

Keep on Trying: *Online Securities Trading Sites*

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Abstract: This paper focuses on sites analysis in two usability categories: 'Navigation', and 'Help and Advice'. We have compared 24 on-line securities trading sites and 22 shopping sites. Several areas in these two usability categories demonstrated significantly lower performance of the on-line brokers compared to the on-line retailers. This paper looks in detail into these deficiencies.

The research is based on the Allied Testing Usability Assessment Questionnaire consisting of 200 questions that cover categories essential for web usability: Navigation, Bugs-free functionality, Information Accessibility, Transaction Processing and Speed, Help and Advice, Viewing Options, and Visual Design and Wording.

Key words: usability, web, site, trading, e-broker, e-shop, navigation, help, testing

1. INTRODUCTION

The Allied Testing Company has been researching web usability features in different categories of e-commerce sites for the last two years, collecting statistical data and identifying key features. In this paper, we look at website usability features that may affect business objectives of on-line trading companies.

We were interested in researching the usability features from the point of view of two specific groups: potential new customers (people not yet in the on-line securities trading industry but very interested), and on-line securities traders who are not satisfied with the services offered by their current broker and search resources in order to change it. We suggested that what these people see during their first clicks at a new site is very important.

According to Cawthon (2001), 'usability, customer service and personalization are the most important elements' of financial sites. There is, however, another statement (Mauro, 2001), which says that financial sites lack usability features: "On absolute terms, all financial service sites tested for usability ... were near the bottom in terms of usability and customer satisfaction." Our findings support this statement.

2. RESEARCH METHODOLOGY

Allied Testing, registered in Delaware, USA, is a distributed company, which allows us to perform 24 hours testing and produce the test results quickly. It is a dynamic team of testers who test a client's on-line applications remotely over the web.

Allied Testing's usability evaluation of a website is based on the usability analysis, and consists of four activities:

- a) The use of the AT Usability Assessment Questionnaire with about 200 questions, covers the following categories or principles essential for usability of a website:
 1. Navigation
 2. Bugs-free functionality
 3. Ability to find and access information
 - 4; Transaction Processing and Speed
 5. Help
 6. Viewing Options
 7. Visual Design and Wording
- b) The automated tools execution aimed to check spelling, load time, and the presence of broken/dead links.
- c) The research of the users' experience from visiting sites through their comments and interviews with them conducted in the process of dynamic site evaluation.
- d) The internet resources documentary research, the industry statistics data and ratings evaluation, and an average customer-oriented analysis of the received data.

In this paper, we used data from two of a total of seven categories of our questionnaire: 'Navigation' and 'Help and Advice'. These two sections are vital for attracting first-time visitors.

An individual securities trader is likely to have previous experience of using e-shops, which have enjoyed much attention and feedback both from individual visitors and the mass media in recent years. This is why comparing e-brokers with e-shops may bring positive results.

Regardless of the nature and particularities of a business, 'Navigation' and 'Help and Advice' features are critical for commercial websites. Thus, instead of performing a commonly used comparison within an industry, we compared the assessment results obtained from brokerage sites with retail shopping sites. Our goal was to discover those usability issues, that show significant differences in performance and usage.

Ten questions out of the entire question set were selected, dwelling on the fact that these questions show a significantly lower performance of securities trading sites, in comparison with assessed sites from the neighboring e-shopping industry. Other questions returned results that were similar (with 1% to 4% difference) for both e-brokerage and e-trading sites. These are outside the scope of this paper and are not discussed here.

All web sites selected were analyzed during September-October 2001, using its usability testing technology allowing competitive speed and cost-efficiency of usability evaluation. The standard way of usability evaluation includes finding from 2 to 50 people who agree to try and use the web site (which takes some time and money, but seldom touches the target audience), and a system of analysis of their activities. The Allied Testing system of training allows its staff testers to imitate user behavior, which allows sites to be evaluated in eight hours. While this method may mean greater deviation, it is 50-150 times faster and 20-100 times less expensive than the former.

2.1 On-Line Securities Trading Sites

We selected 24 of the most accessible on-line securities trading sites on the Internet by checking out large financial sites, such as Cbs.marketwatch.com, Thewallstreetjournal.com, e-Signal.com, as well as banners, advertisements and articles about on-line trading services. These search strategies are likely to be used by inexperienced traders without any particular on-line trading habits and preferences who want to start on-line securities trading, as well as by on-line traders who search resources in order to change their broker.

On-line securities trading sites (also called e-brokerages, online brokers, etc) are web sites allowing traders to access securities market via the Internet. They provide access to securities market information and the software that allows orders to be placed on the securities market. The following sites were used for our on-line securities trading sites list:

www.accutrade.com, www.ameritrade.com, www.bidwell.com, www.blackwoodtrading.com, www.brokerageamerica.com, www.brownco.com, www.castleonline.com, www.castletrading.com, www.CSFBdirect.com, www.cybertrader.com, www.datek.com, www.edreyfus.com, www.etrade.com, www.fidelity.com,

www.geeksecurities.com, www.jboxford.com, www.ml.com, www.protrader.com, www.quickandreilly.com, www.schwab.com, www.scottrade.ru, www.stocktrade.net, www.tdwaterhouse.ca, www.terranovaonline.com

2.2 On-Line Shopping Sites

A total of 22 shopping sites (Department, Music, Books and Toys stores) were analysed. We used the same principle of selection as for e-brokerage sites. The following sites were used for our on-line shopping sites list:

www.allbooks4less.com, www.amazon.com, www.areyougame.com, www.belk.com, www.bestbuy.com, www.bloomingdales.com, www.BN.com, www.booksamillion.com, www.booksinprint.com, www.boscovs.com, www.emusic.com, www.hearthsong.com, www.macys.com, www.milesofmusic.com, www.music.com, www.samgoody.com, www.sears.com, www.sonymusicdirect.com, www.totallyfuntoys.com, www.twec.com, www.urbanq.com, www.vstore.com

The selected websites were assessed according to the Allied Testing Usability Assessment questionnaire in the 'Navigation' and 'Help and Advice' categories. For some questions, such as broken/dead links, automated tools were used. Each question, when applied to a particular website, was rated as follows:

- 100% - if the feature existed on the site and its performance was good
- 50% - if the feature needed enhancements
- 0% - if the feature did not exist or did not work as it was supposed to.

If the question was not applicable, it was not included in the average percentage calculation. For example, "Can Help be printed?" is not applicable if there is no Help section on the site. The figures were then used to calculate the average percent for the sites representing the industry. The results are shown in Table 1.

Table 1 gives figures of the assessment evaluation results. The following sections of this paper explore every issue in detail.

Category and Question	Average percent for RETAIL E-SHOPS	Average percent for E-BROKERAGES
NAVIGATION		
Are all links working properly?	79%	64%
Are external and download links accompanied by a clear description of what is available at the next click?	83%	73%
Does the site have a clear reference to Home from all pages?	95%	85%
Do the navigation bars remain visible if a long/large page is displayed?	88%	77%
Are Terms and Conditions, as well as the privacy policy pages, easily accessible from the main browsing pages?	100%	92%
HELP AND ADVICE		
Does the site offer dynamic Help facilities?	73%	33%
Does microhelp text exist for the site's main enabled fields & buttons?	60%	29%
Is the help text legible? (all forms of Help)	100%	95%
Does a clear link to Help exist on each page?	88%	77%
Can Help be printed?	92%	86%

Table 1. The average rating for e-shops and e-brokers.

3. FINDINGS

3.1 Questions relating to Navigation

Successful navigation encourages customers to stay on a website. The majority of websites have similar navigation bars, structure, paths and titles, which makes site navigation easy. When the user visits a site for the first time, his/her previous site navigation experience gained from visiting similar sites comes in handy. We used 24 questions to explore site navigation possibilities.

In general, the e-brokerages tend to structure information better, provide menus, and tables of contents in a clearer way and more often than the retailers. On the other hand, most e-shops pay more attention to supporting details, such as links 'To the Top' on their long pages, references to their Home page, etc. The Allied Testing team investigated these particular features as part of usability requirements.

The following selection makes obvious that, being generally very good in terms of issues of their website navigation, a significant part of on-line brokers lose to e-retailers on issues specific to the Web.

3.1.1 Assessment question: Are all links working properly?

Priority of the feature: Links are extremely important features. The presence of broken links indicates a lack of maintenance and might be a reason for customers to leave the site.

E-Brokers	64%
E-Retailers	79%

Table 2. Are all links working properly?

Finding: Brokerage web sites seem to be less concerned about the issue of whether their site links work well. Their score for the ‘Yes links work correctly’ was 13% lower than that of the on-line retailers.

Examples: When testing Terranovaonline.com, we discovered that the site failed to provide active links at the upper navigation bar from the site’s “search results” page, while its support staff were reporting that the navigation bar was working for them. There are most probably several servers that support the site in different ways, and the site tested by an administrator may not work for some external users that are connected to a server other than the one this administrator uses.

3.1.2 Assessment question: Are the external and download links accompanied by a clear description of what is available at the next click?

Priority of the feature: Medium. To make service competitive, it is generally recommended that site developers clearly state download size and functions of software they offer to download, as well as operating requirements. External links are only applicable if they are necessary, and customers may wish to understand why they are necessary. As technology features change every day, a customer may not be acquainted with the downloads offered. Therefore, a clear description is highly recommended.

E-Brokers	73%
E-Retailers	83%

Table 3. Are the external and download links accompanied by a clear description of what is available at the next click?

Finding: The on-line brokers under-performed compared to the on-line retailers. The brokers do not give as much information (such as description, size and operating requirements for downloads) about partner sites or downloadable software they link to, as retailers. This is surprising, because external links and downloads would seem to be more important for brokers than for most retailers. Downloads are often supporting tools at shopping sites, while at on-line trading sites they are primary products enabling users to trade.

Examples: Schwab.com provides a positive example in terms of a detailed description of Schwab's trading software, the modem speed required to use the software, etc. An example of how external links were misused may be Brownco.com. It has an external link at its main page to the site where the citation it refers to cannot be found. Another example was Stocktrade.net, providing links to several sites where users can obtain trading software for download. However, the site failed to explain that these are links to external sites, and to outline the differences between the links.

3.1.3 Assessment question: Does the site have a clear reference to Home from all pages?

Priority of the feature: High. The home page is the page that gets most visitors, and, in most cases, it is the starting page of any site navigation. It was observed that users may feel lost if they are more than 3 clicks away from the Home page (Telerise, 2000). A link to the site's main menus should be provided on every page.

E-Brokers	85%
E-Retailers	95%

Table 4. Does the site have a clear reference to Home from all pages?

Finding: Visitors cannot return in one click to the point where they started surfing through a broker's site.

Examples: The importance of a link to Home page seems to be realized by some on-line retailers, such as Amazon.com or CDNow.com. Some positive examples can be found among the on-line brokers too. Schwab (Schwab.com) would be one of them.

3.1.4 Assessment question: Do the navigation bars remain visible if a long/large page is displayed?

Priority of the feature: High. First-time users may feel disoriented when browsing through long web pages. Permanent users may feel uncomfortable

too, as they have to use scroll bars to get back to the menu – an excessive action they may see as unnecessary. Moving a scroll bar up and down long web pages can be annoying. Moreover, the navigation speed – a feature especially important on e-brokerage sites, due to the industry’s specifics - is lost.

E-Brokers	77%
E-Retailers	88%

Table 5. Do the navigation bars remain visible if a long/large page is displayed?

Finding: The on-line brokers’ web sites tend to have exceedingly long pages that neither have a link to “top of page”, nor the main menu copied at the bottom, which complicates navigation. To illustrate this, we refer you to Castletrading.com and Castleonline.com.

Examples: Castleonline.com is an example of how long pages may confuse site developers themselves. The site’s long FAQ page contains a list of questions with quick links to their explanations provided on the same page, but does not have either “back to top” links or answers to several questions placed at the top of the page.

3.1.5 **Assessment question: Are terms and conditions and privacy policy pages easily accessible from the main browsing pages?**

Priority of the feature: Medium to high. At any time, these sections (or even some of their subsections) may become crucial for a serious trader when he/she needs to make a decision. The inability to reach them in one click irritates the user. Terms and conditions, as well as Privacy Policy (including the terms of collecting personal information), contain important disclosures and regulatory information regarding Services offered by the company. There is a considerable amount of detail listed in these sections. The availability of this information may become a pivotal point of a user’s decision-making process. Users should be able to find answers to their questions immediately.

E-Brokers	92%
E-Retailers	100%

Table 6. Are terms and conditions and privacy policy pages easily accessible from the main browsing pages?

Finding: The retail sites have links to “terms and conditions” and “privacy policy” at every applicable place, which is not characteristic of the on-line brokerage sites.

Examples: Two companies tested, eTrade.com and ML.com, made a notable effort to provide enhanced navigation features. We have discovered that easy navigation to the ‘terms and conditions’ and ‘privacy policy’ pages is also provided by the smaller sites, such as Protrader.com.

3.2 Questions relating to Help

The size and complexity of sites make Help tools availability a requirement. Customer service cannot be underestimated in e-trading, and its priority might be even higher in e-shopping. Securities traders often select a given brokerage company’s site, in hopes of establishing a long-term relationship, based on how much advice and help they can get.

In order to test help and advice tools available on the shopping and brokerage sites, Allied Testing used a set of 15 questions. We found that the majority of sites in either category offered help facilities. We approached Help from the point of view of its context, functionality and accessibility. Retailers, as opposed to brokers, meet a specific group of requirements more accurately. The Allied Testing team thoroughly examined the difference in the area of help accessibility.

3.2.1 Assessment question: Does the site offer dynamic Help facilities?

Priority of the feature: High. Customers (96%) stated that “If a company’s customer service department or website is responsive to my questions, I am more likely to trust that company”. This statement is shared by a large number of people (Taylor, 2001). The number of people who are satisfied with on-line chat is likely to grow significantly in the future, as it is currently one of the most popular forms of Internet contact among young people. There are also households that have a single phone line connection, so some clients are not able to use the 1-800 telephone number while they are connected to the Internet. We assume that some traders are attracted by the Internet securities trading, because it allows being in control of the securities market from any place in the world, including those where “1-800 number” is not toll-free. The trading session is a fast interactive process, and real-time contact is crucial for it.

E-Brokers	33%
E-Retailers	73%

Table 7. Does the site offer dynamic Help facilities?

Finding: Most brokerage sites do not provide any tools for customer-staff interaction. However, some brokerage sites, such as Schwab.com, do offer help via e-mail, message boards and/or phone numbers. In this respect, interactivity is understood narrowly as availability of real-time on-line response from the company's support staff via company's website (chats/message boards).

Examples: The most obvious functional match for this question is the real-time Internet chat. This feature is represented well on such sites as eDreyfus.com and Castleonline.com, where the chat area is easily accessible from the site's main page and does not require registration. There are also problems associated with chat support: brokerage firms need trained customer support personnel, who are able to be there for people who want advice via chat on a 24hour and 7day a week schedule. Users often complain that the availability of chat and messages areas on the site does not guarantee feedback from the customer support staff. The Allied Testing team experienced difficulties with loading the Terranovaonline.com chat, as well as their customer support responding only in two cases out of three tests made during the standard session on various days.

3.2.2 Assessment question: Does the microhelp text exist for the main enabled fields & buttons?

Priority of the feature: Medium. Regular visitors of the site may not need it; new users may positively need it, as the on-line brokerages have developed a variety of frequently used industry-specific terms and functionalities at their websites.

E-Brokers	29%
E-Retailers	60%

Table 8. Does the microhelp text exist for the main enabled fields & buttons?

Finding: Less than 1/3 of the brokerage sites tested use microhelp text for the main enabled fields and buttons. Microhelp is understood as either a small text next to an object (entry box, selection box, etc.) or the so-called "balloon help" - a local clue right on the page. There are, however, good examples of microhelp availability among the brokerage sites: the site Brownco.com has an appropriate amount of microhelp in corresponding

locations (especially in the 'Site tour' section, provided specifically for new visitors).

Examples: It is not always easy to identify the basic Help sections, as there is no separate Help section; or there is a variety of titles for educational resources and the trading education information. The section called the 'Learning Center' at Schwab.com, at ML.com's web page Askmerrill.ml.com is called 'Financial Education'. However, there is no combined section like that at Fidelity.com. Instead, the site's several separate 'Education' sections can only be accessed at third level pages and cannot be seen as a single list of contents.

3.2.3 Assessment question: Is the help text legible?

Priority of the feature: Medium. The text can easily be made larger by using the Text size function in any Internet browser, except for those rare cases when the font sizes are fixed.

E-Brokers	95%
E-Retailers	100%

Table 9. Is the help text legible?

Finding: We have found that the developers of 5% of the brokerage sites tested seem to have considered the issue of whether the Help text is legible a smaller priority. Some sites customized for viewing in 800x600 resolution or lower fail to provide text of legible size in a larger resolution. This becomes evident in areas, where large amounts of text are displayed, as is the case in the Help section.

Examples: At Terranovaonline.com, they use fixed font sizes, thus disregarding the interests of users with poor eyesight. On the other hand, Schwab.com provides a positive example with its large fonts that can be enlarged in the browser, despite the fact that the site is operable at resolution as low as 640x480. However, other problems may be revealed when changing the font size: by enlarging the text size, failures in design layout may become evident, as is the case at JBOXford.com.

3.2.4 Assessment question: Does a clear link to Help exist on each page?

Priority of the feature: High. The first-time visitor may need advice or basic information at any time he/she uses the site, and they should be available in one click. If Help is hard to find, the user is likely to leave the site. This issue is closely tied with both customer psychology and navigation. Some users may feel lost at a site even if helpful sections, like the Site Map,

are available: please refer to ML.com , where the site map is very large and features varied domain names, thus making it harder for a visitor to find a starting helpful topic.

E-Brokers	77%
E-Retailers	88%

Table 10. Does a clear link to Help exist on each page?

Finding: Our research has shown that 23% of the brokerage sites we tested do not have links to Help or FAQ at some of their pages.

Examples: A failure to provide Help as an easy-to-access single section is evident at the smaller sites we tested, such as blackwoodtrading.com . However, we found the same problem even on some advanced sites, such as ML.com. Some sites have easy-to-use Visitor sections, like Ameritrade.com’s ‘Tell me more’. There is also an example of how the issue of the Help section availability is solved at the larger sites: at Schwab.com , the Help section is placed at the bottom of every page.

3.2.5 Assessment question: Can Help be printed?

Priority of the feature: High. This issue is very important for the brokerage sites, as their business targets only the customers that use one brokerage service for a long period, unlike most retail shops. The amount of money spent by the trader can greatly vary from the money spent by the on-line shopper. Some customers may wish to have their brokerage site’s ‘Help’ printed to read it offline. Any user may wish to read ‘Help’ offline and navigate the site at the same time to save time.

E-Brokers	86%
E-Retailers	92%

Table 11. Can Help be printed?

Finding: We discovered that ‘Help’ couldn’t be printed adequately by clicking the Print button of a user’s browser at 14% of the brokerage sites we tested. Some of them have a large margin (a navigation bar) to the left of the ‘Help’ section, which causes the ‘Help’ text to be cut off on the right hand side when printing. Some web pages have frames (which, in fact, rarely occurs on brokerage sites) containing navigation bars that are printed, while the Help text itself is omitted.

Examples: The Allied Testing team has evaluated the Help and FAQ sections at JBOxford.com as ‘an example to be followed’, not only from the point of view of its readiness for being printed, but also as far as its overall

'Help' section performance is concerned. Helpful topics are best used when presented in two ways: their "normal" format and the "printer-friendly" one.

4. CONCLUSION

Inside the primarily offline industry of securities trading, some of services and features offered, such as the amount of commission, may be more important for customer decision-making than certain Internet performance features. However, as the securities trading firms struggle to build more competitive websites, they may wish to use the experience of other industries that have established themselves on the Web. We decided that the comparison with the Internet shops used in our research may be productive: not only have some of them felt competitive pressure over the last few years, but they have also been discussed in various on-line and offline periodicals, and other kinds of feedback from experts and regular users in Web forums and newsgroups. This feedback has benefited them in several ways and has enabled them to provide a more user-friendly interface.

The set of questions we used to examine 'Navigation' shows that brokerage companies may wish to pay more attention to the Internet technologies. Poor site maintenance and failure to check the site for basic performance on the Web, which lead to dead links, and the lack of description for downloads, do not add to the sites' reputation. Navigation may be slowed down by the abundance of long pages, as well as the absence of clear 'Home page' and 'Terms of Use' links that traders require.

Our assessment of the 'Help and advice' area has shown that, generally speaking, the 'Help' areas are consistent. However, there are requirements to their presentation that should be met more accurately. They include the user's ability to read and print Help-related topics and the availability of links to 'Help' section. Due to the interactive nature of the trading process, the trading sites' owners should feel obliged to provide the user with dynamic help tools. The nuances of the industry's terminology are often not adequately supported with microhelp hints.

The on-line brokerages may wish to consider sufficient improvements at their sites to be able to meet the users' requirements and stay competitive. There is still a great need in development of special usability guidelines for securities trading sites, and we believe this paper is a small step forward in developing them.

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