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# Usability Testing Experiences from the Facilitator's Perspective

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## ABSTRACT

Due to the competition for online retail, it is critical for e-commerce organizations to take the required steps to make sure that their website is easy to use. One way to achieve this goal is for e-commerce organizations to administer usability testing, or to test website usability with users that fit the demographic profile of their customers. Usability testing is often run through the use of a facilitator with the findings and feedback from the testing sessions provided back to the organization's stakeholders so the website can be adjusted accordingly. This research presents an example case of one such usability testing experience, as well as highlights the findings and lessons learned from the facilitator's perspective. The findings in this instance may be generalizable to other facilitation and usability testing experiences and provide areas for future research.

## Keywords

Website usability, usability evaluation, usability testing, facilitation.

## INTRODUCTION

Due to the competition for online retail, it is critical for e-commerce organizations to take the required steps to make sure that their website is easy to use (Moody & Galletta, 2008; Palmer, 2002). Many websites need usability improvements in relation to website organization, understanding due to innovation or unfamiliarity, or simply web design (Galletta, 2006; Moody & Galletta, 2008). One way to address these usability issues is for e-commerce organizations to administer usability testing, or to test website usability with users that fit the demographic profile of their customers. This type of usability testing is often run through the use of a facilitator, or an external process leader who can serve as an impartial leader and observer during the testing. The facilitator can then deliver the findings and feedback from the testing sessions back to the organization's stakeholders so that website features can be adjusted accordingly. Usability testing is often focused on the outcomes from the testing, however this research presents lessons learned related to the role of the facilitator.

The goal of this paper is to present a case study of the execution of usability testing for an e-commerce organization. The focus of this paper is specifically concerned with the experiences from the facilitator perspective. A secondary goal of this research is to provide guidance for practice and research with a focus on lessons learned and future research opportunities. This reflection is intended to provide insight for those who will be conducting usability tests in the future.

The next section presents a background of usability and usability testing as well as facilitation in usability testing. The following section then describes the case of usability testing with regards to the setting and the facilitation process. The subsequent section highlights the findings and lessons learned from the facilitator's perspective. The paper concludes with a discussion of implications for practice and research including interesting areas for future research.

## BACKGROUND

### Usability and Usability Testing

*Usability* is defined as an artifact's capability to be easily, effectively, and satisfactorily used by a user who is performing a task (Shackel, 1991). The usability of a website or system is specifically concerned with various factors such as 1) the ease and consistency with which users can navigate and manipulate a web site, 2) organization and clarity of information and interaction, 3) speed, and 4) layout as well as the overall 5) effectiveness, 6) efficiency, and 7) satisfaction with which users can use a system or website for their relevant tasks (Fruhling & de Vreede, 2005).

Organizations, and specifically online retailers, are interested in usability testing for a number of reasons. First of all, usability tests that result in a high level of perceived usability suggest that a website or a system is easy to learn and to use (Nielsen & Mack, 1994). Usability has also been found to be associated with many other positive outcomes including error reduction, enhanced accuracy, user attitudes, increased use, and increased productivity, all outcomes of interest for online retailers (Galitz, 2002; Lecerof & Paterno, 1998). In fact, a well-designed interface allows for shoppers to perform tasks more

efficiently and can ultimately impact the performance of an organization (Seffah & Metzker, 2004). In the end, online retailers want their customers to find their website easy to use so that they will repeatedly visit the site to shop and make online purchases. Therefore, businesses and web designers should focus on usability and the way their customers use a their website (Liu & Arnett, 2000).

Usability testing can take place through a variety of methods. These methods include observation, cognitive walkthroughs, interviews and surveys, heuristic evaluations, focus groups, and laboratory testing (see Table 1) (Nielsen & Mack, 1994). Using more than one of these methods provides a richer analysis than relying on one method alone (Fruhling & de Vreede, 2005). Therefore, some e-commerce organizations may start with a focus group and then, based on the results, make modifications before proceeding with laboratory testing.

	<b>Methods for Usability Testing</b>
<b>Observation</b>	This method is the simplest of all methods and involves watching one or more users complete tasks.
<b>Cognitive walkthroughs</b>	This method simulates step-by-step user behaviors for specific tasks.
<b>Interviews and surveys</b>	This method relies on querying users.
<b>Heuristic evaluations</b>	This method relies on usability specialists to judge whether elements follow established usability principles.
<b>Focus groups</b>	This method relies on querying groups of users.
<b>Laboratory testing</b>	This method relies on testing different alternatives in a laboratory setting.

**Table 1. Methods for Usability Testing**

**Facilitation in Usability Testing**

Often times, organizations that run usability testing rely on the use of an outside organization or a facilitator to make sure that there is no bias during the process. The term, *facilitate*, means to make easier or to help bring about (Merriam Webster, 2010). Previous research has specifically defined *facilitation* as “a dynamic process that involves managing relationships between people, tasks, and technology, as well as structuring tasks and contributing to the effective accomplishment of the meeting’s outcome” (Clawson, Bostrom, & Anson, 1993). The facilitator acts as an impartial observer by leading, regulating, and supervising all communication during a test or process. The Activity Theory Usability Laboratory is one example of usability testing that relies on the use of a facilitator to work with users in simulation experiences (Hasan, 2007).

A good facilitator should be able to draw on facilitation techniques in order to design and support any required process (Briggs, de Vreede, & Nunamaker Jr., 2003). A good facilitator will follow a schedule or agenda and lead a process in a productive manner. It is necessary for these facilitators to remain indifferent in terms of an opinion, which is often why external facilitators are used. For example, internal facilitators will often have an opinion or stake in directing a process, especially in relation to an e-commerce website or system. Even if the internal facilitator does not mention their position it may be seen through their body language or other non-verbal cues. An external facilitator, on the other hand, leads with a non-bias perspective on the meeting agenda. Ultimately, the main goal of the facilitator is to do a good job, as the success of a process can be affected by poor facilitation (de Vreede, Boonstra, & Niederman, 2002).

**USABILITY TESTING CASE**

**Setting**

The usability test in this case was held by a leading retail e-commerce organization before the implementation of major site modifications were to go live on their retail e-commerce website. The organization held a large scale usability test with wire frame images (i.e., drawings) of the new designs using focus groups. Based on those tests, the wire frames were modified and then the development team went forward with the design. Once the design was completed and partially coded, the organization wanted to complete a second round of usability testing. This second round is the focus of this case.

Previous research has suggested that six to eight participants (per user type) are sufficient to identify most usability issues (Spolsky, 2001). Therefore, seven internal participants were recruited from within the organization. These employees (or in some case employee spouses) included individuals who were not familiar with the changes that were taking place and would be used for initial exploratory usability testing. Additional participants were also recruited who would represent actual customers. For this, seven external participants were recruited through an online survey. These participants were asked about their general online shopping activities and other demographic questions in order to identify whether or not they were target customers of this online retailer. The external participants were also awarded a monetary compensation for their participation.

The internal participants completed the usability testing first. This testing took place on-site and time was built into the schedule so that the findings from the first round of testing could be addressed before the external participants were tested. The external participant testing then took place off-site away from the online retailers’ offices so that the testing would be completely anonymous. Testing rooms were arranged according to the guidelines from previous research (Barnum, 2001).

**Facilitation Process**

The facilitation in this case was completed by an external facilitator. In preparation for the testing, a script was prepared. The contents of the script were based on meeting with the organization stakeholders and finding out what they cared about testing and finding answers to. This step is necessary for all facilitators, specifically in relation to usability testing it is necessary to understand what is being tested. The script began with initial background questions of the participant’s shopping habits and was followed by a description or background of the task that the participants were set to complete during the testing.

During the walkthrough of the website, participants were instructed to say what they were doing and thinking out loud (Boren & Ramey, 2000). In order to encourage this, the facilitator also asked a number of questions throughout this process. Questions were also asked which would directly or indirectly address the questions of interest to the online retailer. Once the walkthrough was completed, the facilitator asked ten open ended questions and then provided the participants with a short survey to complete. This entire process was videotaped and took about one hour per participant.

The videos, surveys, and facilitator notes were provided to the online retailer in order for them to make the necessary changes to the website before going live with the site modifications.

**FINDINGS AND DISCUSSION**

Based on this usability testing experience, much was learned about conducting website usability tests from the facilitator’s perspective. Table 2 summarizes the findings and seven lessons learned in this case, while the remainder of the paper expands on each of these points.

	<b>Lessons Learned</b>
<b>1</b>	Small details are critical and always caught by the participants.
<b>2</b>	It is necessary to have practice sessions with time for modifications.
<b>3</b>	Don’t show the project to the primary stakeholders (e.g., senior managers, CEO, advisory board) the day before usability testing.
<b>4</b>	It is very important not to have any stakeholders in the testing room.
<b>5</b>	Usability testing with external participants needs to be held off-site.
<b>6</b>	Make sure that external testing participants actually fit the organizations demographic.
<b>7</b>	Confirm the date and time with participants the day before, or a few hours before, scheduled testing time.

**Table 2. Lessons Learned**

**Small details are critical and always caught by the participants.**

One of the most interesting findings from this case was the importance of small details and inconsistencies (e.g., spelling errors, price inconsistencies) on the website prototypes. In the initial usability testing, with the internal participants, it was clear that these participants felt like it was their duty to point out any inconsistencies or errors. What can be learned from this is that prior to running any usability testing the prototypes should be thoroughly reviewed for small details and inconsistencies. While it was valuable to identify these small issues of spelling mistakes and price inconsistencies before the external participants were tested, it was not the goal of the usability testing. In this case, the stakeholders wanted to test the new navigation and branding concept. When the participants became too interested in finding the inconsistency issues, they stopped focusing on what was really of interest to the online retailer stakeholders.

**It is necessary to have practice sessions with time for modifications.**

The second lesson learned from the facilitator perspective is that there should be plenty of time between the initial usability tests with internal participants and the second round of testing with the external participants. Having exploratory or pilot usability tests before the final round is valuable in most research. With usability testing it is helpful for the facilitator to have practice sessions that allow for working out any of the issues in the script. This lesson also relates to the previous lesson in relation to the small details and inconsistencies. Due to the fact that the initial tests, with the internal participants, identified so many small details and inconsistencies in terms of spelling mistakes, price inconsistencies, and links that didn’t lead where they should have, it worked well to have some time before the second round of testing. This time allowed for all of the

necessary modifications to be made before the external participant sessions. Overall, these initial practice sessions work well for catching and fixing the small details and should be used in future usability tests.

**Don't show the project to the primary stakeholders (e.g., senior managers, CEO, advisory board) the day before usability testing.**

The third lesson learned relates to the previous lesson. While the previous lesson learned suggests that it is necessary to allow time for modifications between the initial round of usability testing and the final round, it does not make sense to include the primary stakeholders between these rounds. The primary stakeholders should be included in the usability testing at the beginning of the testing, prior to contacting an external facilitator.

In this case, the individuals representing the online retailer, and working with the external facilitator, made the decision to show the senior managers, including the CEO and a couple of members of the advisory board, the website changes between the initial round of usability testing and the second round. This led to panic and concern right before the second round of usability testing. Instead of getting positive feedback from the senior managers, there were too many changes suggested to be made to the website before the final round of testing.

In this case, there was time for some of the changes to be made; however, the changes that were completed were made without any careful planning and thought regarding why the changes were necessary. For example, there were months of testing and planning with regard for why the initial site was designed the way that it was, including usability testing in the form of focus groups. The changes requested from the senior managers at this point in the testing were hastily implemented right before usability testing. Instead of this rush to get the changes done, the senior managers should have been included prior to any of the usability testing with the external facilitator. This way the managers could have seen what was going to be shown. The managers should then be informed of the results of the usability testing immediately following the testing. This would have allowed for a before and after and any changes could have been carefully thought through.

**It is very important not to have any stakeholders in the testing room.**

The fourth lesson learned from this case is that the organization stakeholders should not be in the usability testing room when the testing is going on. It was mentioned above that internal facilitators or organizational stakeholders should not be used for facilitation of usability testing because they will often have an opinion or stake in directing a process, especially in relation to an e-commerce website or system. When an organizational stakeholder is in the testing room, even if they are instructed to remain silent, their position or opinion may be seen through their body language or other non-verbal cues. When a stakeholder is in the testing room, they may also want to object to the opinion of a participant when that participant is speaking out loud.

Another reason that this lesson is critical is because, in this case, when the organization stakeholders were in the room it didn't matter what the participants said, the stakeholders only heard what they wanted. For example, one participant mentioned three times that he really liked a pop-up feature of the website because it was very cool and smooth. However, this same participant mentioned one time that the pop-up feature might need to slow down. Due to the fact that the stakeholders preferred that pop-up slow down, all they heard was that the participant didn't like the feature because it was too fast (which confirmed their opinions).

These two reasons for not allowing the stakeholders in the room are very important. Should the stakeholders disagree or inform the facilitator that they will remain quiet; the facilitator should simply reply by letting the stakeholders know that the testing sessions can be videotaped for them to watch later. These videos can include videos of the participants speaking, as well as include screen recordings and should be accompanied by the reports from the facilitator. Reports can include transcripts from the sessions as well as participant completed instruments which rate user experiences (e.g., Palmer, 2002).

**Usability testing with external participants needs to be held off-site.**

It has been mentioned a couple of times that it is important to use an external facilitator so as to avoid any biases. Additionally, the previous lesson mentioned that organizational stakeholders should not be in the testing room. One way to ensure that stakeholders are not in the room is to hold the testing sessions with external participants at an off-site location. Holding the usability testing at an off-site location also allows anonymity between the organization and the external participants. Stakeholders might also request that the off-site location include a testing room with a mirror set up so that they could see into the testing room but the participants cannot see them (Barnum, 2001). This might, however, lead to the situation of stakeholders hearing what they want to hear, which was also brought up with the previous lesson. However, if the facilitator's findings report is included with these videos this may help in addressing this issue.

**Make sure that external testing participants actually fit the organizations demographic.**

This lesson focuses on the test participants. A benefit of usability testing is the ability to see a website through the eyes of the testing participants. In this case, as the participants worked their way through the website, the job of the facilitator was to capture what was working well and what was confusing or not working well. If the wrong participants have been recruited this benefit cannot be achieved. For example, if the participants know too much, like the internal participants, they won't reveal any of the issues or problems that a real customer would uncover. Then on the other hand, if the participants don't have enough of the right experiences, or are not really online shoppers then they will get stuck on some of the simple navigational elements that real customers would not struggle with.

In this case, there was indeed one participant that did not fit the demographic of the online retailer's customer type despite passing the initial online demographic survey that was used for recruiting external participants. The participant seemed to have misrepresented himself when he said that he did shop online. Based on the participant's comments during the usability testing, it sounded as though his wife was really the one that did the online shopping. Overall, this participant did get stuck on some of the issues that the actual online retailer customers would not have been bothered with.

**Confirm the date and time with participants the day before, or a few hours before, scheduled testing time.**

The final lesson is related to an administrative issue. On the day of final usability testing with the external participants, one of the participants did not show up. This issue could have and should have been avoided. Someone should have been assigned the task of contacting all of the participants either the day before they were scheduled for usability testing or a couple of hours before. This checkup would have ensured that the facilitator would not be sitting around wasting time and concerning themselves with whether or not participants were going to show up. This would have also allowed for new participants to be lined up, to take over the empty time slots. Due to the fact that usability testing is often a costly process for organizations, it makes sense to have this double checking in place. Organizations could also identify ten potential testers for seven slots in advance and schedule the seven that best fit the available time slots.

**CONCLUSION**

Both practitioners and researchers know that many websites need usability improvements and usability testing is one way to identify these improvements that need to be made (Galitz, 2002; Galletta, 2006; Lecerof & Paterno, 1998; Moody & Galletta, 2008; Nielsen & Mack, 1994). Therefore, the goal of this paper was to present a case study of the execution of usability testing for an e-commerce organization which specifically focuses on the experiences from the facilitator perspective. A secondary goal of this research is to provide guidance for practice and research with a focus on lessons learned and future research opportunities. In this case, the findings suggest that there are two primary strategies that facilitators should focus on for managing usability testing: 1) preparation and 2) stakeholder involvement. Table 3 presents the strategies in relation to the issues and the successful tactics for addressing these issues.

Strategy	Issue	Successful Tactic
<b>Preparation</b>	<ul style="list-style-type: none"> <li>Participants only focused on small details not testing objectives.</li> <li>Participants did not fit the organizations demographic.</li> <li>Participants did not show up.</li> <li>Changes had to be made from testing with internal participants before external participants could be tested.</li> </ul>	<ul style="list-style-type: none"> <li>Review prototypes in detail before beginning any usability testing.</li> <li>Make sure that testing participants actually fit the organizations demographic.</li> <li>Confirm the date and time with participants the day before or a few hours before scheduled testing time.</li> <li>Hold practice sessions with time for modifications.</li> </ul>
<b>Stakeholder Involvement</b>	<ul style="list-style-type: none"> <li>Stakeholders want to take over the usability testing.</li> <li>Primary stakeholders (e.g., CEOs and senior management) wanted to make changes between the initial testing and the final testing.</li> </ul>	<ul style="list-style-type: none"> <li>Do not allow any stakeholders in the testing room; hold the testing off-site to address this.</li> <li>Involve primary stakeholders (e.g., CEOs and senior management) before and after usability testing, not in the middle.</li> </ul>

**Table 3. Framework for Facilitation of Usability Testing**

### Implications for Practice

This research presented seven lessons learned as well as two broad strategies for the facilitation of usability testing. This study highlights the importance of usability testing for online retailers (Galitz, 2002; Galletta, 2006; Lecerof & Paterno, 1998; Moody & Galletta, 2008; Nielsen & Mack, 1994) and suggests that facilitation is one of the critical components of this testing, as poor facilitation can lead to testing failure (de Vreede, et al., 2002). This paper presents a manual of tactics that can be used for facilitating usability testing and provides insight for facilitators.

### Implications for Research

What these findings suggest is that preparation is critical for facilitators conducting usability testing and that stakeholder involvement must be managed in a clearly established way. Furthermore, the findings from this case highlight the importance of usability testing for online retailers (Galitz, 2002; Galletta, 2006; Lecerof & Paterno, 1998; Moody & Galletta, 2008; Nielsen & Mack, 1994) and suggests that facilitation is one of the critical components of this testing, as poor facilitation can lead to testing failure (de Vreede, et al., 2002). The manual of tactics presented in Table 3 can be used for facilitating usability testing and provides insight for facilitators. In fact, usability testing facilitators can use the findings and lessons learned from this research, as well as the framework presented in Table 3 as a guide for what should be done when they are running usability tests.

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