

# Usability Testing of *betterbricks.com*: An Informational Website to Foster Highly Energy Efficient Commercial Buildings

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## ABSTRACT

Since 1998, the Northwest Energy Efficiency Alliance (Alliance) has sponsored the Efficient Building Practices Initiative (EBPI). EBPI couples a Regional Public Information Program (RPIP), with efforts to bolster energy code maintenance and development. EBPI intends to increase the demand for highly efficient commercial buildings, and enhance the ability of code-related institutions to meet greater demand. The \$3 million RPIP used mass media advertising to urge target audiences to visit the *betterbricks.com* website that provides resources for improving building efficiency. The first months of the site operation brought strong feedback from visitors about problems they were experiencing. The Alliance sponsored “usability testing” to identify how to improve the site. This paper explores the approach and results of the testing, revealing insights applicable to others who might undertake this medium to communicate about energy efficiency topics and issues.

## Introduction

The Alliance’s \$6 million Efficient Building Practices Initiative, through its Regional Public Information Program, seeks to build “a strong market pull” for highly energy efficient commercial buildings among users of those buildings, by promoting the benefits of strong energy codes (see Hescong Mahone 1998, for further background on how this concept was developed). To help achieve a stronger market pull, the Alliance hired Cole & Weber, a full service Northwest-based advertising firm to develop a coordinated marketing and information program. Initial market research revealed a “powerful hook” for commercial building occupants: connecting energy efficient buildings with increased worker *productivity* (Cole & Weber 1999, 2000).

The resulting *betterbricks.com* campaign focused only on the commercial sector and targeted employees and decision-makers in businesses, with a secondary focus on architects, developers, real estate brokers, and government agencies. The campaign:

- Adopted a *brand focus*, called *betterbricks.com*. This brand took a business point of view centered on *productivity and empowerment* – “Evangelists for a better way to work.” Energy efficiency was not the focal campaign message.
- Developed a product – the *betterbricks.com* website. The website would give audiences a central place to go for more information and help.
- Used more traditional mass media advertising and public relations efforts to “drive” target audiences to the website.

Evaluation of the product – the *betterbricks.com* website – is the focus of this paper. As defined by Cole & Weber, the website’s role in the campaign was to (Cole & Weber 2000):

- Move audiences from an initial awareness of the “space matters” message to a deeper sense of understanding and validation.
- Address the needs of those who wish to know more about and pursue high efficiency buildings and workspaces.
- Offer audiences a way to being more personally involved with the brand by communicating with an Advisor.

The *betterbricks.com* website was launched May 1, 2000. At the time of the usability testing, it included information on lighting, daylighting temperature control and ventilation, field studies, referrals to people and resources for further help with energy efficiency options, and, upon request, a free, four-hour consultation on workplace energy practices.

## Evaluation Purposes and Methods

Usability testing, which is usually qualitative, examines how visitors to a site actually behave when using a website and focuses on visitors’ requirements for the site. When the *betterbricks.com* website was developed, time ran short for meeting the campaign launch date and usability testing was not conducted. After the launch of the website however, users noted enough difficulties and “bugs” in the site that the Alliance decided to sponsor usability testing of *betterbricks.com* (Version 1.0) to look for:

- Misconceptions or confusions about the purpose of the site
- Task-performance and navigational problems
- Items or components visitors particularly liked or disliked

Hypercerulean, Inc, a Seattle firm specializing in website usability studies, along with the EBPI evaluation contractors and Alliance evaluation staff, designed the test procedures. Hypercerulean conducted the tests in Seattle, Washington and Boise, Idaho in late August 2000 (Prothero, Hendrickson, Solon, Sunderlin, Peters and Dethman 2000). Participants were recruited to match various target audiences of the website: general commercial employees; influential staff who strongly influence space decisions, decision-makers who make the final decisions about space, architects, and developers. In all, 17 people from the website’s target audiences participated in one-and-one-half-hour in-depth individual interviews<sup>1</sup>, as shown in Table 1 below.

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<sup>1</sup> Standard sample sizes for usability testing range from 8-10 per test. The sample of 17 resulted from an attempt to conduct usability testing with 8 people in two geographic locations – Seattle, Washington, and Boise, Idaho.

**Table 1: Usability Test Participants by Location and Target Audience**

TARGET AUDIENCE	SEATTLE	BOISE	TOTAL
General Commercial Employees	2	2	4
Influential Employees	3	2	5
Decision Makers	2	1	3
Architects	2	1	3
Developers	1	1	2
<b>Total</b>	<b>10</b>	<b>7</b>	<b>17</b>

The testing proceeded in three phases:

- **Phase 1 – First Impressions:** After seeing two *betterbricks.com* TV ads, participants were asked to behave as if they were visiting the site by themselves in real life. They explored the site, unguided, for about five minutes and described aloud to the interviewer what they were doing and thinking.
- **Phase 2 – Tasks:** Participants further explored the site, initially without guidance, and were asked to continue to report their behaviors and reactions. Then, after being shown relevant *betterbricks.com* print ads, they were asked to gather information from the site to convince colleagues of the importance of the physical work environment. Finally, participants were asked to visit specific site locations or features (if they hadn't already) and then asked for their reactions.
- **Phase 3 – Follow-Up Questions:** After spending an hour at the site, participants were asked follow-up questions about a range of website impressions and issues.

## Overall Usability Results

The usability test of *betterbricks.com* V1.0 identified over 130 opportunities to improve and enhance the website. (Since prior testing had not occurred, this was not especially surprising.) Overall, participants were frustrated by not knowing:

- What the website purposes were and who sponsored it.
- What information the website offered.
- Where to find, and how to get to, the information they most desired.

As participants became more familiar with the site, most liked it more (12 of 17), and 11 reported that they would recommend it to coworkers, managers, or clients. Participants generally found the content useful, once they understood more about the site's purpose, discovered more of its content, and learned how to navigate around it. (Still, it should be kept in mind that the testing situation may mean participants exerted more patience than they normally would when visiting a website.)

In addition to purpose, content, and navigational problems, respondents also wanted the site to carry more in-depth information in the future, citing needs for information about: how to evaluate

workspace problems, how to implement changes, before and after studies, regulatory issues, and where to reach the right contractors.

## **Key Findings and Recommendations**

The usability testing revealed six major areas where the *betterbricks.com* website could be improved. This section of the paper describes the insights we gained from test participants about each major area of concern, the key findings behind those insights, and recommendations for improving web site usability in each area.

### **Website Purpose and Sponsorship**

Web visitors want to know quickly and clearly why a website exists. Lack of clarity of the website purpose frustrated test participants. It contributed both to a desire to leave the website initially, and to the unwillingness of a third of the participants to recommend the site to others. Likewise, test participants wanted to know “who was behind” the website, so they would know what type of entity was providing the information, and in what context (e.g., is the sponsoring “selling” something).

For most participants, the purpose and the type of entity behind the website were unclear. Participants could not identify from the advertising what type of information or services they would find at the website. Based on the TV ads, participants initially tended to think *betterbricks.com* was related to office furniture or perhaps Internet services. While all of the participants came to understand that the *betterbricks.com* website related do improving the work environment, none were certain of the services *betterbricks.com* provided.

In addition, the *.com* extension suggested to many that *betterbricks.com* is a for-profit organization, rather than an extension of the Alliance. Ten of 17 participants thought *betterbricks.com* was (sponsored by) a for-profit company, five thought it was (sponsored by) a not-for-profit entity, and two were unsure. Six preferred it to be not-for-profit, and no one preferred it to be for-profit. For a notable minority of participants, finding out that *betterbricks.com* is sponsored by a not-for-profit agency was an asset, increasing their trust of the organization and diminishing any concerns about competitive issues. The need to use a *.org* domain was not viewed as necessary, although a clear statement of organizational sponsorship was viewed as necessary.

To improve website purpose and sponsorship, the recommendations were to:

- Provide a mission statement prominently on the homepage. State whom the website is intended for, “who” *betterbricks.com* is, who supports it, and whether its agency sponsor is a for-profit or not-for-profit firm. As one participant put it, tell visitors “what inspired the company to exist.”
- State on the homepage that *betterbricks.com* is sponsored by a not-for-profit agency. List any endorsements from professional or trade organizations.

### **Website Organization and Navigation**

Most web visitors are in a hurry; if they do not get oriented quickly, they leave. They want to know what their options are on a site and how to get to them. In general, easy understanding of how navigation works and access to information needs to take precedence over how a website looks. As with purpose and sponsorship, ease of access to needed information affects a visitor’s willingness to stay on a site and to recommend a site to others. Difficulties in noticing and understanding the

meanings of *betterbricks.com*'s major navigational tabs kept participants from clicking on them. Participants became confused and did not like the time and attention it took when they did try to use them.

The homepage is the center of operations while on site and web visitors need to be able to get to it quickly. Web visitors become frustrated and annoyed when this simple task becomes difficult and time consuming, and are less likely to stay on the site or delve deeply into the site if they can't easily return to the homepage. The return method for *betterbricks.com* was to click on the brand logo in the upper left-hand corner of each page. Although to designers this was a well-known "convention," to test participants this was unfamiliar.

None of the participants had a clear idea of where to start or what paths to follow from the homepage. They also did not understand the range of tools and information available or how the parts of the website were connected to one another. Tabs labeled "*Discover*," "*Believe*," and "*Act*" were intended as major navigational tools on the *betterbricks.com* website. It was also assumed that visitors would be familiar with clicking on the logo in the upper left corner to return to the home page.

Participants said the three major tabs, and their menu/sub-menu structures, were hard to notice and hard to understand. The divisions did not provide natural, intuitively understandable divisions for the website's information. Most participants did not find the list of field studies and 9 of 17 participants did not reach the *Act* area without prompting. The tabs were also hard to use. For instance, unless the mouse was moved very precisely, the submenus changed while the participant was in the process of navigating to them from the main menu.

Not a single participant was familiar with the convention of clicking on the logo in the upper left corner to return to the homepage. To return to the *homepage*, they repeatedly clicked the "Back" button, which took significantly longer.

Recommendations to improve *betterbricks.com*'s organization and navigation included:

- Organize the website in terms of tasks the visitors want to perform and tools for performing those tasks. Provide layers of detail, so that visitors start at a general overview level and can drill down to details as needed. For instance, the homepage menu might have be organized like the following:
  - Learn More About (followed by)
    - *betterbricks.com*
    - Lighting, Heating
    - Air Quality
    - Affect of Work Environment on Health and Worker Performance
    - Field Studies with Real Buildings
  - Learn How To (followed by)
    - Rate Your Work Space
    - Improve Your Work Space
    - Convince Others

- Get Free Advice
- Find Companies to Help Improve Your Work Space.
- Research Studies
- Regulatory Issues for Workspaces
- Related Sites
- Privacy Statement
- Replace the structure with a left margin navigational bar, organized according to tasks visitors want to perform (see section above).
- Include a clearly labeled “Home” button on each webpage.

### **Content of *betterbricks.com***

Informational websites like *betterbricks.com* cannot remain static; visitors will expect it to change and expand, to be culled, and upgraded. Test participants generally liked the content on the *betterbricks.com* website, once they got past the problems of organization and navigation described above. However, the content is mostly introductory and did not give them the information they would need to take action. While the current level of information may get people thinking and started down the path to action, visitors will need more in-depth information to take action. Test participants raised a variety of questions not answered on the site, such as:

- What companies can they contract to for good workspace support?
- How can they evaluate their lighting, HVAC, etc.?
- What can they do short-term?
- What can small companies do?
- What are the cost, timeline, and personnel requirements?
- What are the health, productivity, and financial issues?
- Is there good “before and after” information available?
- What are the regulatory issues?

Recommendations to improve content included:

- Integrate more detailed information into *betterbricks.com* as it evolves.
- Add a simple “suggestions” e-mail link to gather information about what visitors want to know more about.

- Be careful to maintain a clean organizational structure, as described above. As more detailed information is added, it should not obscure the high-level overview.

## Field Studies

The test participants generally liked the field studies and found them valuable and persuasive. They did, however, want more detail about techniques used, benefits, before-versus-after comparisons, costs, timelines, personnel requirements, contractors used, etc. Participants were also unclear about what role, if any *betterbricks.com* played in the field studies. Finally, navigational and operational problems plagued test participants and kept them from full use of the case studies.

While participants found some of the field studies through the use of examples, they rarely found the full list of available field studies on their own, most likely because the field studies were hidden under a submenu of the tabs at the top of the page.

Eight of seventeen participants did not notice the viewpoint options at the top of the field studies because they were small and not highlighted. These options allow the visitor different ways to “tour” the case study through photos and sound. Participants also did not explore the 360°-view option, and those who did often couldn’t operate it. Most thought it would show a movie or a single, different viewpoint. When neither happened, they tended to click on the “download” link without reading the instructions. Another problem with the 360°-view tool was that there was no apparent way to return to the previous state. And, participants had problems resizing the field study window when they used the special options. However, once noticed and used, participants valued the viewpoint mechanisms.

Recommendations for improving the use of the case studies included:

- Make it more obvious that there is a collection of field studies and clarify how to reach them.
- Look for ways to make special options more prominent by increasing their size or mentioning their existence at the bottom of the text for each field study.
- In particular, make the 360°-view tool easier to use by simplifying the instructions (e.g., *“Please put the cursor over the picture and click to move viewpoint.”*). In addition, develop an easy way to return from the 360°-view tool and allow for resizing of the window.

## The Advisor Area

The potential to receive free, personalized advice, through the Advisor area, was expected to be a major draw for visitors to the *betterbricks.com* website. In practice, however, test participants gave the Advisor Area a lukewarm reception largely because of its application form. If they often encountered this form early on in their visit, as many did, they often considered leaving the site because they had no evidence of the site’s value to them; the form appeared to be very time consuming; or they thought it was a requirement before they could visit the rest of the site. If participants encountered the form later, they still were not likely to want to fill it out due to concerns about the benefits they would receive, about whether they would be “spammed,” and about the form’s length and content.

Recommendations for improving the Advisor area included:

- Try to make sure the *Advisor Area* is not the first place site users visit.
- Whenever they visit the *Advisor Area*, make the first screen easy.
- Consider allowing visitors to simply enter their contact information and comments/questions (free form text). More detailed user information can be requested, as needed, in subsequent rounds of communication.
- State prominently, at the top of the form, how the visitor will benefit from filling out the form, and include a prominent privacy statement.

## Style and Use Issues

No major style problems were found in this usability test. Still, participants did have some complaints and recommendations, which are noted below. In addition, it's important to consider that visitors may access the site from various types of equipment and connections. Home-based computer systems are often lower-end and are slow at loading complex graphics, making *betterbricks.com* less user-friendly at home. Web visitors need to understand quickly what the site is about and how it can help them. The decision to stay or leave *betterbricks.com* will be driven much more by the usefulness of the content than by the advanced artwork. Website visitors often decide to leave a site before the homepage has finished loading.

Five participants mentioned the fonts were too small in parts of the website. Also, in some places light lettering is used on a light background. Both of these conditions discourage reading of the text. While the *betterbricks.com* website is targeted primarily at professionals who are at work, and likely to have high-end computer systems, some test participants indicated they would likely visit the website from home.

Recommendations to address style and use issues included:

- Provide adequate font size and good contrast for all text. Remember that developers are often younger, and have better monitors, than the target audience. Test the website informally with older viewers on lower-end monitors.
- Keep advanced graphics to a minimum and test the website on low-end systems. Consider removing image fade-ins. Use critical space on the homepage to plainly express the purpose of the site and what tools it provides. Use the top for a mission statement and the left margin for a navigational bar. Graphics should be secondary to communicating purpose and capabilities.

## Response to the Website Usability Test Recommendations

We presented the results of the usability testing of *betterbricks.com* V1.0 to the EBPI Steering Committee. The Steering Committee asked Cole & Weber to prepare a proposal to improve the site based on the results of the usability testing, except for those that dealt with expanded content and improved field studies.

The Steering Committee approved Cole & Weber's proposal and website modifications were made and tested with four focus groups. Version V2.0 of *betterbricks.com* was launched in late January 2001, and included these improvements to address the findings and recommendations from both usability tests:

- **Purpose and Sponsorship:** The sponsor's non-profit status is now clearly indicated and a link to the Alliance was added on the *About betterbricks.com* page.
- **Website Organization and Navigation:** Changes include: redesigning the visual element on the homepage; reordering of the topics *Discover/Believe/Act*; moving the site tour from the homepage to the sitemap; providing access to information about the *betterbricks.com* sponsor; changing the animation toward the center panel; changing the names of navigation devices; improving functionality of the drop-down menus; and including visual elements to indicate functionality.
- **Field Studies Redesign:** Revisions include changing the color scheme; the 360° view to a "virtual tour"; and the guide to field studies.
- **The Advisor Area:** Access to the *Advisor Form* can only be gained by first visiting the *Act* section; the description of the advisors has been changed; and the number of fields on the *Advisor Form* has been reduced.
- **Style and Use:** Font sizes were increased.

## References

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