatisfied	Difficult
Participant 5	Neutral	Neutral
Participant 6	Satisfied	Neutral

Redesign Site	<i>Satisfaction Rating</i>	<i>Difficulty Rating</i>
Participant 1	Very Satisfied	Easy
Participant 2	Satisfied	Neutral
Participant 3	Very Satisfied	Easy
Participant 4	Satisfied	Easy
Participant 5	Satisfied	Easy
Participant 6	Satisfied	Easy

Table 6, 7: Original Site and Redesign Satisfaction and Difficulty Metrics

Error Metrics

On our redesigned website there were an astonishing 0 errors made in all 6 of the participant tests. Every participant put the correct 4 items into their bag.

Original Site	<i>Number of Errors</i>	<i>Tasks with Errors</i>
Participant 1	1	4
Participant 2	1	1
Participant 3	2	1 & 2
Participant 4	2	1 & 2
Participant 5	3	1 & 2 & 3
Participant 6	1	1

Table 8: Error Metrics

Table Presenting the Means and Standard Deviations

Metric	Original		Redesign	
	MEAN	STDEV	MEAN	STDEV
Satisfaction	3	0.894427191	3.333333333	0.5163977795
Difficulty	2.5	0.5477225575	3.833333333	0.4082482905
Errors	1.666666667	0.8164965809	0	0
Total Time (s)	334.5	57.504	176.17	48.64

Table 5: Statistics for Metrics

Results from T-Tests

T Test from Metric 1 - Satisfaction:

Null Hypothesis= $H_0 = \mu_1 = \mu_2$

Alternate Hypothesis= $H_A = \mu_1 \geq \mu_2$

$$t = \frac{(\mu_1 - \mu_2)}{\sqrt{(s_1/n_1 + s_2/n_2)}} = 0.226 > 0.05$$

We fail to reject the null hypothesis suggesting that the satisfaction levels were not higher in the redesigned site compared to the original site.

T-Test from Metric 2 - Difficulty:

Null Hypothesis= $H_0 = \mu_1 = \mu_2$

Alternate Hypothesis= $H_A = \mu_1 \leq \mu_2$

$$t = \frac{(\mu_1 - \mu_2)}{\sqrt{(s_1/n_1 + s_2/n_2)}} = 0.00046 < 0.05$$

We reject the null hypothesis suggesting that the redesigned site was less difficult compared to the original site.

T-Test from Metric 3 - Errors:

Null Hypothesis= $H_0 = \mu_1 = \mu_2$

Alternate Hypothesis= $H_A = \mu_1 \leq \mu_2$

$$t = \frac{(\mu_1 - \mu_2)}{\sqrt{(s_1/n_1 + s_2/n_2)}} = 0.0021 < 0.05$$

We reject the null hypothesis suggesting that the amount of errors were lower in the redesigned site compared to the original site.

T-Test from Metric 4 - Time on Task:

Null Hypothesis= $H_0 = \mu_1 = \mu_2$

Alternate Hypothesis= $H_A = \mu_1 \leq \mu_2$

$$t = \frac{(\mu_1 - \mu_2)}{\sqrt{(s_1/n_1 + s_2/n_2)}} = 0.00027 < 0.05$$

We reject the null hypothesis suggesting that the time on task was significantly lower for the redesign than for the original site.

Research-based Recommendations

With the results above, we would recommend that ZARA implement the changes described above, as the redesigned site had significantly fewer errors, was less difficult to navigate, and had shorter time on task. It did also score slightly better in user satisfaction, though the results were not enough to be deemed statistically significant. These changes we recommend largely sum-up to simplifying and standardizing page layouts so that users know better what to expect when navigating across the website.