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Usability News is a free web newsletter that is produced by the Software Usability Research Laboratory (SURL) at Wichita State University. The SURL team specializes in software/website user interface design, usability testing, and research in human-computer interaction.
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# Online Shopping: TV's, Toasters, and Toys! Oh My!

### By [Barbara Chaparro,](#) Sarah Childs, Yuni Praheswari, & Amber Rappard

Shopping online has been described to be a convenient and pleasant experience when a website is easy to use. It has also been reported to be horrific when users have to struggle through poorly designed sites. It is not surprising then that poorly designed sites often result in a negative user experience and, ultimately, poor online sales. One wonders what the relationship really is between a company's size and/or marketing success and website usability. When given the choice, should users choose the biggest and best-known e-commerce sites or lesser known, but possibly more usable, e-commerce sites? In an attempt to better understand how people shop online, we investigated sites from three different domains: electronics, discount stores, and toys during the Christmas shopping season.

To do this, we evaluated the participants' user satisfaction, navigational efficiency, and general preference for the compared sites. Efficiency was measured by the difference between the number of pages traversed by the user and the number of pages in the optimal path (i.e., fewest number of pages to the target item).

Participants were asked to complete the tasks without using the site's search engine so we could better understand how users' navigate the site's structure. After completing the tasks with each site, participants answered the satisfaction questionnaire. After completing the tasks with all three sites, participants ranked the sites in order of preference. The following is a summary of what we found:

**Online Electronic Stores** ([ABT.com](#), [BestBuy.com](#), [Hifi.com](#))

Eight participants were run in a usability study with bestbuy.com, hifi.com, and abt.com. Participants were asked to complete three tasks with each site (site order was counterbalanced across participants). The three tasks included:

- buy an MP3 player for your brother's birthday with a budget of $200 and place in the shopping cart.
- buy a 13" TV under $150 and place in the shopping cart.
- delete one of the items in your shopping cart and replace it with another electronic item less than $100.

## Usability Results for Online Electronic Stores

ABT.com was found to be significantly more satisfying than both hifi.com and bestbuy.com ($F(2, 14) = 4.16$, $p < .05$), as well as being the most preferred (Friedman c2 $(2, N = 8) = 7.75$, $p < .05$). Hifi.com had the most navigationally efficient site, whereas BestBuy.com was the least efficient. That is, participants averaged 9.72 'extra' pages to complete the tasks with BestBuy.com, 2.11 pages for Hifi.com, and 3.33 pages for ABT.com.
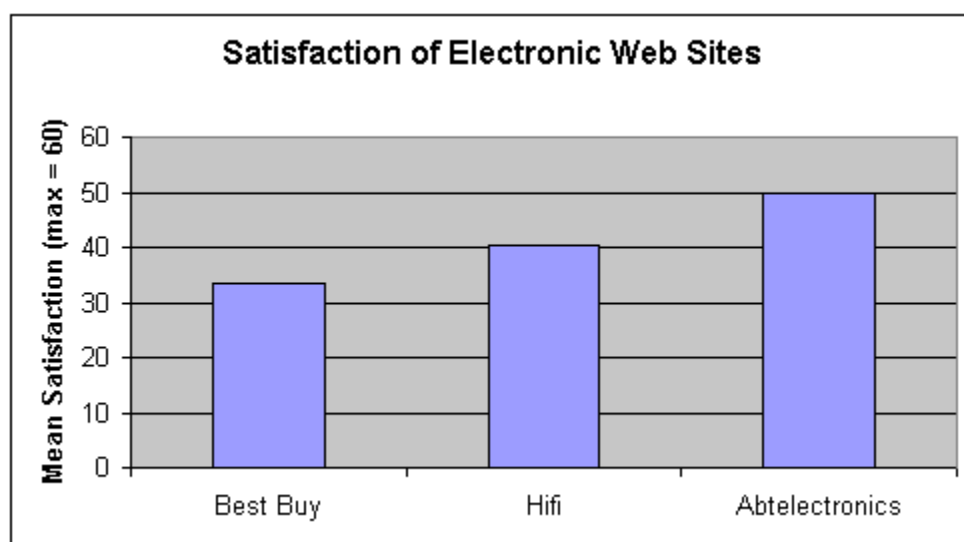


Most participants reported the Abtelectronics site to be 'easier' to traverse and find the product category they wanted. This was reportedly due to two main reasons. First, a cascaded menu that appeared when the mouse was positioned on a main category in the menu allowed the users to view the contents of a category without actually having to take the time to traverse to another page. Second, the participants stated that the site's bigger pictures, clearer instructions, and larger fonts made it easier to use. The navigational efficiency of the site also may have some effect on the satisfaction of the site, even though the participants did not mention this. The participants stated that unclear online directions/help, small fonts, and minimal product descriptions were reasons why the Best Buy and Hifi sites were less usable.

**Online Discount Stores** (Costco.com, Sams.com, Target.com)

Eight participants were run in a usability study with target.com, costco.com, and sams.com. Participants were asked to complete three tasks with each site (site order was counterbalanced across participants). The three tasks included:

- find a toaster between $25 and $55 and place it in the shopping cart.
- find a specific DVD video ("Romeo Must Die") and place it into the shopping cart.
- delete the toaster from the shopping cart and replace it with a DVD player under $250.00.

**Usability Results for Online Discount Stores**

Target.com was found to be significantly more satisfying than Costco.com ($F(2,14) = 5.62$, $p < .05$) and the most preferred (Friedman c2 $(2, N = 8) = 7.75$, $p < .05$). No differences were found in the efficiency of the sites.
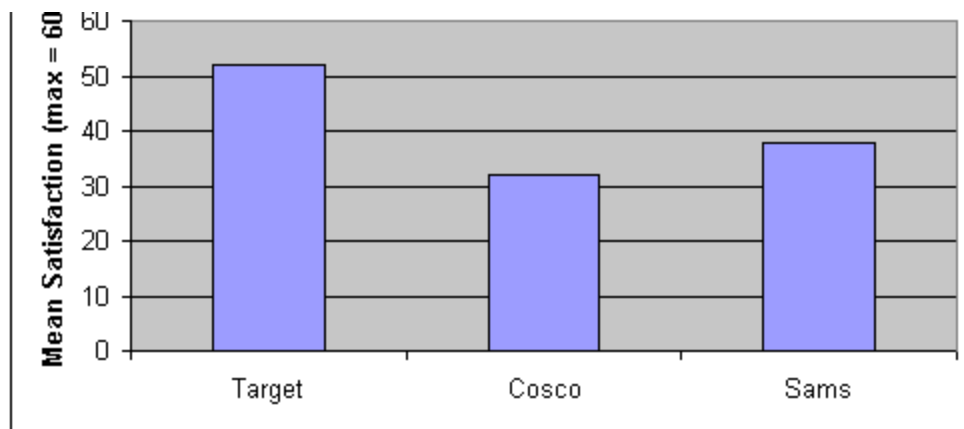
Participants reported the Target.com site to be "easier" than the other two sites and "just one click away from whatever I need." Participants had very few problems finding the requested items or deleting items in the shopping cart. Costco.com received many negative comments and was reported to be "very complicated" (one participant stated, "I am not a rocket scientist!"). This was primarily due to the fact that the site required the participant to enter personal information (such as name, address, credit card info) just to put an item into the shopping cart. This was reported to be very disconcerting to the participants.

**Online Toy Stores** (Etoys.com, KBKids.com, ToysRUs.com)

Eight participants were run in a usability study with Etoys.com, ToysRUs.com, and KBKids.com. Participants were asked to complete three tasks with each site (site order was counterbalanced across participants). The three tasks included:

- find the Shop-With-Me Barbie cash register and place in the shopping cart.
- find a PooChi mechanical dog and place in the shopping cart.
- delete an item from the shopping cart and replace with another item that allows your total amount spent (without shipping) to be less than $50.00.

## Usability Results for Online Toy Stores

KBKids.com was found to be significantly more satisfying than Etoys.com ($F(2, 14) = 12.81$, p <.05) and the most preferred site (Friedman c2 (2,N = 8) = 6.25, p < .05). In addition, analysis of the number of pages beyond the optimal path found Etoys.com to be the least efficient site. Participants averaged 10.62 'extra' pages to complete the tasks with Etoys.com, 4.71 for ToysRUs.com, and 6.0 for KBKids.com.
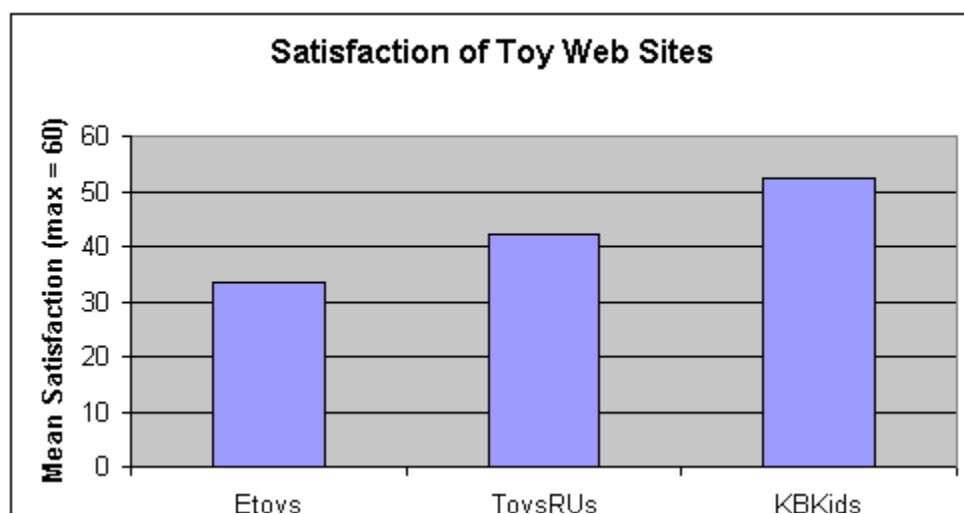
Participants reported that one of the biggest problems with Etoys.com was that they searched under a Holiday 2000 category on the home page to find the items. However, only 'hot' items were listed under this category so users found themselves following "a bad trail of links." The Barbie task, in particular, was problematic for users if they chose the Holiday 2000 category. Users were also confused as to which main category to choose to find the toy. For example, some users chose the Electronics link to find the cash register -- the optimal path required users to find Barbie Dolls first and then Barbie gear.

## CONCLUSION

Results from this series of studies were enlightening in that we discovered that three of the 'big' name sites -- Etoys.com and BestBuy.com were reported to be inferior to other lesser-known sites in their domain. Following is a summary of the major findings:

1. "Not knowing where to go" (or which link to choose) from the home page was the biggest problem that many users reported. We purposely disallowed participants to utilize the search engines within the sites so that we could observe how they navigated throughout the site based on its structure. The Abtelectronics site was the best in this regard because it provided a set of cascading menu choices for each main category link, so the user had better expectations of how the items were categorized.

2. Requiring the user to register with the site before adding items to the shopping cart was a huge deterrent for the Costco site. Granted, the participants in this study were not truly intending to buy the items they chose; nevertheless, they were very reluctant to enter the personal registration information to simply add an item to the cart.

3. Deleting items from the cart was problematic when it required multiple steps. For example, to delete an item in the BestBuy.com shopping cart, the user was required to change the quantity to '0' and then click on an Update button further down the page. In the Sam's club site, users were required to select a Remove check box and then click an Update Cart button further down the page. Participants in our study had fewer problems when they were able to remove an item with a single click (i.e., with a Remove link or icon or a Delete button next to the item).

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