

User Experience on Product Display Page: At Tmall.com

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Abstract. This research focused on how buyers browse and make purchases on Tmall.com. Specifically, we explored how female buyers process information on the product description pages and how their behaviors are consequently affected. The study was composed of two sessions: an information sorting task and an online test. The purpose of the information sorting task was to explore how buyers prefer to see information presented on the product description page. We hypothesized that if the presentation of information on the product page was consistent with buyers' expectations, then they would process the page faster which would facilitate their purchasing decisions. The purpose of the online test was to examine our hypothesis by measuring buyers' purchasing tendencies. The online test results revealed that the modified pages improved sales.

Keywords: e-commerce, online shopping, product display, discrepancy attribution, fluency.

1 Introduction

Tmall.com is a Chinese business-to-consumer (B2C) online retail platform that provides services for selling brand-name goods to Chinese consumers. More than 50,000 merchants operate on Tmall.com, and the site lists more than 70,000 local and international brands. According to IResearch [1], Tmall.com is the largest B2C shopping website in China, with a market share of 51.5%.

Previous research has shown that the quality of an online store's content affects buyers' shopping experience and the follow-up consequences [2]. Compelling product descriptions lead to more positive consequences and sales. According to our previously unpublished survey, approximately 80% of buyers from Tmall.com claimed that the product description page was the most important information resource for deciding whether they would make purchases. More relevant to the current research, approximately 64% of female buyers stressed that the following images were critical during online clothes shopping: model images, product images, and product detail images. Despite this previous survey report, we do not have a full spectrum of the factors that users consider when they make selections on Tmall.com. The current research focused on how buyers browse and make purchases on Tmall.com. Specifically, we explored how female buyers process information on the product description pages and how their behaviors are consequently affected.

1.1 Background Information and Hypotheses

Previous researchers have discussed virtual product descriptions by arguing that the difficulty with online product displays is that consumers and buyers cannot touch, feel, or try on products [2]. Moreover, researchers have suggested that the page display affects consumers' trust for an online store. Beyond the trust issue, in our previous interviews with sellers and vendors at Tmall.com, sellers claimed that the product description page is one of the crucial factors which affect purchase intention.

Compared to the product description pages on Amazon.com or other e-commerce websites that operate in North America, the product description pages on Tmall.com are long and contain more information. For example, clothes sellers on Tmall.com occasionally have screenshots of buyers' comments on the product descriptions. Sellers would like to have several similar model images on their sites. When we asked sellers why they preferred these displays, none of them could provide any logical reasons.

In addition to the question of what information should be presented on product description pages, we also asked what should be presented first. We examined the product description pages of women's wear at Tmall.com, and we found that each store has its own way of arranging information. Some stores present store promotion information at the top of the page, and other stores present model images. Interestingly, some stores present size charts at the top of description pages. We sought explanations for these arrangements from sellers at Tmall.com, but the responses from the online store operators were unhelpful. In our interviews with online store operators at Tmall.com, we were asked how product description pages should be displayed and what kind of information should be presented. These questions were the start of our current research.

Because e-commerce is a relatively new retail format in China, there is little research on the topic. Unfortunately, no previous research addressed the design components of a product description page that keep buyers on the page and that increase buyers' tendency to make online purchases. Researchers [3] have claimed that personalization of product descriptions would increase sales. However, for shopping sites with millions of visitors, personalization is not practical. We would like to provide information that is more suitable and adaptable to large sellers.

Even though e-commerce is a relatively new retail format, previous theories about information processing and cognitive psychology can provide an understanding of buyers' purchasing behaviors. Previous researchers have shown that the ease of cognitive processing affects cognitive judgments. For example, more fluently processed items receive more positive ratings, and fluently processed stimuli are judged as being more truthful and less risky [4, 5].

Inspired by fluency theory, we hypothesize that increasing the processing fluency of product description page content will enhance shoppers' attitudes about products and facilitate sales.

Intuitively, we know that the download speed for opening a web page will affect the fluency of processing that page. However, we cannot control the internet connection speed for each individual who visits Tmall.com. Therefore, we focused on how to increase the processing fluency in the information layout of the product description pages.

Although there are many shopping categories on Tmall.com, we only focused on women's wear, which attracts a large amount of frequent shoppers. We assumed that each buyer would have some offline experience with this shopping category, so they would have some knowledge about clothes. Further, we assumed that if the product display was consistent with how buyers expected to acquire information for each item of clothing, then the buyers would process the information more fluently. The assumption was that fluent pages would facilitate product sales.

2 Information Sorting Session Method

The study was composed of two sessions: an information sorting task and an online test. The purpose of the information sorting task was to determine how buyers want to see information on the product description page. We hypothesized that if the presentation of information on the product page is consistent with the buyers' expectations, then they will process the page more quickly, which will facilitate their purchasing decisions. The purpose of the online test was to examine our hypothesis by measuring buyers' purchasing tendencies.

2.1 Information Sorting Session

In the information sorting session, we selected four items of women's clothing from four stores at Tmall.com. The four items of clothing were chosen for the following reasons: First, they were suitable for the testing season. Second, each item had been purchased at least five times in the past 30 days. Third, each product had an informative product description page that contained sufficient information for buyers to adequately learn about the product. The last requirement allowed us to determine how participants sort information on product description pages. We intended for the image quality to be consistent for each item of clothing, and we avoided using different qualities of images or images from different sources.

We collected the product description images and text that were associated with each item. The images included model display images that were taken from different angles; detailed display images for parts of the clothing, such as collars, cuffs, stitch lines, fabrics, colors, and decorations; and product display images from the front and back of each item. The text included information about size charts, fabric descriptions, shipping and returning policies, washing instructions, brand introductions, promotional information, and related product recommendations. For each item of clothing, we collected a set of 30 to 40 images and 10 to 20 pieces of information.

2.2 Participants in the Information Sorting Session

We tested 17 participants during the information sorting session. All of the participants were female and had made at least one women's wear purchase on Tmall.com in the past three months. Each participant observed one of the four items of women's clothing and the associated information.

None of the participants who came to the information session had previously purchased any of the four items. One participant claimed that she had previously seen one of the items, so her data for that item were not included in the following analysis. The remaining 16 claimed that they had not previously seen any of the items.

2.3 Information Sorting Session Procedure

During the information sorting session, participants were asked to choose the information that they thought should be displayed on the product description page. Participants were instructed to select the information that would be the most helpful for making a purchasing decision. Participants were also asked to add any information that was not already provided. We then asked the participants to arrange the information to suit their own browsing habits. Each participant selected and arranged the information for two items of women's wear. The clothing items were presented to the participants in a counterbalanced sequence.

3 Information Sorting Session Results

The objective of the information sorting session was to determine whether participants preferred to review certain information and whether participants preferred that information in a particular sequence before making an online purchase of women's wear. We found that participants selected a wide range of information, from model display images to the return policy, and they organized the information in meaningful chunks that were similar in content. For example, all descriptions of size were assembled together, including the size chart, the try-out size for models and other purchasers, and tips for size deviations. In addition, the information chunks were arranged into similar sequences. Based on the participants' feedback on female clothing, the preferred order of the information display of the product description page, from top to bottom, included promotional information, model images, product images, detail images, size descriptions, related recommendations, and miscellaneous.

4 Online Test Session

The online test session examined whether the information display had an effect on real buyers' purchasing decisions. We persuaded three Tmall.com sellers to modify two to three product description pages according to our study results, and we conducted pre- and post-tests to determine whether the modified pages improved sales.

4.1 Online Test Session Procedure

For each online store, we first informed the product description illustrators of the testing procedure. We then described our findings from the information sorting session to the illustrators and helped the staff members from each store to select testing materials from their online store.

Our requirements were that the testing materials be online for at least seven days and undergo at least one purchase before the session, be in stock for all sizes, and not have any promotions during the testing phase. After the testing materials were selected based on these requirements, we examined the original testing materials on the description page to find discrepancies between our recommended version and the version on the information display sequence.

Our testing phase lasted for seven days. During the testing phase, we had two versions of the product description page prepared for up-coming visitors to the online store. One version was the original product description page that the store was using, and the other was modified based on our findings from the previous information sorting session.

We arranged for the online testing by modifying the product display program code. Each buyer who visited the testing products was randomly presented with one of the two product description page versions, so half of the participants viewed the original, and half viewed our recommended modified version.

We recorded the number of visitors who visited the testing product page for each version. We also recorded the total number of participants who clicked on the purchase or save as favorite buttons for each item.

4.2 Online Test Session Results

We compared the average purchase intention for each product at the pre- and post-test sessions. In total, eight items were tested across three online stores at Tmall.com. For the pre-test session, we calculated the percentage of participants who intended to purchase each item. Purchase intention was defined as the participants who clicked on the purchase button or the save as favorite button. To avoid double counts, each participant was marked with a unique ID. The percentage of purchase intention was calculated as the number of participants with purchase intention over the total number of participants who visited the product page.

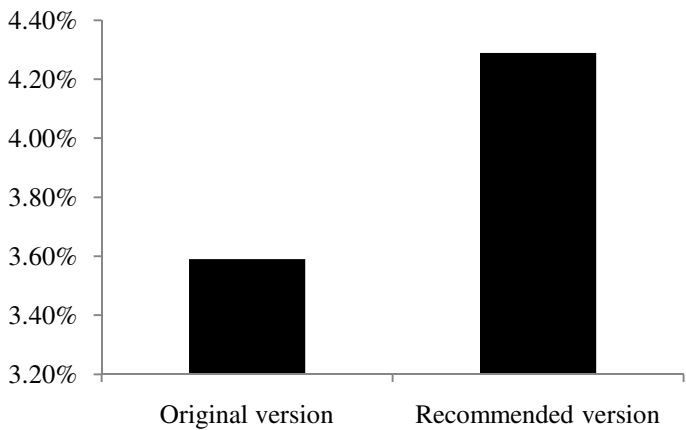


Fig. 1. The average purchase intention for the tested items presented in the original version and the average purchase intention for the tested items presented our recommended version

We compared the average purchase intention rate between the original and modified product description pages. We found that buyers' purchase intention increased by approximately 19% in the modified compared to the original versions.

5 Summary and Discussion

The objective of our study was to examine whether increased processing fluency facilitates purchase intention and sales at online stores. We conducted an information sorting session to determine what buyers expected to see on the product description page for women's wear. We then used an online test to examine whether the presented information followed buyers' expectations and whether purchase intention increased. After modifying the product description page based on the information sorting session, our findings show that buyers' purchase intention rate increased.

We assumed that the participants would process the modified product description page more fluently than the original version. Unfortunately, we were unable to accurately record the time that buyers spent before they made their purchase. While some buyers may add products to their favorites before checking out on another day, others may complete the order immediately. We also do not know about buyers' environment when they are online shopping. Buyers may open the product description page, leave the computer to complete other tasks, and then make the purchase when they return. Because of this limitation, we do not have first-hand evidence to claim that our recommended version of the product description increases processing fluency. However, we still believe that the outcome of the study offers a new perspective to web design by connecting fluency theory to e-commerce purchasing decisions.

Two questions about the study remain unanswered. First, we conducted the information sorting session with participants who had previously made purchases at Tmall.com, and we assumed that they had had some experience shopping for women's clothing at Tmall.com. Even though the online testing sessions were conducted to examine the product description sequence, we do not know whether the product display information and sequence were only suitable for buyers with previous shopping experience at Tmall.com or they are suitable for other online women's clothes shoppers. We do not know how previous shopping experiences affect online shoppers' preferences regarding the product display page.

Second, we selected the testing materials for regular shoppers who had shopping experience with the materials. Our findings may not be generalized to shoppers with specific needs. For instance, shoppers who require extra-large or extra-small sizes may not find the same display format from the information sorting session to be suitable. Additional research is needed on specialty groups of shoppers before concluding that our recommendation fits all women's clothing situations.

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