The Effects of Customization and Recommendation Source on Reader Perceptions of a News Website

Jean Beier

A thesis submitted to the faculty of the University of North Carolina at Chapel Hill in partial fulfillment of the requirements for the degree of Master of Arts in the School of Journalism and Mass Communication.

Chapel Hill
2007

Approved by:

Dr. Sriram Kalyanaraman

Dr. Rhonda Gibson

Mr. Paul Jones

© 2007
Jean Beier
ALL RIGHTS RESERVED

ABSTRACT

JEAN BEIER: The Effects of Customization and Recommendation Source
on Reader Perceptions of a News Website
(Under the direction of Sriram Kalyanaraman)

This thesis examines the effects of customization and recommendation source on reader perceptions of a news website. It contributes to the existing literature by examining the influence of these variables in concert as well as in isolation. It seeks to strengthen our knowledge of the mechanisms underlying persuasion in online news by exploring the role of several potential mediators: perceived relevance, novelty, interactivity, and involvement. It investigates the impact on perceived credibility, quality, and representativeness of articles presented on the website. It details the methods and results of an experiment (N=106) designed to examine the research questions. Results indicate that customization has a positive psychological effect on attitude toward the website and that the relationship is mediated by perceived relevance and interactivity. Findings suggest that recommendation source has no significant effect on attitude toward the website or articles. Theoretical and practical implications, limitations, and suggestions for future research are discussed.

ACKNOWLEDGEMENTS

I am very grateful to Sri Kalyanaraman, my chair, for his insights and guidance throughout the process of this thesis and over the course of my study at UNC-Chapel Hill. His tough questions, incisive comments, and creative approach helped transform me from a writer to a researcher. Rhonda Gibson provided insightful comments about this thesis and excellent advice on countless other matters during the past two years. Her emphasis on theory and her lovely and engaging academic writing have focused and inspired me. Paul Jones provided thoughtful comments concerning the practical implications of this thesis and compelling suggestions for further research.

To my family and friends and the professors and colleagues who have supported me in different ways throughout my graduate study: Thank you.

TABLE OF CONTENTS

LIST OF TABLES…………………………………………………………………...vii

Chapter

I. INTRODUCTION………………………………………………….......1

II. LITERATURE REVIEW……………………………………………..8

Customization……………………………………………………………8

Recommendation Source……………………………………………….13

Dual-Process Models of Information Processing……………………17

III. METHOD…………………………………………………………24

Design Overview……………………………………………………….24

Participants……………………………………………………………..24

Stimulus Materials……………………………………………………...25

Dependent Measures……………………………………………………30

Procedure……………………………………………………………….33

Index Construction and Preparation for Data Analysis……………...35

IV. RESULTS……………………………………………………..…..37

Manipulation Checks…………………………………………………...37

Attitude Toward the Article…………………………………………….38

Attitude Toward the Website…………………………………………...40

Mediating Variables……………………………………………….41

Cognitive Measures………………………………………………43

Behavioral Intent…………………………………………………..44

Control Variables…………………………………………………44

Summary of Findings……………………………………………...44

V. DISCUSSION……………………………………………….….46

Theoretical Implications…………………………………………..48

Practical Implications……………………………………………...55

Limitations…………………………………………………….....56

Suggestions for Future Research………………………………….59

APPENDICES ……………………………………………………….....63

REFERENCES ………………………………………………………......119

LIST OF TABLES

Table

1. Summary of means (with standard deviations) and *F* values
   for potential mediating variables as a function of customization……………..62

CHAPTER 1: INTRODUCTION

News websites have become a popular way for American readers to keep up with the news, with one third reporting that they regularly consume their news online (Pew Research, 2006). Among those who do so, convenience is given most often as the reason for consulting websites for news (Pew Research, 2006). This convenience may derive in part from recent advances in web technology that allow news websites to quickly direct online readers toward information that is important, timely, and relevant to them.

In short, web technology helps news organizations guide readers toward their individual ideas of what is newsworthy. Two online features that are starting to be employed to achieve this guidance are 1) customization, or presenting readers with articles on news topics of interest to them (Kalyanaraman & Sundar, 2006), and 2) recommendation generation, or providing information about articles based on the opinions and behaviors of other readers or news organizations (Mobasher, Dai, Luo, Sung, & Zhu, 2000; Pierrakos, Paliouras, Papatheodorou, & Spyropoulos, 2003).

The use of customization, in particular, is an innovation that has rapidly gained popularity among Internet users in recent years. The Pew Research Center reports that among Internet users who consulted the web for political news during the 2006 campaign season, 60% consulted customized news portals such as GoogleNews or Yahoo! News (Pew Research, 2007). This number had increased substantially from 2005, when just

19% of Internet users reported they had ever used a customized website for news or set up an email news alert (Pew Research, 2007).

Media organizations have used customized messages to target audiences since the advent of mass communication, based on the longstanding belief that such messages had powerful positive effects on recipients (Beniger, 1987). The web has dramatically increased the precision with which messages can be customized. Its interactive nature allows individuals to indicate their preferences and receive information tailored to their specific interests (Pierrakos et al., 2003). The Pew Research data indicate that many Internet users are beginning to take advantage of the convenience that web-based customization offers (Pew Research, 2007). This trend makes it more important than ever to examine the psychological effects customization has on readers. That is, how does customization affect their perceptions of the information they encounter on a news website, and how does it affect their attitudes toward the website itself?

Although customization has long been valued and the web has provided a way to extend and improve the practice, there was until recently little research that verified the psychological effects of web-based customization. This is an important influence to understand because it tests the assumptions of targeted media messages and extends our knowledge of their effects in the online medium. Our psychological responses to media dictate how we choose to consume information, how we evaluate the source of information and the message, and whether we build a lasting relationship with the news organization or brand. Research into the psychological effects of web-based customization, therefore, may provide insight into how and why customization affects people's attitudes and browsing behavior and what implications that might have for communication theory and for website content providers and marketers.

Kalyanaraman and Sundar (2006) demonstrated empirically that customization is an important element in the psychological appeal of websites. Their research indicated that greater levels of customization lead to more positive attitudes toward a website and that several variables mediate this relationship: perceived relevance, involvement, interactivity, and novelty of the content (Kalyanaraman & Sundar, 2006). Indeed, higher levels of customization lead to higher levels of perceived relevance, involvement, interactivity, and novelty, which in turn lead to a more positive attitudes toward the website. They were among the first to take a media-effects approach to the study of online customization and the mechanisms underlying its appeal.

In addition to web-based customization, website operators are also increasingly beginning to employ recommendation strategies to guide users toward content that will interest them most. Historically, media organizations have used recommendations as a method to influence audiences. Testimonials and expert quotes, for example, have long been used as supporting arguments in advertisements and other persuasive communications (Beniger, 1987; for a review, see Metzger, Flanagin, Eyal, Lemus, & McCann, 2003). Currently, web technology allows recommendations such as reader ratings and comments to be generated automatically and presented alongside an article on a web page (Pierrakos et al., 2003).

Wired magazine recently reported on online recommendation systems, chronicling their rise in popularity and influence and revealing a burgeoning subculture of fraudulent users (Newitz, 2007). Feedback systems and recommendations have become a common feature for evaluating products on retail websites such as Amazon and vendors on auction websites such as eBay. With the rise of social bookmarking websites such as Digg and del.icio.us, feedback systems are gaining in popularity for evaluating and recommending news and information, as well. *Wired* reported that several companies now offer services to falsely inflate online ratings by paying individuals to contribute positive feedback for products, services, and news stories. This trend indicates that such website operators believe recommendations do affect reader attitudes and behavior. Furthermore, it emphasizes the importance of empirically examining the psychological effects of recommendations in different contexts.

Much academic research has found that recommendations can affect reader attitudes and that readers respond differently to recommendations from different sources (Hovland, Janis, & Kelley, 1953; Metzger et al., 2003; Slater & Rouner, 1997). Researchers previously grouped sources according to subjective characteristics such as perceived credibility, attractiveness, or message style (Hovland & Weiss, 1951; Joseph, 1982; Miller & Hewgill, 1966) rather than examining the effects of people, organizations and technological media as different types of entities that affect perceptions of the message. This approach led to a confounding of people, organizations, and media as "sources."

Sundar and Nass (2001) took a more theoretical approach to examining the effects of recommendation sources on perceptions of news articles. They found four sources of communication to be psychologically distinct: news editors (the gatekeeper), other readers (the audience), the computer terminal (the technology), and the individual user (the self). Participants perceived news stories recommended by the audience as higher in quality, more appealing, and more representative of news than articles recommended by other sources (Sundar & Nass, 2001).

Additional research has shown that information such as recommendations may have different effects on user attitudes and behaviors in different contexts (Cooke, Sujan, Sujan, & Weitz, 2002). Specifically, the researchers examined the effects of recommendations in the context of online shopping. They found that when users were presented with positive reviews of new products, they either evaluated the products more positively or more negatively depending on which other products they were presented with on the web page. These results indicate that positive information about a specific item can sometimes lead to negative evaluations of that item.

As customization and recommendations become more common on news websites, readers will increasingly be exposed to a combination of persuasive cues related to each article they encounter. This thesis presents the results of an experiment designed to test empirically the effects of customization and recommendation source on readers' attitudes toward a news website. The study examined the interplay of customization and recommendation source and sought to strengthen our knowledge of the mechanisms underlying persuasion in online news. It addressed the specific research question: What is the relationship between customization and recommendation source on a news website and user attitudes, cognitions, and intentions toward the website and its content? In addition, it explored the influence of several variables that were expected to mediate the relationship between web-based customization and attitude: perceived relevance, novelty, interactivity, and involvement.

In proposing this research question, this thesis expected to make several contributions to the existing literature on web-based customization and recommendation sources. First, given that customization and recommendations have become so widely used, it is important to study the way these two variables work in concert in addition to examining their effects in isolation. Therefore, this thesis sought to make a unique contribution to the literature by examining the interaction of these two variables. The study also sought to investigate the processes by which the two variables affect attitudes by examining four variables identified in previous literature as mediators in the relationship between customization and attitude: perceived relevance, novelty, interactivity, and involvement. Prior research also demonstrated that customization affects navigational behavior, leading users to return to a highly customized portal homepage more often. This finding suggests that customization may lead to greater user loyalty to a website or brand by fostering more positive judgments of its content. This thesis measured reader perceptions of the credibility, quality, and representativeness of content in order to determine whether customization affects such assessments. In addition, the study included measures of memory and attention in order to explore the cognitive processes by which customization and recommendation source exert their influence. Finally, this thesis sought to expand the findings of previous research on the effects of customization in the context of web portals to a new online venue, news websites. In doing so, it aimed to extend our knowledge of the influence of customization and recommendation source and to provide practical information for news websites to use in presenting content.

The following section will review relevant literature related to the two primary concepts explored in this thesis, customization and recommendation source. It will offer a theoretical framework of dual-process models of information processing and propose hypotheses based on that framework and on previous research. It will then explain the methods of a study designed to examine the hypotheses. Finally, it will detail the results and conclude by discussing the implications, limitations, and suggestions for future research.

CHAPTER 2: LITERATURE REVIEW

To examine prior research related to the two independent variables and provide a theoretical framework for this thesis, this section reviews relevant scholarly literature on customization, recommendation source, and dual-process models of information processing.

Customization

Marketers and advertisers have been employing the practice of customization for many years, targeting their messages to specialized audiences and niche consumers (Weinstein, 1994). Such strategies seek to identify segments of the market and craft messages that will be most effective among certain subsets of consumers (Grier & Brumbaugh, 1999; Wedel & Kamakura, 1998). The concept of customization considered in this thesis, however, is more specialized than this type of targeting because it is aimed at the individual user and his or her specific interests. That is, it moves beyond considering audiences in terms of certain "targets," "segments," or "subsets," but instead considers customization in terms of crafting a unique message for every single member of the audience.

Scholars in different disciplines use a variety of terms to refer to customizing messages to an individual: personalization, customization, matching, and tailoring, among others (Kreuter, 2000; Murthi & Sarkar, 2003; Petty & Wegener, 1998; Pine, 1999). Yet as Kalyanaraman and Sundar (2006) point out, across fields such as psychology, marketing, health communication, and user modeling the focal concept of customization is essentially the same. Each individual is an audience of one, the recipient of content that is distinct from that presented to other users (Gilmore & Pine, 1999; Kalyanaraman & Sundar, 2006; Petty, Wheeler, & Bizer, 2002b).

Practitioners use three main approaches to collect information about website users and customize the interface or content to their preferences (Mobasher et al., 2000). The first approach uses manual decision rule systems, a form of explicit data collection. The user provides information through a registration process, and the website designer uses that information to personalize the website (e.g., customized greetings; articles related to a stated topic of interest, such as on the Yahoo! homepage). The second approach is content-based filtering, a form of implicit data collection. Website operators use information about the user's browsing behavior to create a model to deliver similar content in the form of recommendations (e.g., links to related articles or products, such as on cnn.com). The third approach employs collaborative filtering systems, another form of implicit data collection. Website operators search website data for common browsing or purchase behavior among different users. Users whose preferences match are given recommendations based on the behaviors of others like them (e.g., links to items viewed or purchased by other readers or shoppers, such as on Amazon.com).

In terms of the psychological effects customization has on recipients, several studies have found that customized messages are more effective at reaching individuals and achieving attitude change than messages that are generic or targeted to a population segment (see Rimer & Kreuter, 2006). Kreuter, Bull, Clark, and Oswald (1999) and Kreuter and Wray (2003) compared the effects of customized and targeted messages in the context of health communication. Participants who received customized messages perceived the materials (printed brochures) to be more relevant to them and had more positive thoughts both about the materials and about themselves. Customized messages were also associated with self-reported attempts to modify behavior, based on a follow-up survey (Kreuter & Wray, 2003). Such results provide evidence that the greater the level of customization, the greater the perceived relevance of the message to the recipient, and the more likely he or she is to remember and act on the information (Kreuter et al., 1999, 2003).

Similar results have been reported in studies that examined the effects of customized messages delivered via computer (Brug, Steenhaus, van Assema & de Vries, 1996; Kreuter, Farrell, Olevitch, & Brennan, 1999; Oenema, Tan, & Brug, 2005). Oenema et al. (2005), for example, found that participants exposed to computer-customized nutrition information were more likely to retain the information presented, report that they intended to change their nutritional habits, and report in a follow-up survey that they had modified their diet. The researchers also found that the customized content was perceived as more personally relevant, interesting, and novel than generic information, factors that were shown to mediate the effect for intention to change habits.

Kalyanaraman and Sundar (2006) conducted perhaps the most comprehensive study of the effects of customization on attitude toward a website. Using three ordinal levels of customization (low, medium, and high), the researchers examined whether greater levels of customization led to more positive attitudes toward a web portal. Participants were exposed to websites customized in one of the three conditions according to their individual preferences, collected in a prequestionnaire that was perceived to be unrelated to the study. Results provided some of the first empirical evidence for longstanding claims that customization held psychological appeal for website users. It appears that the greater the level of customization, the greater the psychological appeal.

In addition, Kalyanaraman and Sundar (2006) brought a more theoretical approach to the examination of customized messages by exploring the mechanisms or processes that inform the relationship between customization and attitudes. Confirming previous findings in the health communication and human-computer interaction literature, results indicate that several variables mediate the relationship. That is, higher levels of customization lead to an increase in the perceived relevance, involvement, interactivity, and novelty of the content, which in turn lead to more positive perceptions of the website.

Kalyanaraman and Sundar (2006) also found that higher levels of customization influenced online browsing behaviors, resulting in users visiting fewer unique web pages (a possible indication that they spent more time engaged with the content and less time clicking between pages) and returning to the customized homepage more often.

In discussing these results, Kalyanaraman and Sundar (2006) suggested that because of a) the powerful positive effects of customization on attitudes, and b) the finding that users spent more time viewing the content on more highly customized portals, customized websites had the potential to build greater user loyalty over time. Users returned to a highly customized portal homepage more often and spent more time viewing content presented on that homepage. Kalyanaraman and Sundar (2006) posited that the close match between user interests and website content could lead the user to perceive the website as having a value system similar to his or her own. On a news website, in particular, it seems that this feeling of close tailoring could contribute to greater perceptions of the credibility, quality, and representativeness of the content presented. Those measures were incorporated into this thesis in order to examine the possibility that customization can affect qualitative judgments of content as well as attitudes toward the website and browsing behaviors.

To summarize the review of literature on customization, this concept is explicated as the tailoring of messages according to characteristics or preferences of individual users. Previous research has found that exposure to customized messages can increase attention to and memory for the information presented; generate more positive attitudes toward the message and the message source; and influence behavior and behavioral intent. These effects have been observed for customized messages delivered in print, on a computer screen, and on the web (e.g., Kalyanarman & Sundar, 2006; Kretuer & Wray, 2003; Oenema, Tan, & Brug, 2005).

Based on the previous research concerning the effects of customization on user attitude (e.g., Kalyanarman & Sundar, 2006; Kretuer & Wray, 2003; Oenema, Tan, & Brug, 2005), and on the findings of Kalyanaraman and Sundar (2006) regarding the variables that mediate that relationship, the following predictions are made:

> **H1:** Participants in the customized condition will have more positive attitudes toward the website than those in the non-customized condition.
>
> **H2:** Several variables will mediate the relationship between customization and attitude toward the website: perceived relevance, perceived novelty, perceived interactivity, and perceived involvement.
>
> **H3:** Customization will have a positive influence on reader perceptions of the credibility, quality, and representativeness of content presented on the website.

Recommendation Source

The second independent variable manipulated in this thesis was the source of the recommendation presented on the web page. A large body of literature in human-computer interaction examines the way people orient themselves to the source of a communication (see Reeves & Nass, 1996; Sundar & Nass, 2000). This orientation is closely related to the way people make judgments about a source and how those judgments influence their evaluation of messages (Sundar & Nass, 2000).

The psychological effects of the communication source on the recipient have been studied extensively in traditional media such as newspapers, radio, and television (Hass, 1988; Metzger et al., 2003; Newhagen & Nass, 1989). Researchers typically manipulated some characteristic of the source, such as perceived credibility or attractiveness (Hovland et al., 1953; Joseph, 1982), and measured its effect on the recipient's attitude change in response to the message. Findings consistently indicate that people notice the source of a communication and that their judgments are affected by their perceptions of it, even when they are unaware of its influence (Sundar & Nass, 2000).

With the increase in computer-based communication, the source of a communication and the medium through which it was delivered became difficult to separate (Newhagen & Nass, 1989; Sundar & Nass, 2000). To examine whether people would orient to the technological medium or the programmer who was the source (i.e., creator) of the message, Sundar and Nass (2000) studied source orientation in the context of a computerized tutoring session.

Participants in one condition were told they were working through the session with computers; those in the second condition were told they were working with programmers or networkers through a computerized interface. Participants in the computer condition found the session to be more friendly, playful, and effective than did those in the networker condition; those in the networker condition found the session to be more exciting. Because people responded differently to the computer and the networker, the study provides evidence that people respond to the technological medium as a distinct source of communication. The computer, as the most proximate or visible source of the communication, is psychologically relevant and receives attention and social attributions according to the social rules of human-human interaction (Reeves & Nass, 1996; Sundar & Nass, 2000).

This finding led to further research and an article that explicates the concept of "source" and expands its scope significantly (Sundar & Nass, 2001). The researchers proposed a typology of four "sources" relevant to online news: the gatekeeper, the technology, the audience, and the self. In different communication situations, one of these sources may be more visible or proximate than the others, and this will be the source to which the reader orients.

The gatekeeper is conceptualized according to the traditional journalistic gatekeeping process (White, 1950) and is defined as the person or organization responsible for performing a filtering function by selecting which news to deliver to consumers (e.g., Bob Woodward or *The New York Times*). The technology is conceptualized as the medium or interface through which news is delivered (e.g., the computer terminal or the World Wide Web). The audience is conceptualized as other news readers. The interactive nature of the web makes it possible for audience members to select and disseminate news or rate or comment on articles. In such situations, they appear as the source or recommender of content. The self as source is conceptualized as the individual user who, by selecting which content to view and by using web technology to filter his or her own news delivery, can act as the gatekeeper or source of news.

Participants were assigned to one of four conditions and presented with articles seemingly selected/recommended by one of the sources (Sundar & Nass, 2001). Perceptions of article credibility did not differ significantly across conditions, but liking, quality, and representativeness were perceived as greater in the technology and audience conditions. In short, attribution to different types of sources in online news was associated with variation in perceptions of the news stories. Additionally, the audience as source was perceived as the "psychological favorite," engendering the most positive evaluations of the news content.

Related to this research are two studies that have examined the various features of a web page that can communicate to the user which "source" has recommended or selected the news content presented. At least one study has examined the on-screen cues that lead users to conclude that gatekeepers recommend the news content presented (Sundar, Knobloch, & Hastall, 2005). At least one other study has examined the on-screen cues that lead users to conclude that the audience recommends the news content presented (Knobloch-Westerwick, Sharma, Hansen, & Alter, 2005).

Sundar et al. (2005) manipulated three on-screen cues related to the value of a news story: newsworthiness, source credibility, and recency. Researchers presented participants with an aggregated news website (e.g., Google News) created for the study and manipulated the number of related articles listed (a cue about its newsworthiness); the credibility of the original news source, and the time the story was posted. Such cues represent the article’s value according to the “gatekeeper as source” because they relate to the publishing behavior of news organizations. Results showed a significant effect for newsworthiness, as participants were more likely to spend time reading articles with higher numbers of related articles listed.

Knobloch-Westerwick et al. (2005) manipulated two on-screen cues related to the popularity of a news story according to the “audience as source”: the average reader rating and the number of times an article has been viewed. Participants were more likely to select a news story based on an explicit recommendation, average user rating. The implicit recommendation, number of times viewed, produced a curvilinear effect, with users spending more time reading articles that were previously viewed by the lowest and highest number of other users.

To summarize the literature on recommendation source, this concept is explicated as the source to which the reader orients and perceives as responsible for the selection of content presented (Reeves & Nass, 1996; Sundar & Nass, 2000). Four types of sources are psychologically distinct and relevant to the study of online news: the gatekeeper, the technology, the audience, and the self. At least one study has shown that the audience as source has the strongest effect on reader attitudes, though the underlying reasons for this effect have not been sufficiently explored (Sundar & Nass, 2001). Research has examined on-screen cues that alert readers to the value a news story has to either the gatekeeper or the audience. The number of related articles, average rating, and number of times an article has been viewed affect browsing behaviors and attitudes toward a news website (Sundar et al., 2005; Knobloch-Westerwich et al., 2005).

Based on the previous research on the effects of recommendation source on evaluation of news articles (Sundar & Nass, 2001), the following predictions are made:

> **H4:** Participants in the “audience as recommendation source” condition will have a more positive attitude toward the website than those in the “gatekeeper as recommendation source” condition and the control condition. Those in the “gatekeeper as recommendation source” condition will have more positive attitudes than those in the control condition.
>
> **H5:** Participants in the “audience as recommendation source” condition will have more favorable perceptions of the credibility, quality, and representativeness of content presented on the website than those in the “gatekeeper as recommendation source” condition and the control condition. Those in the “gatekeeper as recommendation source” condition will have more favorable perceptions than those in the control condition.

Dual-Process Frameworks

In addition to the discussion of prior research on the effects of customization and recommendation source, dual-process theories of social psychology also serve as relevant frameworks to strengthen the conceptual rationale for this thesis and derive hypotheses for the independent variables. Most dual-process models explain the persuasion process by identifying the likelihood of the recipient to elaborate cognitively or think carefully about a message. Depending on that likelihood, dual-process frameworks propose two distinct routes that may be taken in order for persuasion to occur: central/systematic and peripheral/heuristic (for a review of dual-process theories, see Chaiken & Trope, 1999). Two particular models have been commonly employed and are most applicable to this thesis: the Elaboration Likelihood Model (ELM; Petty & Cacioppo, 1986) and the Heuristic Systematic Model (HSM; Chaiken, Liberman, & Eagly, 1989).

The basic distinction between the two routes to persuasion is that the central/systematic route requires cognitive elaboration on the part of the recipient, and the peripheral route does not. In the central route, the recipient concentrates on the message and draws on prior knowledge and experience to evaluate the new information. In the peripheral/heuristic route, dual-process models assume a recipient's attitude can be influenced by a persuasive message even when he or she is not actively processing the information in the message—a simple context cue can trigger a short-term change in attitude (Chaiken et al., 1989; Petty & Cacioppo, 1986).

Further, dual-process models propose that when people are motivated and able to process a message, they are more likely to be active processors of information, considering messages carefully and making adjustments in their attitudes according to the arguments presented in the message. Peripheral cues are less likely to impact the recipient's attitude in such situations (Chaiken et al., 1989; Petty & Cacioppo, 1986). When the recipient is less motivated to process the message, he or she is less likely to devote cognitive effort to the message and its arguments. In this situation, peripheral cues are more likely to attract the recipient's attention and affect his or her evaluations of the message (Petty, Priester, & Briñol, 2002a).

Customization.

Certain conditions tend to motivate people to process information more actively, such as when they believe the message to be personally relevant and involving (Petty & Cacioppo, 1986; Petty et al., 2002a). Research on the effectiveness of customized messages in health communication has shown that customization increases perceptions of personal relevance (Kreuter & Wray, 2003; Oenema et al., 2005). Further, Kreuter and Wray (2003) used the thought-listing technique developed by Cacioppo and Petty (1981) to help demonstrate that customized messages stimulate active processing (i.e., elaboration) of the information presented. Participants exposed to customized messages generated more related thoughts than those exposed to generic messages, providing an indication that the relevance of the message led them to process the information centrally/systematically (Kreuter & Wray, 2003).

Kalyanaraman and Sundar (2006) contributed to our understanding of how and why customization can affect attitudes by examining the theoretical mechanisms that inform the relationship. They measured several possible mediators in order to identify the process by which customization may increase elaboration and lead to positive attitudes. Among the variables examined were perceived relevance, involvement, interactivity, and novelty. Although customization led to an increase in all four and generated more positive attitudes toward the web portal, the increase in perceived relevance and involvement are of particular interest in the framework of the dual-process theories, which make predictions about their influence on attitude. By identifying these variables as mediators, the researchers have helped explain the relationship between customization and attitude in terms of the ELM. They provided future researchers with a method for empirically examining elaboration in the context of customization.

In summary, it appears that customization can serve as an argument in the persuasion process by influencing people to perceive information as more personally relevant and involving. Therefore it may be the case that by increasing the personal relevance of the message, customization can cause people to consider the information more carefully and process it centrally/systematically.

Recommendation Source.

An examination of the way a recommendation source functions within the dual-process frameworks, however, indicates that it seems to be acting as heuristic or cue.

Research indicates that people tend to devote fewer cognitive resources to considering and evaluating messages that are less relevant to them (Chaiken et al., 1989; Petty & Cacioppo, 1986). Instead, they rely on heuristics or cues, which serve as mental shortcuts for evaluating information in situations where the outcome is perceived to be of little consequence to the individual (Chaiken, 1980; Petty et al., 2002a).

When encountering a generic or non-customized message, therefore, it is more likely that people will rely on cues such as recommendations to inform their evaluations. The dual-process models propose that when the personal relevance of the content is questionable the recipient is less motivated to process the message carefully (Chaiken et al., 1989; Petty & Cacioppo, 1986). It is more likely, then, that when people are exposed to a generic message they will be influenced by heuristics related to source of the message when making judgments about it (Petty & Cacioppo, 1986).

Sundar and Nass (2001), for example, presented participants with a generic selection of articles and manipulated the source that had selected/recommended the articles. Participants evaluated the articles differently on measures of quality, liking, and representativeness. Because the article text was held constant across conditions, the researchers could conclude that it was readers' perceptions of the source that contributed to the variance in their evaluations of the message. They indicated that the psychological appeal of the audience as a source might have been the result of participants relying on a "bandwagon heuristic" (i.e., other people like it so it must be good) when evaluating the articles presented. They compared this rule of thumb with another possible heuristic for evaluating news articles, the "expert heuristic" (i.e., the experts recommend it so it must be good).

Further, on-screen information related to the relative value of news articles according to the gatekeepers or audience, such as was manipulated in Sundar et al. (2005) and Knobloch-Westerwich et al. (2005), would be more likely to guide readers' attention toward that information, activate certain heuristics related to the recommendation source, and influence attitudes, in a situation in which the content was generic.

On the other hand, several studies from the marketing literature have also investigated the processes by which cues such as recommendations can affect user attitudes and behaviors online. In an early study of interactive shopping, researchers identified the importance of the "screening" process in consumer decision-making when faced with an overwhelming number of options (Alba, Lynch, Weitz, Janiszewski, Lutz, Sawyer, & Wood, 1997). Interactive agents, they argued, could be used to sort and recommend items to the consumer based on his or her preferences or browsing and purchase behavior. That set of items could then be examined more carefully and the best option among them could be chosen.

Essentially, they identified the value of such recommendations as more of a guide in the initial screening process than an aid in the judgment of the content itself. The key to making such a tool most useful to consumers, Alba et al. (1997) posited, would be to find the information that would be most predictive of the consumer's satisfaction and consumption, and to sort items and deliver recommendations based on that information. Feedback and recommendations from other users are one method of predicting consumer satisfaction. Though the study emphasized the role of recommendations in the process of guiding attention toward relevant items, others built on the research to investigate the influence of recommendations in user evaluations of specific items.

A subsequent study examined the influence of item-specific information on user attitude and behavior in regard to online recommendations (Cooke, Sujan, Sujan, & Weitz, 2002). The researchers defined item-specific information as additional information about a new or unfamiliar product, sometimes in the form of feedback from critics or readers, to help consumers evaluate the product. They found that in different contexts, positive item-specific information had different effects on consumer attitude toward the product.

Cooke et al. (2002) indicated that in situations in which consumers are able to make a distinction between the unfamiliar item and familiar alternatives, they engage in contrast. Contrast is likely to occur, for example, when the consumer has sufficient cognitive resources to spend on evaluating the new item carefully or when the consumer has the option of comparing the item easily with alternatives. In situations in which consumers are not able to make a distinction between the unfamiliar item and familiar alternatives, they engage in assimilation. Assimilation is likely to occur, for example, when the consumer does not have sufficient resources for evaluating the item or when familiar alternatives are not readily available for comparison. The implication of these findings for this thesis is that it is possible that readers of generic news articles who have sufficient cognitive resources to do so will be able to evaluate the article more carefully, bring to mind other more familiar news articles for comparison, and subsequently view the article more negatively.

In summary, dual-process frameworks predict that heuristics are generally considered to be most effective in situations of low involvement. In terms of this thesis, therefore, is expected that the recommendation source will act as a stronger influence on attitudes in the non-customized condition, a situation of lower relevance and involvement than the customized condition, because the reader will be looking for additional information to guide his or her evaluation of the content presented. As is indicated in the marketing literature, however, there are certain situations in which positive, item-specific information actually results in the opposite effect—that when readers have sufficient cognitive resources to evaluate the item and its recommendation, they will compare it to alternatives, engage in contrast, and view the item more negatively.

Based on the findings of previous research regarding the effects of customization and recommendation source, and on the dual-process models of information processing, this thesis sought to make a unique contribution to the literature by making two predictions concerning the interaction effects between the two independent variables on attitude toward the website and evaluation of the content:

> **H6:** The effects of "recommendation source" cues will have a stronger influence on attitude toward the website for participants in the non-customized condition than for those in the customized condition.
>
> **H7:** The effects of "recommendation source" cues will have a stronger influence on perceptions of the credibility, quality, and representativeness of the news articles for participants in the non-customized condition than for those in the customized condition.

CHAPTER 3: METHOD

Design Overview

In order to test the hypotheses, a 3 (gatekeeper, audience, control recommendations) x 2 (customized, non-customized) between-subjects factorial experiment (*N*=106) was employed. Participants were randomly assigned to one of six treatment conditions. Each participant was exposed to a news website created specifically for the study. Design and layout of the website were identical across the six conditions except for the manipulations of the two independent variables. Participants were exposed to a news website that was a) either customized according to their news preferences (based on responses to a prequestionnaire) or not customized; and b) either included on-screen cues about the "source" recommending the content – the news editors or the news audience – or did not include on-screen recommendations or cues about the value of the articles to news editors or other readers.

Participants

A convenience sample of 106 students in introductory classes in the School of Journalism and Mass Communication at UNC-Chapel Hill was recruited for the study. Students were compensated for their participation with class credit. The sample was 69.8% female and 30.2% male, with an average age of 19.8 years. Approximately equal numbers of participants were assigned to each of the six conditions. When asked whether they use their own customized website for news, 24.5% of participants reported that they do so, and 75.5% reported that they do not.

Stimulus Materials

A news website was created specifically for use in the experiment. The website featured a homepage with a heading and subheading, sidebar categories, and a news article. Each article featured a headline, byline, date line, and descriptive blurb on the homepage, and a "read more" link that directed the user to a full-page version of the article (see Appendix A for examples of stimulus materials).

Recent articles were selected from mainstream news organizations using the Lexis Nexis database search and stripped of identifying information such as the name of the media organization and journalist. That information was replaced with the media organization name "Global News Service" and the journalist name "Paul Anderson." Great care was taken to ensure that the articles were edited to the same general length, between 950 and 1,050 words.

Following the procedure used by Kalyanaraman and Sundar (2006) for customizing stimulus materials, a prequestionnaire was used at the time of participant recruitment to measure respondents' levels of interest on various news topics (see Appendix B for the full prequestionnaire). Participants were presented with a list of 16 news topics (e.g., world news, national news, business and finance, health and science, political news, professional sports, and travel) and asked to indicate, on a scale of 1 to 7 with higher scores indicating greater interest, their level of interest in each topic. Participants were also asked to list three topics or stories they were currently following in the news, as well as their favorite sports teams, travel destinations, entertainers, and hobbies. Participants' names and demographic information were collected in the prequestionnaire so that the news websites could be customized according to their preferences and presented to them at the time of the experimental session.

The article presented to participants on the news website was either customized according to the individual’s preferences or not. As an experimental strategy, it was important to maximize the variance between the customized and non-customized conditions, and so the researcher took great care in selecting a stimulus article for each individual that was either of the most or the least interest to the participant based on his or her responses on the prequestionnaire. The procedure for selecting a stimulus article involved a) identifying a news category to present to each individual based on his or her ratings of the 16 news topics and b) selecting an article within that category that matched the individual’s responses regarding the stories he or she was currently following in the news.

For participants assigned to the customized condition, the researcher first chose the news topic, as indicated on the prequestionnaire, which was of greatest interest to each individual. In the customization condition, the mean score for level of interest in the chosen topic was 6.33, with a standard deviation of 1.04. Second, based on the news stories each participant indicated he or she was interested in following, the researcher used the Lexis Nexis database to select a recent article published by a mainstream news organization that matched each individual’s preferences and interests. For participants assigned to the non-customized condition, the researcher first chose the news topic that was of the least interest to each individual. In the non-customized condition, the mean score for level of interest in the chosen topic was 2.12, with a standard deviation of 1.01.

Second, the researcher followed the same procedure with the Lexis Nexis database to identify an article that did not match any of the individual's stated preferences.

In the customized condition, for example, one participant indicated that he was highly interested in news about professional sports (self-reporting his interest as "7" on a scale of 1-7), that baseball was his favorite sport, and that the Philadelphia Phillies were his favorite team. The researcher selected an article to present to this participant about the Phillies' star player that included commentary from experts and predictions regarding the player's performance in the upcoming season.

In the non-customized condition, on the other hand, one participant indicated that she was very uninterested in business and financial news (self-reporting her interest as "1" on a scale of 1-7), and did not indicate in any of the free response sections that she had an interest in following the stock market, economic news, the steel industry, or any other topic related to business or finance. The researcher selected an article to present to this participant concerning the merger of two steel companies and its effect on the stock market.

Just as it was important to ensure that the two customization conditions were at maximum contrast, it was also critical to ensure that the on-screen cues related to the recommendation source manipulation were strong enough that they maximized variance between the gatekeeper, audience, and control recommendation conditions. That is, that participants would notice the recommendation on the page, be able to identify easily the type of recommendation they were exposed to, and use that information to inform their responses to the questionnaire. Therefore, several "recommendation cues" were displayed on-screen along with each article in order to emphasize the difference between the “sources.” It was equally important that the on-screen cues used as the gatekeeper recommendation and the audience recommendation represented equivalent values that participants would equate. For this reason, three cues were chosen that related to equivalent behaviors among the news editors and the news audience: a star-system rating representing the overall value of the article, a number representing the amount of commentary on the topic, and a number representing the amount of publishing or reading that had occurred on the topic.

For the gatekeeper recommendation source condition, the cues represented the value the article had according to news editors. The cue related to the overall value of the news article was a “News Editors’ Rating” followed by three stars. The cues related to the publishing behavior of the news organization on that particular article and topic were the “Number of Related Articles,” listed as 87, and the “Number of Related Editorials,” listed as 12. For the audience recommendation condition, the cues represented the value the article had according to other readers. The equivalent cue related to the overall value of the news article was a “Readers’ Rating” followed by three stars. The cues related to the browsing behavior of the news audience on that particular article and topic were the “Number of Times Viewed,” listed as 87, and the “Number of User Comments,” listed as 12.

The rationale for the equivalence of these cues is that news organizations give cues about the importance of a news topic by devoting their resources to it—publishing articles about it and highlighting it for debate on the editorial page. Likewise, readers give cues about the importance a news topic has for them by devoting their time and attention to reading it and making the effort to discuss it with others by commenting on it in a reader forum. The star rating system served as a way to emphasize the fact that these recommendation cues represented the overall value of the article according to either news editors or other readers.

The “recommendation source” manipulation was as follows: In the “gatekeeper as recommendation source” condition, three cues were associated with the article and presented on the page. Underneath the blurb was listed: “News Editors’ Rating,” “Number of Related Articles,” and “Number of Related Editorials.” The numerical values for these were held constant (e.g., every article included the same information: It was rated as ***, had “87” listed as the number of related articles, and had “12” listed as the number related editorials. There were no links to the related items; rather, the numbers listed were static). In the “audience as recommendation source” condition, three cues were associated with each article and presented on the page. To ensure that the three cues activated values equivalent to those in the gatekeeper condition, the cues chosen were meant to reflect the same behaviors related to the article in question. Underneath the blurb was listed: “Readers’ Rating,” “Number of Times Viewed,” and “Number of User Comments.” Again, the numerical values for these were held constant (e.g., every article included the same information: It was rated as ***, had “87” listed as the number of times viewed, and had “12” listed as the number reader comments. There were no links to the related items; rather, the numbers listed were static). The third recommendation source condition was a control condition in which no cues were listed beneath the blurb.

Participants were exposed to the recommendation source manipulation in the following ways. First, each participant began the study by reading instructions on a computer screen and then linking from that instruction page to the stimulus website (see

Appendix A for examples of stimulus materials). On the instruction page, the recommendation source condition to which the participant had been randomly assigned was mentioned within the instructions as follows, “You will be asked to read an article from a news website that includes [reader, editor] ratings.” (See Appendix A for full text of instructions.) As discussed above, the second location where the participant encountered the recommendation cues was alongside the introductory blurb for the article on the homepage. Finally, the recommendation cues were included beneath the article on the full-article page in order to emphasize the recommendation source manipulation. In order to ensure that participants saw the recommendation a third time (i.e., on the full-article page), they were required to click on a link at the bottom of the page, below the recommendation, in order to complete the study (see Appendix A for examples of stimulus materials).

In all, 106 unique websites were created for the study, with participants being presented with either customized or non-customized articles according to their responses to the prequestionnaire. The articles were presented in a news website template that included the source cue manipulation: gatekeeper recommendations, audience recommendations, or no recommendations related to the article.

Dependent Measures

The primary dependent measure of attitude toward the website was assessed by asking participants to respond to eleven 9-point Likert-type items adapted from Kalyanaraman and Sundar (2006). Participants were asked to indicate how well each of the following adjectives described the website: appealing, useful, positive, good, favorable, attractive, exciting, pleasant, likeable, high quality, and interesting. Items were anchored between “very poorly” and “very well.” (See Appendix C, Part B.) Three other well-established measures were used to assess participants’ perceptions of the credibility (Metzger et al., 2003), quality (Sundar & Nass, 2001), and representativeness (Sundar, 1998, 1999) of the content displayed on the website. Participants were presented with adjectives and asked to indicate how well each of the adjectives described the website. Six measures assessed credibility: trustworthy, believable, accurate, credible, reliable, and high quality (see Appendix C, Part C, questions1–6). Five measures assessed quality: clear, coherent, comprehensive, concise, and well-written (see Appendix C, Part B). Four measures assessed representativeness: disturbing, relevant, timely, and important (see Appendix C, Part B). Items were anchored on 9-point Likert-type scales between “very poorly” and “very well.”

Manipulation Check. Four items were used to check the efficiency of the manipulation. To check the customization manipulation, according to the measures used by Kalyanaraman and Sundar (2006), participants were asked whether the website targeted them as a unique individual and whether it was customized according to their interests (see Appendix C, Part C, questions 11 and 14). To check the recommendation manipulation, according to measures adapted from Sundar and Nass (2001), participants were asked whether the website featured ratings by other readers and whether it featured ratings by news editors (see Appendix C, Part C, questions 21 and 25).

Mediating Variables. Because any one variable can serve in different roles in different persuasion situations it is important to understand the process by which a variable has influenced a person’s attitude (Petty et al., 2002a). This study used measures adapted from Kalyanaraman and Sundar (2006) for perceived relevance, involvement, interactivity, and novelty, which were expected to mediate the relationship between customization and attitude. Six items measured perceived relevance (e.g., The website did not have anything to do with my life; see Appendix C, Part C, questions 15–20, for all items measuring perceived relevance), four measured perceived novelty (e.g., The website was typical of most websites you see today; see Appendix C, Part C, questions 22, 23, 24, and 26, for all items measuring perceived novelty), and four measured perceived involvement (e.g., I got emotionally involved in this website; see Appendix C, Part C, questions 27–30, for all items measuring perceived involvement). Adapted from Sundar, Kalyanaraman, and Brown (2003), two items measured perceived interactivity: "The content of the website was interactive" and "The structure of the website was interactive." Items were presented as statements, and respondents were asked to indicate their level of agreement on 9-point Likert scales anchored with "strongly agree" and "strongly disagree."

Memory Measures. Subsequent to reading the news article, participants were asked to recall as many facts as they could about the article in a free-response section. The number of facts recalled is expected to provide some insight into the amount of attention the participant devoted to the article. The researcher coded the memory measure by counting the number of unique facts the participant stated in the recall section. For example, "This article was about the New England Patriots" would be counted as one fact; "This article was about the New England Patriots and they won a game last week" would be counted as two facts. Additionally, if the participant recorded the facts as bullet points or sentence fragments, those were also counted as separate facts. For example, "New England Patriots" would be counted as one fact; "New England Patriots" and "Just won a game" would be counted as two facts. The total number of facts was calculated for each participant, and this number was used as a continuous variable to indicate the amount of attention the participant devoted to reading the article.

Control Measures. Participants were asked to report the amount of time they spend daily getting news online, from print publications, from television, and from radio, and how much time they spend browsing the web in general. They were also asked to report whether they use a customized website for news. They were asked to report demographic information such as gender and age (see Appendix C, Part E).

Procedure

In order to obtain participants' news interests and preferences, a confederate administered a "news interests" survey to students in undergraduate communication courses (see Appendix D for the script used to administer the prequestionnaire). Students did not know that the prequestionnaire was connected to the study but were told it was part of a different research project. Participants were then recruited from these introductory courses to take part in the study. In order to conceal the association between the prequestionnaire and the experiment, the experimental sessions took place between one and three weeks after participants completed the prequestionnaire.

The experimental sessions took place in a computer lab in the School of Journalism and Mass Communication at the University of North Carolina at Chapel Hill. Each session included between two and six participants. At the experimental session, all participants were greeted by the researcher and asked to write their names on a sign-in roster. The researcher then asked them to find the computer terminal labeled with their name and to be seated at it. When all participants had arrived, the researcher described the study, explained the importance of obtaining informed consent, and reminded the students of their rights as participants in research. She then asked them to read carefully and sign an informed consent form before participating in the experiment (see Appendix E for the consent form). Participants were given two copies of the consent form; they were instructed to sign one copy and place it in the envelope if they wished to participate in the research session and to keep the other copy for their records. The researcher gave participants the opportunity to ask questions regarding the study or the procedure (see Appendix F for a full script of the researcher's instructions during the experimental session).

Next, the researcher described for participants the basic purpose of the study and gave them an overview of the tasks they would be asked to participate in during the experimental session. The researcher asked participants to read an introductory instruction page on the open web browser at their computer terminal. The introductory page included the basic procedure for the study (see Appendix A for examples of the introductory instructions, stimulus websites, and end page). At the bottom of the instruction page, a "click here" link directed participants to the news website. Participants were presented with a news website homepage that included the headline, byline, dateline, and first two paragraphs of a news article in one of the six experimental conditions. At the end of the two paragraphs was a "read more" link that directed participants to a full-page version of the news article. At the bottom of the full-page article, a link that read "Click here when you are finished reading" directed participants to an end page. The end page instructed participants to raise their hand so that the researcher could provide them with a pencil-and-paper questionnaire. It also informed them that when they had completed the questionnaire they should place it in the envelope at their workstation before leaving the session.

Participants were asked to go through the website and read the article as they would under normal circumstances. Participants took an average of approximately 8 minutes to read the approximately 1,000-word article; there was no significant variation between experimental conditions in the time participants spent reading the article. Participants completed the paper-and-pencil questionnaire including the memory task; perceptions of the credibility, quality, and representativeness of the content (Metzger et al., 2003; Sundar & Nass, 2001; Sundar, 1998, 1999); perceptions of the appeal of the website; and perceptions of the relevance, involvement, interactivity, and novelty (Kalyanaraman & Sundar, 2006). The questionnaire also measured control variables: demographic and media-use information based on variables that previous research and communication theory identify as impacting news story selection and website evaluation (Johnson & Kaye, 1998, 2004; see Appendix C, Part E). After completing the questionnaire and placing it in the envelope provided at each workstation, participants returned the envelope to the researcher and were thanked for their time and provided with a debriefing form (Appendix G). Each experimental session lasted no longer than one hour.

Index Construction and Preparation for Data Analysis

Following the measures used by Kalyanaraman and Sundar (2006), two items were intended to serve as a check of the efficacy of the customization manipulation: “The content and information featured on the website targeted me as a unique individual” and “The website was ‘personalized’ according to my interests.” These two items were combined to form a single index labeled “perceived customization.” This measure had a high degree of reliability (Pearson’s $r = .76$, $p < .01$).

The 11 items measuring attitude toward the website were analyzed for reliability and demonstrated unidimensionality and high internal consistency (Cronbach’s $\alpha = .95$). The six items measuring credibility, five items measuring quality, and four items measuring representativeness were analyzed by index for reliability. The credibility and quality indexes exhibited high degrees of internal consistency (credibility, Cronbach’s $\alpha = .95$; quality, Cronbach’s $\alpha = .90$), while the reliability of the representativeness index was somewhat lower (Cronbach’s $\alpha = .67$).

The indexes measuring the potential mediating variables—perceived interactivity, perceived relevance, perceived novelty, and perceived involvement—were also analyzed for internal consistency. The two items measuring perceived interactivity exhibited a high degree of reliability (Pearsons $r = .83$, $p < .01$), as did the six items measuring perceived relevance (Cronbach’s $\alpha = .91$), the four items measuring perceived novelty (Cronbach’s $\alpha = .90$), and the four items measuring perceived involvement (Cronbach’s $\alpha = .92$).

CHAPTER 4: RESULTS

Data were analyzed using SPSS 11.0 statistical software and employing analysis of variance (ANOVA), analysis of covariance (ANCOVA), and regression analysis.

Manipulation Checks

A series of two-way between-subjects ANOVAs was conducted in order to check the effectiveness of the customization and recommendation-source manipulations. Results indicated statistically significant main effects for each of the two manipulations and no statistically significant interaction effects on the manipulation-check items.

First, a two-way ANOVA revealed a statistically significant main effect for the customization manipulation [$F(1, 100)=26.35$, $p < .001$, partial eta squared=0.21]. Specifically, the mean scores for participants in the customized condition (M=4.37, SD=2.22) were significantly higher on the “perceived customization” index than those of participants in the non-customized condition (M=2.46, SD=1.51). The analysis also revealed that there was no statistically significant main effect for recommendation source on perceived customization [$F(2, 100)=0.71$, $p = .49$] and no significant interaction effect of the two independent variables on perceived customization [$F(2, 100)=0.73$, $p = .48$].

Second, a two-way ANOVA revealed a statistically significant main effect for the reader recommendation manipulation [$F(1, 100)=94.47$, $p < .001$, partial eta squared=0.65]. Post-hoc comparisons using the Tukey HSD test indicated that the mean scores for participants in the reader recommendation source condition (M=8.89, SD=0.40) were significantly higher on the reader-rating item (“The website included reader ratings of articles”) than those of participants in the editor recommendation source condition (*M*=6.23, *SD*=3.08) or the control recommendation source condition (*M*=2.31, *SD*=1.55). The analysis also revealed that there was no statistically significant main effect for customization on the reader-rating item [*F*(1, 100)=0.19, $p = .66$] and no significant interaction effect of the two independent variables on the reader-rating item [*F*(2, 100)=0.02, $p = .98$].

Third, a two way ANOVA revealed a statistically significant main effect for the editor recommendation manipulation [*F*(2, 99)=33.24, $p < .001$, partial eta squared=0.40]. Post-hoc comparisons using the Tukey HSD test indicated that the mean scores for participants in the editor recommendation source condition (*M*=6.91, *SD*=2.78) were significantly higher on the editor-rating item (“The website included editor ratings of articles”) than those of participants in the reader recommendation source condition (*M*=3.88, *SD*=2.59) or the control recommendation source condition (*M*=2.42, *SD*=1.59). The analysis also revealed that there was no statistically significant main effect for customization on the editor-rating item [*F*(1, 99)=1.40, $p = .24$] and no significant interaction effect of the two independent variables on the editor-rating item [*F*(2, 99)=1.26, $p = .29$].

Attitude Toward the Article: Perceived Credibility, Quality, and Representativeness

A series of two-way between-subjects ANOVAs was conducted in order to examine the main and interaction effects of the independent variables on participants’ perceptions of the credibility, quality, and representativeness of the articles presented on the website. Results revealed a main effect for customization on perceived quality of content, but no other main or interaction effects on perceived credibility or representativeness.

First, a two-way ANOVA was conducted with the two independent variables, customization condition and recommendation source condition, entered as fixed factors and with the "perceived credibility" index entered as the dependent variable. The analysis revealed no statistically significant main effects for customization [$F(1, 100)=2.48$, $p = .12$] or recommendation source [$F(2, 100)=0.49$, $p = .62$] on perceived credibility of the information presented on the website, and no statistically significant interaction effect [$F(2, 100)=0.03$, $p = .97$].

Second, a two-way ANOVA was conducted with the two independent variables entered as fixed factors and with the "perceived quality" index entered as the dependent variable. The analysis revealed a statistically significant main effect for customization [$F(1, 99)=8.92$, $p < .005$, partial eta squared=.08]. On average, participants in the customization condition found the articles to be of higher quality (M=6.37, SD=1.30) than those in the non-customized condition (M=5.92, SD=1.58). The analysis also indicated that there was no statistically significant main effect for recommendation source on perceived quality [$F(2, 99)=1.30$, $p = .28$], and no statistically significant interaction effect [$F(2, 99)=0.06$, $p = .94$].

Third, a two-way ANOVA was conducted with the two independent variables entered as fixed factors and with the "perceived representativeness" index entered as the dependent variable. The analysis revealed no statistically significant main effects for customization [$F(1, 100)=1.09$, $p = .30$] or recommendation source [$F(2, 100)=0.14$, $p =$

.87] on the perceived representativeness of the articles, and no statistically significant interaction effect [*F*(2, 100)=0.83, *p* = .44].

These results demonstrate partial support for H3, which predicted that customization would affect perceptions of the content on the website. They also indicate that there is no support for H5, which predicted that recommendation source would affect perceptions of the content on the website. Further, because there was no interaction effect, the results provide no support for H7.

Attitude Toward The Website

A two-way between-subjects ANOVA was conducted in order to examine the main and interaction effects of the independent variables on participants' attitude toward the website. The analysis revealed a significant main effect for customization [*F*(1, 98)=11.73, *p* < .005, partial eta squared=0.11). Participants in the customization condition (*M*=5.57, *SD*=1.49) exhibited a more positive attitude toward the website than those in the non-customized condition (*M*=4.58, *SD*=1.40). The analysis also revealed that there was no statistically significant main effect for recommendation source on attitude toward the website [*F*(2, 98)=0.73, *p* = .48], nor was there a statistically significant interaction effect [*F*(2, 98)=0.21, *p* = .81].

The results show support for H1, the prediction that customization would positively affect attitude toward the website. They also show that there was no support for H4, which predicted that recommendation source would also positively affect attitude toward the website. Because no interaction effect was found, the results indicate that there is no support for H6.

Mediating Variables

In order to explore the role of the potential mediating variables, a series of two-way between-subjects ANOVAs was performed with the customization condition and recommendation-source condition entered as independent variables and perceived relevance, perceived novelty, perceived interactivity, and perceived involvement as separately entered dependent variables.

The analysis revealed a statistically significant main effect for customization on perceived relevance [$F(1, 100)=42.23$, $p < .001$, partial eta squared=.30]. Specifically, participants in the customized condition ($M=6.43$, $SD=1.88$) exhibited mean scores indicating that they found the website to be more personally relevant than did participants in the non-customized condition ($M=4.13$, $SD=1.69$). The analysis revealed no statistically significant effect for recommendation source [$F(2, 100)=0.37$, $p = .69$] nor any interaction effect on perceived relevance [$F(2, 100)=0.09$, $p = .92$].

The analysis revealed that there was no statistically significant main effect for customization on perceived novelty [$F(1, 100)=0.66$, $p = .42$] nor any interaction effect on perceived novelty [$F(2, 100)=0.69$, $p = .50$]. The analysis did show a statistically significant main effect for recommendation source [$F(2, 100)=5.79$, $p < .005$, partial eta squared=.10] on perceived novelty. A post-hoc analysis using Tukey HSD indicated that participants in the control condition for recommendation source perceived the website to be more novel ($M=6.06$, $SD=1.92$) than did participants in either the editor ($M=4.87$, $SD=1.53$) or reader recommendation conditions ($M=4.70$, $SD=1.95$).

The analysis showed a statistically significant main effect for customization on perceived interactivity [$F(1, 100)=23.12$, $p < .05$, partial eta squared=.06]. Mean scores for participants in the customized condition (*M*=4.02, *SD*=1.83) indicated they found the website to be more interactive than did participants in the non-customized condition (*M*=3.08, *SD*=1.86). Results showed no statistically significant effect for recommendation source [*F*(2, 100)=3.72, $p = .33$] nor an interaction effect *F*(2, 100)=4.71, $p = .25$].

The analysis showed a statistically significant main effect for customization on perceived involvement [*F*(1, 100)=21.86, $p < .001$, partial eta squared=.18]. Participants in the customized condition (*M*=4.14, *SD*=2.42) exhibited higher mean scores than did participants in the non-customized condition (*M*=2.32, *SD*=1.30), indicating that they found the website to be more involving. The analysis did not show a statistically significant effect for recommendation source [*F*(2, 100)=0.01, $p = .99$] or an interaction effect *F*(2, 100)=0.29, $p = .75$]. [See Table 1 for a comparison of means and *F* values for these four variables.]

Following these analyses, in order to help determine whether the potential mediating variables influenced attitude toward the portal, a multiple regression was performed. The analysis regressed the three variables that were positively affected by customization—perceived relevance, perceived interactivity, and perceived involvement—on attitude toward the portal. The overall regression was significant [*F*(3, 100)=18.03, $p = .000$, R^2=.35], and two of the predictor variables—perceived relevance (ß=.34, *t*=2.81) and perceived interactivity (ß=.25, *t*=2.74)—were also significantly associated ($p < .01$) with the dependent variable.

Finally, the two mediating variables were entered as covariates along with the memory measure in an ANCOVA to explore whether they mediated the relationship between customization and attitude toward the website. The ANCOVA was significant overall [$F(4, 99)=13.25$, $p < .001$, $R^2 = .35$], and the main effect for customization was no longer significant [$F(1, 99)=.01$, $p = .92$] ($p < .01$ for interactivity, $p < .005$ for relevance). Results showed no statistically significant effect for memory [$F(1, 99)=1.05$, $p=.31$] on attitude toward the website. These findings indicate that perceived relevance and perceived interactivity mediated the relationship between customization and attitude toward the website in this study. This demonstrates partial support for H2.

Cognitive Measures

A two-way ANOVA was conducted with the two independent variables entered as fixed factors and with the memory measure—the total number of facts recalled after reading the article—entered as the dependent variable. The analysis revealed a statistically significant main effect for customization [$F(1, 100)=28.54$, $p < .001$, partial eta squared=.22] on memory. On average, participants in the customization condition were able to recall more facts from the article (*M*=7.64, *SD*=2.38) than those in the non-customized condition (*M*=5.29, *SD*=2.06). The analysis also indicated that there was no statistically significant main effect for recommendation source on memory [$F(2, 100)=0.08$, $p = .92$], and no statistically significant interaction effect [$F(2, 100)=1.19$, $p = .31$].

In addition, a two-way ANOVA was conducted with the two independent variables entered as fixed factors and with the attention item ("I paid a great deal of attention when going through the website") entered as the dependent variable. No significant main effects were found for customization [$F(1, 100)=0.18$, $p = .67$] or recommendation source [*F*(2, 100)=1.62, *p* = .20], and there was no statistically significant interaction effect [*F*(2, 100)=2.23, *p* = .11].

Behavioral Intent

A two-way ANOVA was conducted in order to determine whether exposure to a customized website affected participants' intent to use a customized website for news in the future. Results showed a marginally significant main effect for customization on likelihood to use such a website [*F*(1, 73)=3.21, *p* = .08].

Control Variables

To determine whether any of the control variables had a significant effect on the results, further analyses were conducted with the control variables, including demographics, such as gender, and media use, such as hours spent daily browsing the web. None of the analyses was found to alter the pattern of findings reported above.

Summary of Findings

In summary, the results provide strong support for H1, which predicted that customization would lead to more positive attitudes toward the website. In addition, the findings provide partial support for H2, which predicted that four mediating variables identified in previous customization research (Kalyanaraman & Sundar, 2006) would mediate the relationship between customization and attitude toward the website. That is, that customization would lead to higher levels of perceived relevance, novelty, interactivity, and involvement, which in turn would lead to more positive attitudes toward the website. Results revealed that customization led to higher levels of perceived relevance, interactivity, and involvement (but not novelty) in this study. Of those variables, results showed that two—perceived relevance and perceived interactivity—

affected attitude toward the website. Therefore, of the four variables predicted to serve as mediators, two were found to mediate the relationship between customization and attitude in this study: perceived relevance and interactivity.

The findings did not provide support for H4, which predicted that the presence of an on-screen recommendation from news editors or other readers would positively affect attitude toward the website. No significant differences were found between the three recommendation source conditions. Further, the results demonstrate that H6, the prediction of an interaction effect of the two independent variables on attitude toward the website, is not supported.

In terms of participants' attitudes toward the content of the website rather than the website itself, results showed partial support for H3, which predicted that customization would have a positive effect on participants' judgments of the credibility, quality, and representativeness of the articles presented on the website. Findings demonstrated that customization had an effect on perceived quality, but not on perceived credibility or representativeness. The prediction, H5, that recommendation source would have a positive effect on perceived credibility, quality, and representativeness was not supported. Further, there was no support for H7, the prediction of an interaction effect on perceptions of the credibility, quality, and representativeness of the articles.

CHAPTER 5: DISCUSSION

Web-based customization has rapidly emerged as perhaps the most popular and effective tool for quickly guiding readers toward the most personally relevant and important content. Until recently, little research had investigated the psychological effects of customization on reader attitude toward a news website. What research there was, though, supported scholars' and industry leaders' longstanding beliefs that customization would have a great positive impact on readers' perceptions of both the message (e.g., the news article) and the messenger (e.g., the website).

Previous research found that customization resulted in increased memory for information (Oenema et al., 2005), as well as greater perceived relevance, novelty, interactivity, and involvement, which in turn resulted in more positive attitude toward a web portal (Kalyanaraman & Sundar, 2006). These studies used the theoretical framework of dual-process theories of information processing to demonstrate that customization was likely leading to the central/systematic processing of information.

This thesis sought to build on such research by extending our knowledge of the effects of web-based customization from web portals (Kalyanaraman & Sundar, 2006) and computer-based applications (Oenema et al., 2005) to examine whether the same effects would be found in the context of news websites. It sought to strengthen our understanding of the mechanisms underlying customization's influence by examining potential mediators between customization and attitude. Further, it sought to explore customization's effects on cognition (memory and attention) as well as affect (attitude).

Further, it examined the interplay of customization with another independent variable, recommendations, in order to investigate the power of its influence.

As web technology has advanced and provided web users with more information to use in selecting and evaluating content, users are increasingly exposed to a combination of cues to help guide their attention and influence their opinions about the content they encounter online. Previous research had indicated that readers discriminate between recommendations from different sources, and that these differences affect their perceptions of the quality of the content as well as their liking for it (Sundar & Nass, 2001). The underlying reasons for these differences in perception, however, had not been sufficiently examined from a theoretical perspective. This thesis sought to contribute to our understanding of the influence of recommendation source by examining its role in persuasion by using the framework of dual-process models of information processing. In order to explore the process by which recommendations affect reader attitudes, this thesis examined their influence in concert with customization. This factorial design allowed an examination of the effects of customization as a predicted argument in the process of persuasion and an examination of the effects of recommendation source as a predicted cue or heuristic for judgment.

Findings from this thesis offer several insights into the functioning of customization and recommendation source that deserve discussion. The first point to emphasize, however, is the effectiveness of the manipulations of the two independent variables. The manipulation-check items showed statistical significance for customization, demonstrating that participants are able to tell from exposure to just a single article whether a website has been customized according to their preferences. This is an important point, given that a) perceptions of customization were subsequently shown to result in significantly more positive attitudes toward the website and b) the strength of customization's influence was shown to be much greater than the effects of recommendation source. That such strong effects were observed after exposure to a single article indicates that individuals are highly responsive to customization, and it underscores the power of that psychological response.

The manipulation-check items also showed statistical significance for recommendation source. This finding demonstrates that participants do notice whether recommendations accompany online news articles and, further, that they are able to discriminate between recommendations from news editors and other readers. It is important to note that the manipulation was effective, especially given the findings that neither the presence of a recommendation nor the type of source offering the recommendation (news editors or other readers) influenced reader attitude toward the website or reader evaluations of the credibility or quality of the content. This indicates that readers devote enough attention to recommendations to remember their presence and their source, but in the context of customization they do not use this information when forming attitudes about the website or the content they encounter on it.

Theoretical Implications

In exploring the relationship between customization and attitude toward a news website, several intervening variables were examined. Two of these were cognitive measures, memory and attention, while the others were attitudinal mediators. First, the finding that customization led to increased memory for information from the article is consistent with previous findings in the health communication literature (Kreuter &

Wray; 2003; Oenema et al., 2005). That participants were better able to recall facts from the article when it was customized to their preferences is an indication that they were processing the information more carefully or “elaborating on the message,” in the language of the ELM (Petty & Cacioppo, 1986). In other words, the dual-process models predict that when a message is more personally relevant, as is the case with customization, the recipient is more likely to consider it carefully, draw on prior knowledge and experience, and be more likely to change his or her attitude based on the arguments in the message. Memory is a cognitive measure that the ELM offers as an indication of a greater depth of information processing. The increase in memory, therefore, could be interpreted as an indication that customization is affecting the process of persuasion (according to dual-process models) by influencing participants to process the information through the central/systematic route.

At the same time, however, results indicated that increased memory for the information did not subsequently affect attitude toward the website. This finding demonstrates that, although memory can serve as an indication that the participant is elaborating or thinking carefully about the topic or content, it does not serve as a mediator between customization and attitude toward the website itself. Another possible explanation for the lack of a relationship between memory and attitude toward the website is that, if participants were reading about a topic in which they were interested and therefore familiar, that wealth of prior knowledge about the topic could have made it easier for them to remember information from the article or recall information on the same topic but from a different article or source outside of the stimulus materials. It seems that, in that instance, memory could be serving as an indicator of familiarity or relevance but not necessarily an indicator of persuasion.

The second cognitive measure examined in this thesis was attention. A self-report item was used to measure attention ("I paid a great deal of attention when going through the website"). This is unlike the memory measure, which involved a recall task that allowed the researcher to test directly participants' memory for information. Results concerning attention indicated that customization did not affect the amount of attention participants reported that they devoted to the website. Dual-process models suggest that attention and motivation to process a message are steps in the process of persuasion (Petty & Cacioppo, 1986). However, this finding indicates that participants either do not realize how closely they are paying attention to the website or that active attention does not necessarily increase the likelihood of persuasion. Perhaps future research on customization could gain greater insight into the relationship between attention, memory, and attitude with the inclusion of a more direct measure of attention, such as a physiological measure.

In terms of the variables that did affect attitude, previous research had identified four variables that mediated the relationship between customization and attitude: perceived relevance, novelty, interactivity, and involvement (Kalyanaraman & Sundar, 2006). In the present study, two of those—perceived relevance and interactivity—emerged as mediators between customization and attitude. That is, customization was shown to increase perceptions of relevance and interactivity, which were shown to elicit a more positive attitudes toward the website. These results lend support to Kalyanaraman and Sundar's (2006) finding that customization is psychologically significant and impacts attitudes through several different mediators. The theoretical implications include that, for the study of customization in different venues (a portal versus a news website), it seems that two mediators, relevance and interactivity, are consistent across venues and that at least two others, novelty and involvement, apply to customization in some but not all contexts.

There was only partial support for the influence of involvement, as customization led to increased perceptions of involvement but involvement did not subsequently lead to more positive perceptions of the website. One possible explanation for this is the high correlation that was found between the variables of relevance and involvement (r=.7). While they are distinct concepts with well-established measures, as Kalyanaraman (2002) notes, ELM researchers have tended to conceptualize involvement in terms of perceived relevance (Petty & Cacioppo, 1986). The method of analysis employed, a multiple regression, explores the relationship between a set of predictor variables and a dependent variable, and it does so in part by evaluating the unique predictive power of each of the variables. When two variables in a regression are highly correlated, therefore, they do not often contribute enough unique predictive value for both to be found significant. In this case, it seems that relevance was the better predictor of attitude toward the website.

As for novelty, customization did not lead to increased perceptions of novelty in this study. There are several possible explanations for this. It could be that because of the increased popularity of customization features on the web in recent years (Pew Research, 2007), web users have begun to view such features as common practice and not quite as innovative as they did at the time of previous studies. Another possibility is that because participants were exposed to a news website with just one article customized to their interests, the novelty of customization features was not as salient as it would have been were they exposed to a web portal's homepage with 24 different features, as in Kalyanaraman and Sundar (2006). Perhaps because participants are conditioned to reading news articles online, viewing a single news article customized to their preferences may not have seemed as novel as the experience, for example, of interacting with an interface that offered entertainment, shopping, weather, and other features that all reflected their personal interests. Because participants may have been more involved with the content than with the interface, their frame of mind may have influenced the factors they took into account when evaluating novelty.

The major finding regarding the effects of customization in this study, however, remains the same regardless of the particular mediators. It is that customization has an overwhelmingly positive effect on participants' attitudes toward a news website. Further, it appears that customized news websites achieve this significant psychological effect by increasing readers' perceptions of the relevance and interactivity of the website and its content—a demonstration of support for the prediction that customization would affect attitudes by serving as an argument according to the dual-process models of information processing. The ELM, for example, suggests that perceived relevance is an important element in the recipient's motivation to process a message. The finding that perceived relevance mediates the relationship between customization and attitude, therefore, provides support for the notion that customization is leading to the central/systematic processing of messages, which in turn is leading to attitude change.

The findings regarding recommendation source also offer insights into the process by which readers evaluate news websites. Results revealed that recommendations did not affect attitude toward the website, nor did they affect participants' perceptions of the credibility, quality, or representativeness of the content presented on the website. This is a surprising finding because it is in direct conflict with previous studies that have examined the influence of recommendation source on perceptions of news articles. Because no significant main or interaction effects were found for recommendation source in this study, however, it appears that rather than using recommendation source as a heuristic for judgment, readers paid attention to the recommendation, remembered its source, but did not subsequently use this information to inform their judgments of the content or the website.

One plausible explanation for this finding could be that because of the procedure used to customize content for participants in the study, the customized condition represented content that was highly relevant to participants and the non-customized condition represented content that was highly *irrelevant* to participants. The finding that recommendation source had no effect whatsoever on participants in the non-customized condition, therefore, could be the result of a threshold effect. That is, it is possible that recommendations could influence reader perceptions of news articles that are moderately relevant but that they do not have an influence on attitude when articles are completely irrelevant. Ideas for future research along these lines are discussed later.

Among the other potential explanations for this finding is that participants were presented with only one article to read during the experimental session. Following the arguments of Alba et al. (1997) regarding the role of recommendation information in the "screening" process, it is possible that if participants encountered a larger set of articles to choose from they would be more likely to use the recommendation cues to narrow their set of options and guide them toward the most relevant content. Readers would be faced with a larger set of options than they would have the cognitive resources to handle, and the recommendation value or recommendation source might be a heuristic to aid them in their judgment of the content in that situation. Because they were only presented with one article in the current study, however, participants did have sufficient resources to examine the entire set of options available to them (that is, one) and did not have to rely on the recommendation to evaluate the credibility, quality, or representativeness of the content. They had adequate time to devote attention to the content and use their first-hand experience of the content as their basis for judgment.

Further explanation along these lines is provided by the findings of Cooke et al. (2002) regarding the role of item-specific information (e.g., recommendation source cues) in the evaluation of products (e.g., news articles). The authors posit that the role of such item-specific information depends on the situation in which it is encountered. For example, the study found that in the absence of item-specific information, participants engaged in assimilation, using their knowledge of the other items in the option set as a basis for judgment of the quality of the item of interest. On the other hand, the study found that when item-specific information was provided, participants were more likely to engage in contrast, comparing the item of interest to other, more familiar items and evaluating it more negatively as a result.

An important implication of these findings for the current study is that participants approached the article with sufficient resources to evaluate it without having to use the recommendation as a cue. They may therefore have approached the article in a state of contrast, making them more likely to evaluate the article based on its comparison to more familiar content. In that situation, they would be influenced only by the degree to which the article was customized to their interests when making judgments about the article's credibility, quality, and representativeness, and about the website's appeal.

Further support for this interpretation is offered by Sundar and Nass (2001), in which the researchers found that perceptions of the credibility, quality, liking for, and representativenss of generic news articles were influenced by the type of source recommending them. The researchers did not manipulate the personal relevance of the articles but examined the single independent variable of recommendation source. Although two of the recommendation sources Sundar and Nass (2001) examined were explored in the current study and effectively manipulated, all the effects found in previous studies disappeared. There were no significant differences between recommendation source conditions on perceptions of news article content or on attitude toward the website itself. This striking result and its contrast to previous findings provides support for the idea that recommendation source is not a factor readers use to evaluate content they have the cognitive resources to judge. Further research could examine the role of recommendation source under conditions of higher cognitive load.

Practical Implications

In addition to the theoretical findings discussed, there are several practical implications of this research. Foremost is that by offering users customization options, news websites could improve not only reader attitude toward the website but also reader perceptions of the quality of the articles published. The effect of customization on perceptions of the quality of writing and reporting (items comprising the quality index are: clear, concise, coherent, comprehensive, and well-written) should be especially important for news websites seeking to attract users who are unfamiliar with their work. Exposure to the news organization's website and use of its customization options would lead readers to perceive the content as higher in quality and more appealing, making the web a perfect gateway for prospective consumers to experience the news organization's brand.

A second practical implication concerns the finding that recommendation source had no effect on reader perceptions of the content or website—either in isolation or in combination with customization. News websites might effectively employ reader or editor recommendations in order to help readers sort through a large set of article options on a news website. This finding implies, however, that recommendations will not add any value to readers' experience of a customized website in terms of their perceptions of the credibility, quality, or representativeness of the articles they read on the website. Nor will it have any positive effect on readers' attitudes toward the website. Such knowledge may help customized news websites by preventing them from relying on recommendations to boost readers' impressions of the quality, interactivity, or appeal of their websites. Further, because recommendations produced no significant effects even among participants in the non-customized condition, this result could imply that when content is considered irrelevant to the user, recommendations will not help the website by positively influencing attitudes.

Limitations

Because this study examined the effects of customization and recommendation source in the context of a news website, there is limited external validity and it may not be possible to generalize these findings to other types of websites. Further, because participants were exposed to only one news article during the experimental session, it is not possible to predict what the effect of the recommendation source would be if they were exposed to more stories. There is the potential, as discussed, that given a larger set of article options and limited cognitive resources to evaluate them, readers would be more likely to rely on the recommendation source as a heuristic for their judgment of the articles and/or the website.

Also, while these findings indicate that the effects of customization are significantly more powerful than the effects of recommendations in this study, it should be noted that other variables might not necessarily act in the same way recommendations do in the context of customization. There is a possibility that a different variable would exert a stronger influence on attitudes in the presence of customization. As discussed above, as well, it is possible that because of the way articles were chosen for participants in the customized and non-customized conditions, the effects of recommendation source on perceptions of a moderately relevant news article might prove to be stronger than its effects on perceptions of either a highly relevant or highly irrelevant news article.

Additionally, the operationalization of customization in this study was such that the researcher selected content for the participants based on their responses to a prequestionnaire. It is possible that when customizing a website for themselves or choosing an article they would like to read, participants would have different expectations that would affect their evaluations of the article and/or website. As Kalyanaraman and Sundar (2006) note, the act of customizing a website with one's own preferences might lead to an increase in perceptions of interactivity—and it could even impact or introduce other mediating variables.

The operationalization of recommendations in this study might also come with certain limitations. Although participants were able to see the reader and editor ratings and the numbers of related articles and user comments, the stimulus website did not allow participants to rate the articles, make comments, or read the related materials. These constraints may have had an impact on participants' perceptions of the novelty and interactivity of the website. Further, if participants were permitted to rate and comment on articles in the stimulus website, it might also have increased their perceptions of the personal relevance of the content or increased their feelings of involvement. An exploration of these possibilities could be incorporated into future research.

Further, the design of the stimulus website for use in this experiment was limited by the talents and resources of the researcher. It is possible that because the participants in question were students of media and journalism, they were especially critical of the website and that this could have affected their responses. In a related limitation, it is possible that although the researcher took many steps to ensure that the association between the prequestionnaire and the stimulus materials was concealed, some participants may have been suspicious of the manipulation, resulting in biased responses to the news website.

Finally, the sample used in this study was drawn from university students enrolled in introductory communication courses. The participants were therefore young, with an average age below 20, a fact that must be taken into account when considering whether the same findings would apply to older adults.

Suggestions for Future Research

Specific suggestions for future research include an examination of the role recommendations play when readers are exposed to a customized website that includes many article options for them to choose from. Such a study would strengthen our knowledge of the effects of recommendation source in the context of customization and would indicate whether recommendation source functions as a heuristic that affects readers' selective exposure to news articles. There is already some evidence that readers rely on recommendations to select article options in non-customized news settings (Knobloch-Westerwick et al., 2005; Sundar et al., 2005). Adding a customization manipulation to future investigations would allow researchers to examine the interplay of these two independent variables in a different way.

In addition, a study that included three ordinal levels of customization (low, medium, and high) might demonstrate that recommendations have the strongest effects on participants in the medium customization level. Because a high level of customization seems to be leading participants to process information through the central/systematic route to persuasion, dual-process models propose that participants are unlikely to be influenced by cues or heuristics in that situation. When participants are exposed to material that is highly irrelevant, on the other hand, they also appear to be immune to the effects of cues or heuristics. Perhaps this is because they are immediately aware of the irrelevance of the content and therefore not motivated to process the message. The effect of customization on memory provides some evidence that this may be occurring. It is the middle ground between these two situations, however, where participants might be most likely to be motivated enough to devote attention to the article and the cues concerning its value (i.e., the recommendations) and use them as a heuristic for judgment. Future research could study customization at these three levels and explore its interaction with recommendation source. Further, research could explore the cognitive effects in these situations by measuring memory and attention.

Another potential idea for future research is to test the effects of other independent variables in the context of customization. Such research could explore the interaction of customization and other variables (in addition to recommendation source) on attitudes. It could strengthen our understanding of the powerful influence customization appears to have on users. As discussed in the limitations section above, the ability to rate and comment on articles could have a significant effect on participants' perceptions of the content and attitude toward the website. Future research could incorporate these activities into participants' experience of a news website in order to examine whether the influence of recommendation source would function differently in the context of customization if the "self as source" concept identified by Sundar and Nass (2001) were tested in addition to "gatekeeper as source" and "audience as source."

The finding that customization has an effect on cognition (memory) could also provide an interesting line of inquiry for further study. For example, physiological measures of attention and arousal, or more specific recall and recognition items related to memory for information, could be used to assess more directly the effects of customization on cognition. An exploration of this influence could provide a better understanding of the processes by which positive affect is achieved.

Future research could also examine more closely the effects of customization on perceived credibility in different contexts. In the current study, although no significant main effect was found for customization on perceived credibility, the relationship was close enough to significant (*p*=.12) to suggest that credibility might, under certain circumstances, be affected by customization. Given that the website used as a stimulus for this study was created specifically for use in the experiment, it was unfamiliar to participants and perhaps less sophisticated in its design than some professional news websites. Future research could manipulate the news website in a further exploration of the effects of customization on credibility.

In conclusion, it seems that customization has powerful psychological effects on users of news websites. It also appears that although the manipulation for recommendation source was effective in this study, participants did not use the information to inform their judgments of the credibility, quality, or representativeness of the content or their attitude toward the website itself. The present study offers support for previous findings on the effects of customization and the processes by which those effects are achieved. Further, it extends the findings of previous research on the effects of customization on web portals, demonstrating similar effects in the context of news websites. The question for the future is to continue to explore the underlying reasons for the strong effects of customization and determine whether any other variables can hope to compete for influence in its presence.

Table 1. Summary of means (with standard deviations) and *F* values for potential mediating variables as a function of customization.

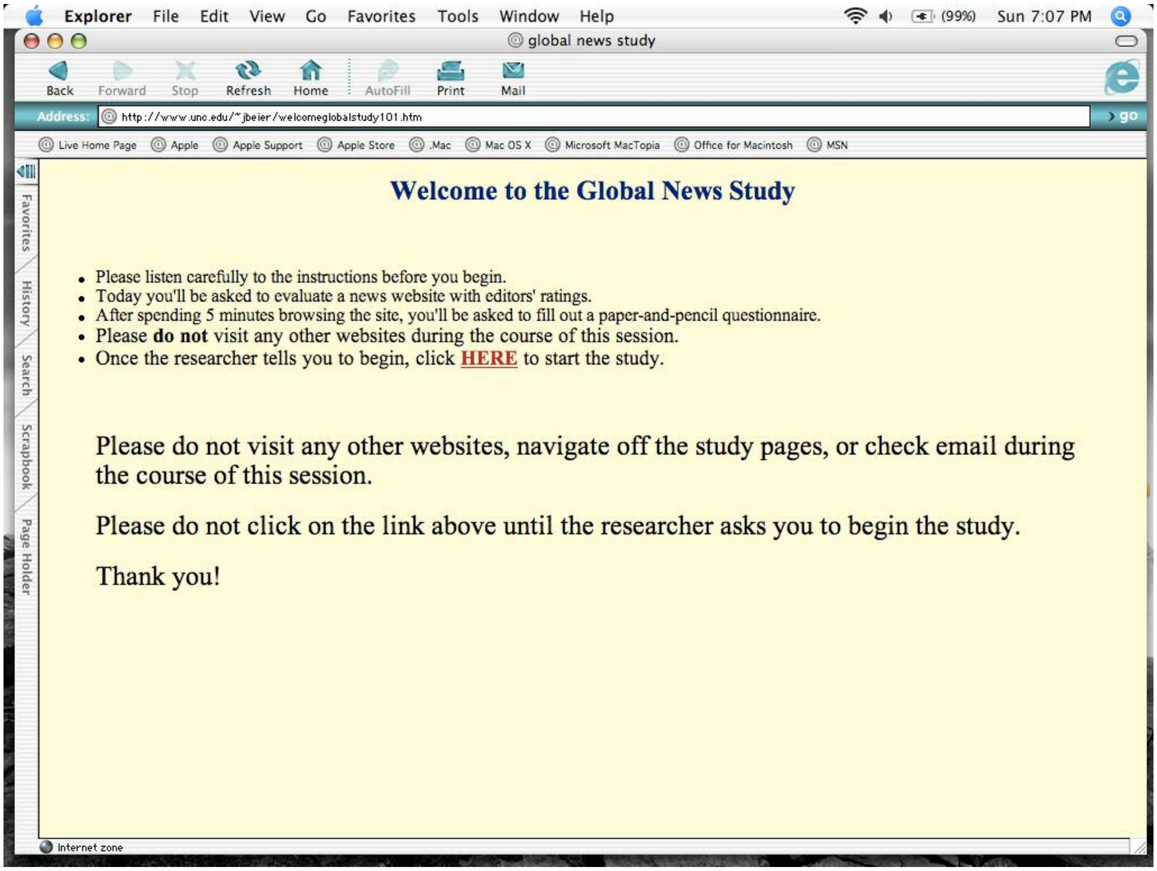
Measure	**Customized Condition**	**Non-Customized Condition**	***F***
Perceived Relevance	6.43 (1.88)	4.13 (1.69)	42.23**
Perceived Novelty	5.39 (1.88)	5.06 (1.90)	0.69
Perceived Interactivity	4.02 (1.83)	3.08 (1.86)	23.12*
Perceived Involvement	4.14 (2.42)	2.32 (1.30)	21.86**

Note: Higher scores indicate more positive perceptions. Comparisons between means are horizontal only. * $p < .05$. ** $p < .001$.

APPENDIX A:
STIMULUS MATERIALS

CONDITION 1: CUSTOMIZATION x GATEKEEPER RECOMMENDATION

INTRODUCTORY INSTRUCTION PAGE


Explorer File Edit View Go Favorites Tools Window Help
(99%) Sun 7:07 PM
global news study
Back Forward Stop Refresh Home AutoFill Print Mail
Address: http://www.unc.edu/~jbeier/welcomeglobalstudy101.htm
go
Live Home Page Apple Apple Support Apple Store .Mac Mac OS X Microsoft MacTopia Office for Macintosh MSN
Favorites History Search Scrapbook Page Holder
Internet zone

Welcome to the Global News Study

- Please listen carefully to the instructions before you begin.
- Today you'll be asked to evaluate a news website with editors' ratings.
- After spending 5 minutes browsing the site, you'll be asked to fill out a paper-and-pencil questionnaire.
- Please **do not** visit any other websites during the course of this session.
- Once the researcher tells you to begin, click **HERE** to start the study.

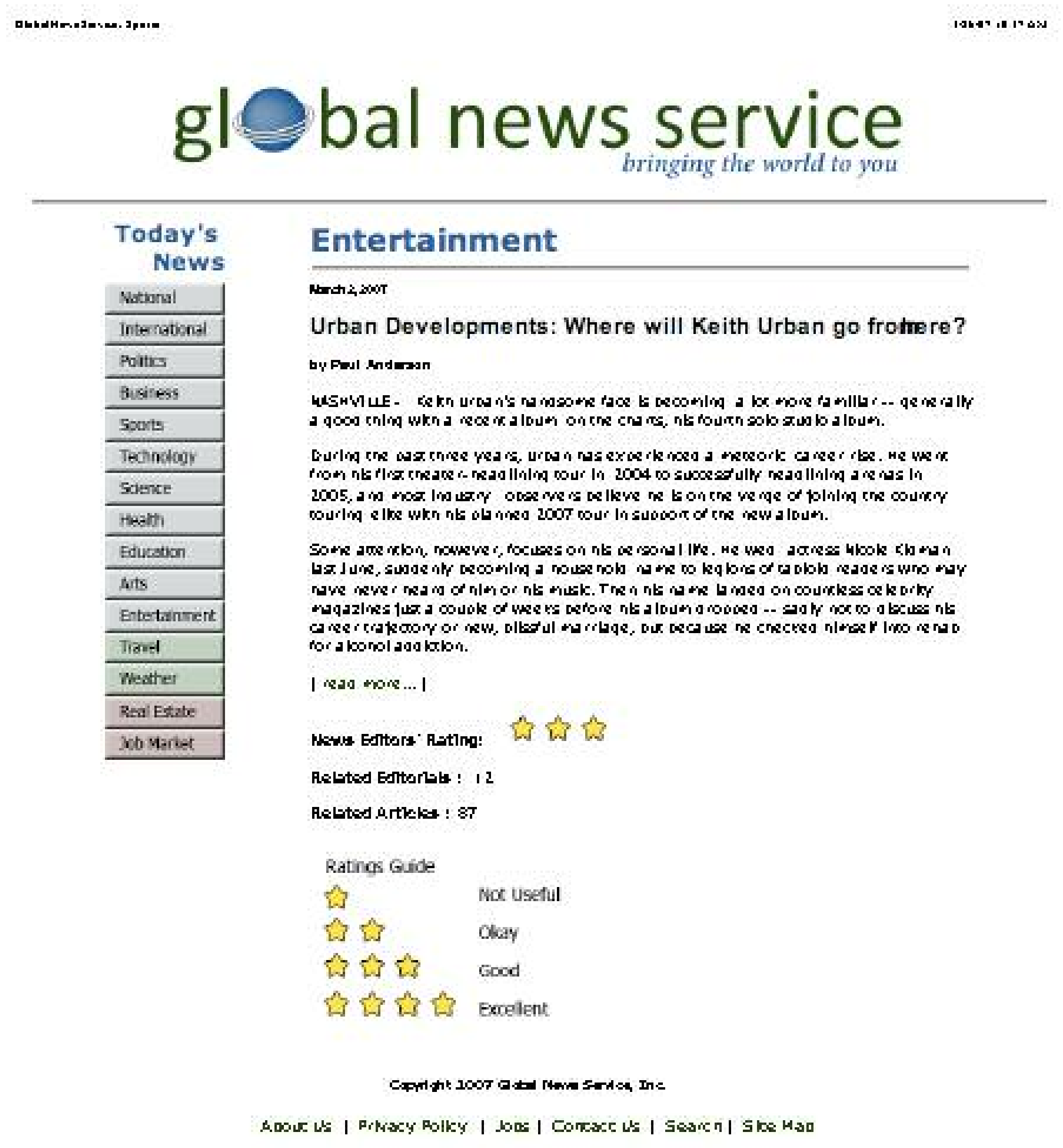
Please do not visit any other websites, navigate off the study pages, or check email during the course of this session.

Please do not click on the link above until the researcher asks you to begin the study.

Thank you!

CONDITION 1: CUSTOMIZATION x GATEKEEPER RECOMMENDATION

STIMULUS WEBSITE HOMEPAGE


global news service
bringing the world to you
Today's News
National
International
Politics
Business
Sports
Technology
Science
Health
Education
Arts
Entertainment
Travel
Weather
Real Estate
Job Market
Entertainment

March 2, 2007

Urban Developments: Where will Keith Urban go from here?

by Paul Anderson

NASHVILLE -- Keith Urban's handsome face is becoming a lot more familiar -- generally a good thing with a recent album on the charts, his fourth solo studio album.

During the past three years, Urban has experienced a meteoric career rise. He went from his first theater-headlining tour in 2004 to successfully headlining arenas in 2005, and most industry observers believe he is on the verge of joining the country touring elite with his planned 2007 tour in support of the new album.

Some attention, however, focuses on his personal life. He wed actress Nicole Kidman last June, suddenly becoming a household name to legions of tabloid readers who may have never heard of him or his music. Then his name landed on countless celebrity magazines just a couple of weeks before his album dropped -- sadly not to discuss his career trajectory or new, blissful marriage, but because he checked himself into rehab for alcohol addiction.

| read more ... |

News Editors' Rating: ★★★

Related Editorials : 12

Related Articles : 87

Ratings Guide

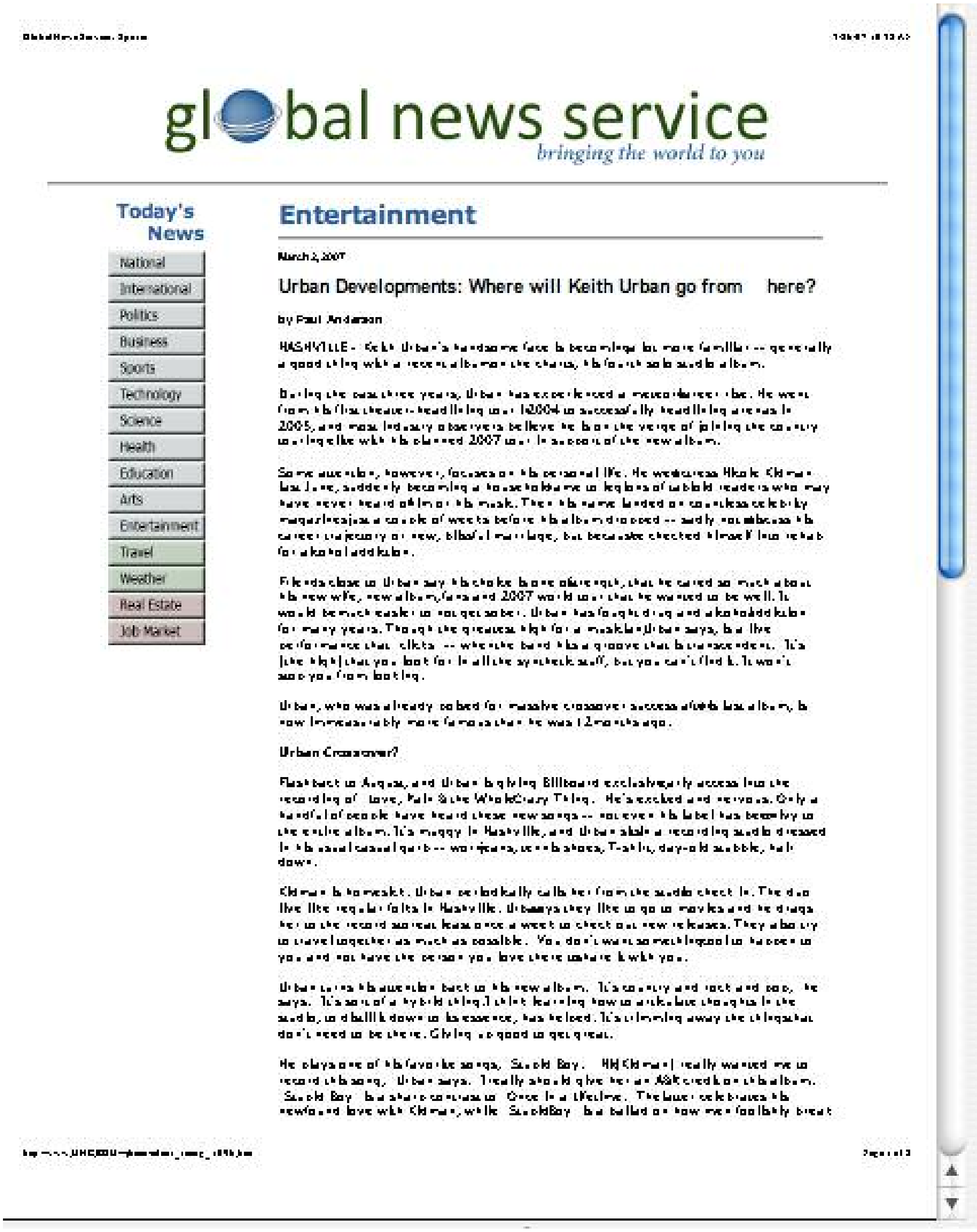
★	Not Useful
★★	Okay
★★★	Good
★★★★	Excellent

Copyright 2007 Global News Service, Inc.

About Us | Privacy Policy | Jobs | Contact Us | Search | Site Map

CONDITION 1: CUSTOMIZATION x GATEKEEPER RECOMMENDATION

STIMULUS WEBSITE FULL-ARTICLE PAGE


global news service
bringing the world to you
Today's News
National
International
Politics
Business
Sports
Technology
Science
Health
Education
Arts
Entertainment
Travel
Weather
Real Estate
Job Market

Entertainment

March 2, 2007

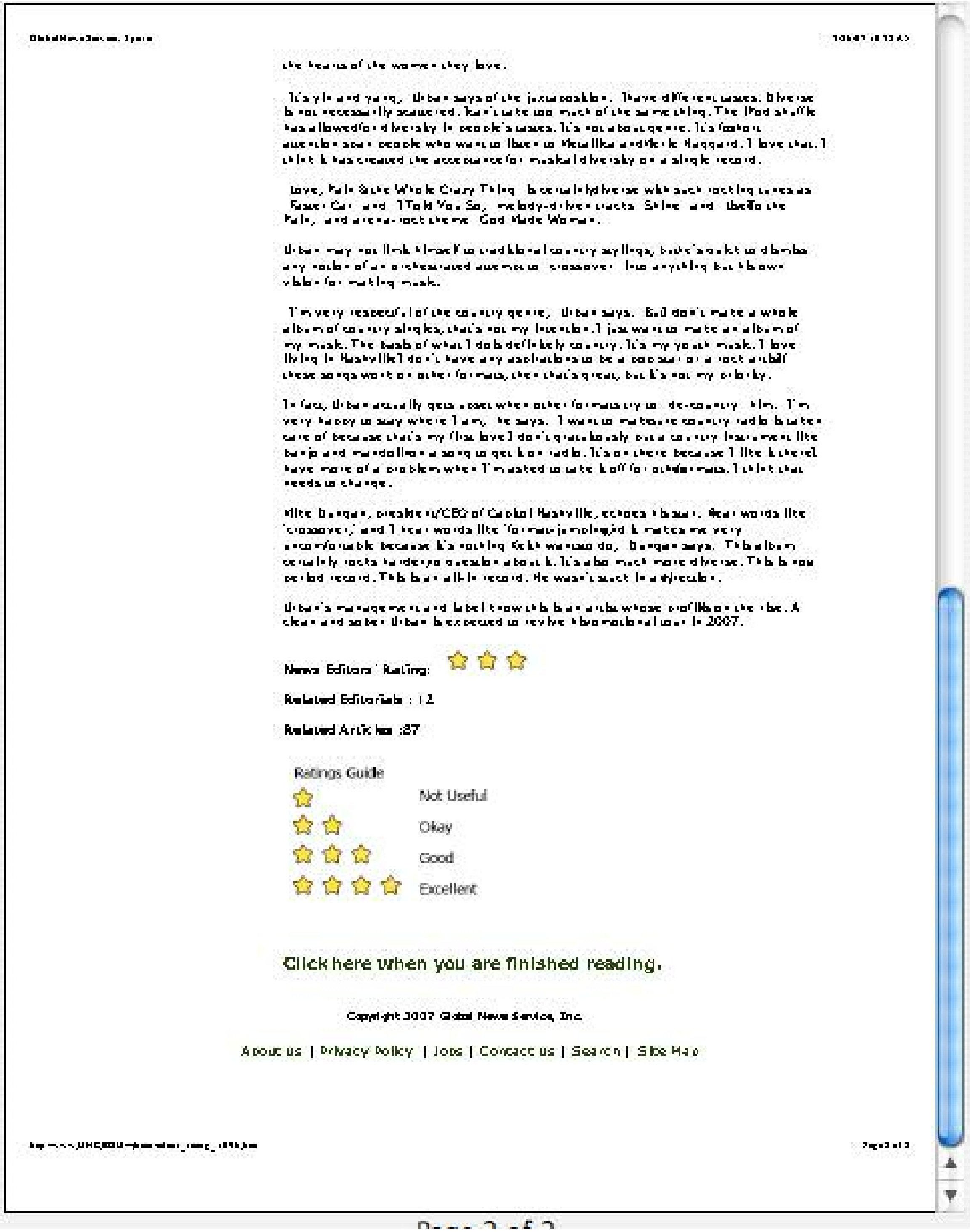
Urban Developments: Where will Keith Urban go from here?

by Paul Anderson

Urban Crossover?

CONDITION 1: CUSTOMIZATION x GATEKEEPER RECOMMENDATION

STIMULUS WEBSITE FULL-ARTICLE PAGE (CONT'D)



the hearts of the women they love.

It's yin and yang, Urban says of the juxtaposition. I have different tastes. Diverse is not necessarily scattered. I can't take too much of the same thing. The iPod shuffle has allowed for diversity in people's tastes. It's not about genre. It's for short attention span people who want to listen to Metallica and Merle Haggard. I love that. I think it has created the acceptance for musical diversity on a single record.

Love, Pain & the Whole Crazy Thing is certainly diverse with such rocking tunes as Faster Car and I Told You So, melody-driven tracks Shine and Used to the Pain, and arena-rock theme God Made Woman.

Urban may not limit himself to traditional country stylings, but he's quick to dismiss any notion of an orchestrated attempt to crossover into anything but his own vision for making music.

I'm very respectful of the country genre, Urban says. But I don't make a whole album of country singles, that's not my intention. I just want to make an album of my music. The basis of what I do is definitely country. It's my youth music. I love living in Nashville. I don't have any aspirations to be a pop star or a rock star. If these songs work on other formats, then that's great, but it's not my priority.

In fact, Urban actually gets upset when other formats try to de-country him. I'm very happy to stay where I am, he says. I want to make sure country radio is taken care of because that's my first love. I don't consciously put a country instrument like banjo and mandolin on a song to get it on radio. It's on there because I like it. I've had more of a problem when I'm asked to take it off for other formats. I think that needs to change.

Mike Dungan, president/CEO of Capitol Nashville, echoes his star. I hear words like 'crossover,' and I hear words like 'format-jumping,' it makes me very uncomfortable because it's nothing Keith wanted to do, Dungan says. This album certainly rocks harder, no question about it. It's also much more diverse. This is not a period record. This is an all-in record. He wasn't stuck in any direction.

Urban's management and label know this is an artist whose profile is on the rise. A clean and sober Urban is expected to revive his promotional tour in 2007.

News Editors' Rating: ★★★

Related Editorials : 12

Related Articles : 87

Ratings Guide

★	Not Useful
★★	Okay
★★★	Good
★★★★	Excellent

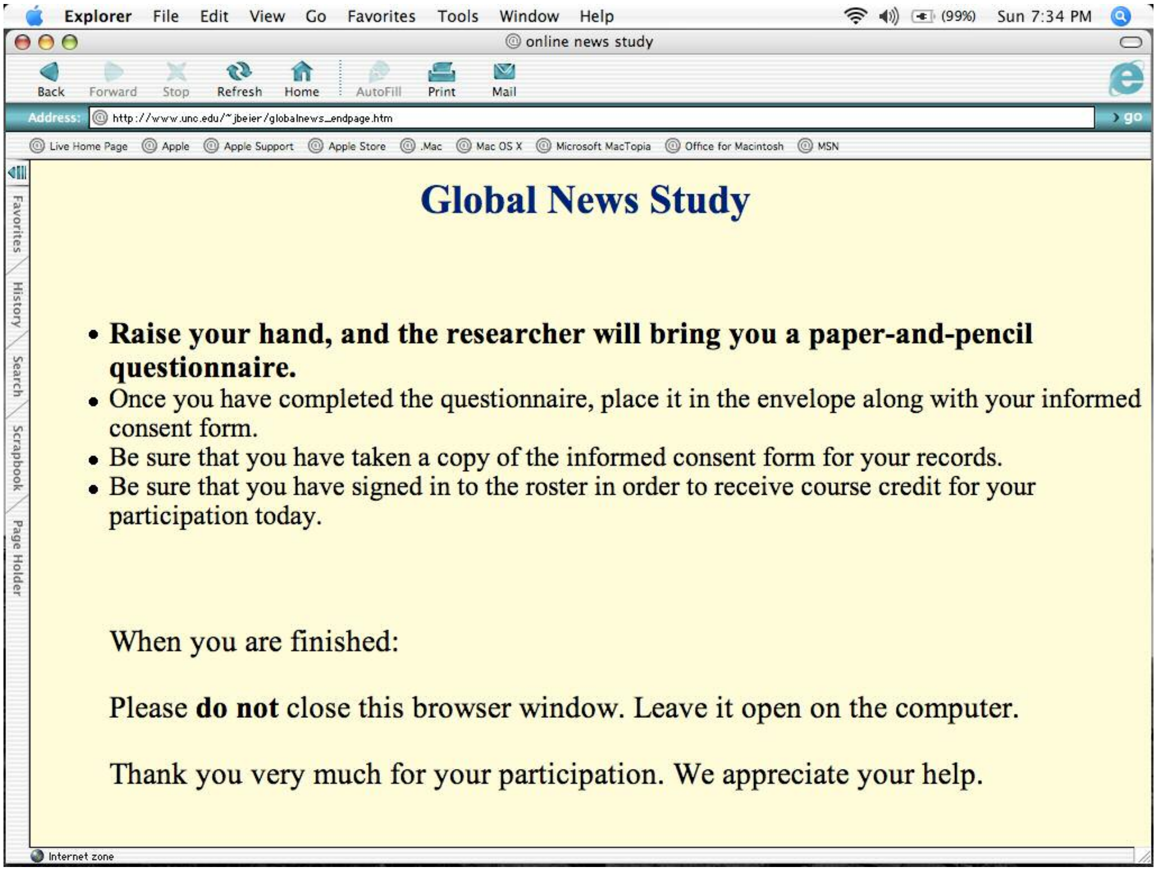
Click here when you are finished reading.

Copyright 2007 Global News Service, Inc.

About us | Privacy Policy | Jobs | Contact us | Search | Site Map

CONDITION 1: CUSTOMIZATION x GATEKEEPER RECOMMENDATION

POST-STIMULUS END PAGE


Explorer File Edit View Go Favorites Tools Window Help
(99%) Sun 7:34 PM
online news study
Back
Forward
Stop
Refresh
Home
AutoFill
Print
Mail
Address:
http://www.unc.edu/~jbeier/globalnews_endpage.htm
go
Live Home Page
Apple
Apple Support
Apple Store
.Mac
Mac OS X
Microsoft MacTopia
Office for Macintosh
MSN
Favorites
History
Search
Scrapbook
Page Holder
Internet zone

Global News Study

- **Raise your hand, and the researcher will bring you a paper-and-pencil questionnaire.**
- Once you have completed the questionnaire, place it in the envelope along with your informed consent form.
- Be sure that you have taken a copy of the informed consent form for your records.
- Be sure that you have signed in to the roster in order to receive course credit for your participation today.

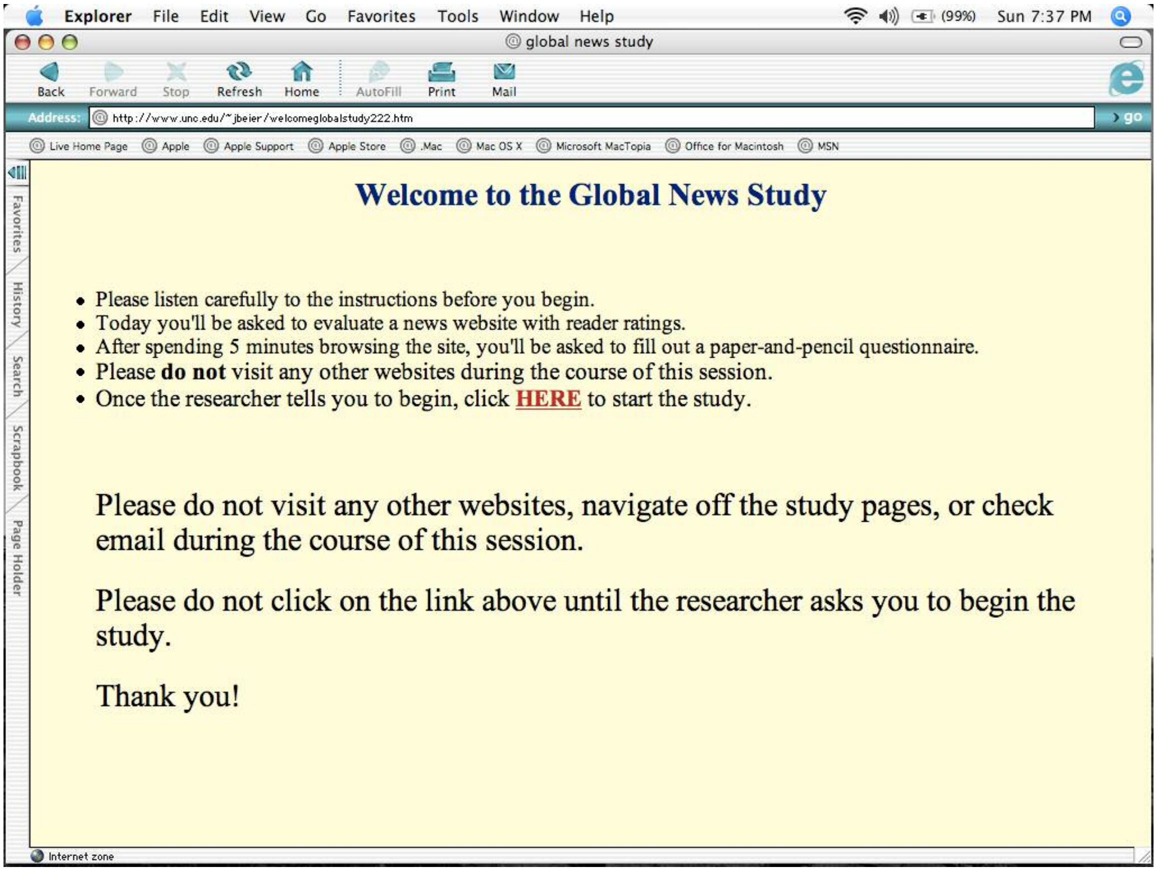
When you are finished:

Please **do not** close this browser window. Leave it open on the computer.

Thank you very much for your participation. We appreciate your help.

CONDITION 2: CUSTOMIZATION x AUDIENCE RECOMMENDATION

INTRODUCTORY INSTRUCTION PAGE


Explorer File Edit View Go Favorites Tools Window Help
(99%) Sun 7:37 PM
global news study
Back Forward Stop Refresh Home AutoFill Print Mail
Address: http://www.unc.edu/~jbeier/welcomeglobalstudy222.htm
go
Live Home Page Apple Apple Support Apple Store .Mac Mac OS X Microsoft MacTopia Office for Macintosh MSN
Favorites History Search Scrapbook Page Holder
Internet zone

Welcome to the Global News Study

- Please listen carefully to the instructions before you begin.
- Today you'll be asked to evaluate a news website with reader ratings.
- After spending 5 minutes browsing the site, you'll be asked to fill out a paper-and-pencil questionnaire.
- Please **do not** visit any other websites during the course of this session.
- Once the researcher tells you to begin, click **HERE** to start the study.

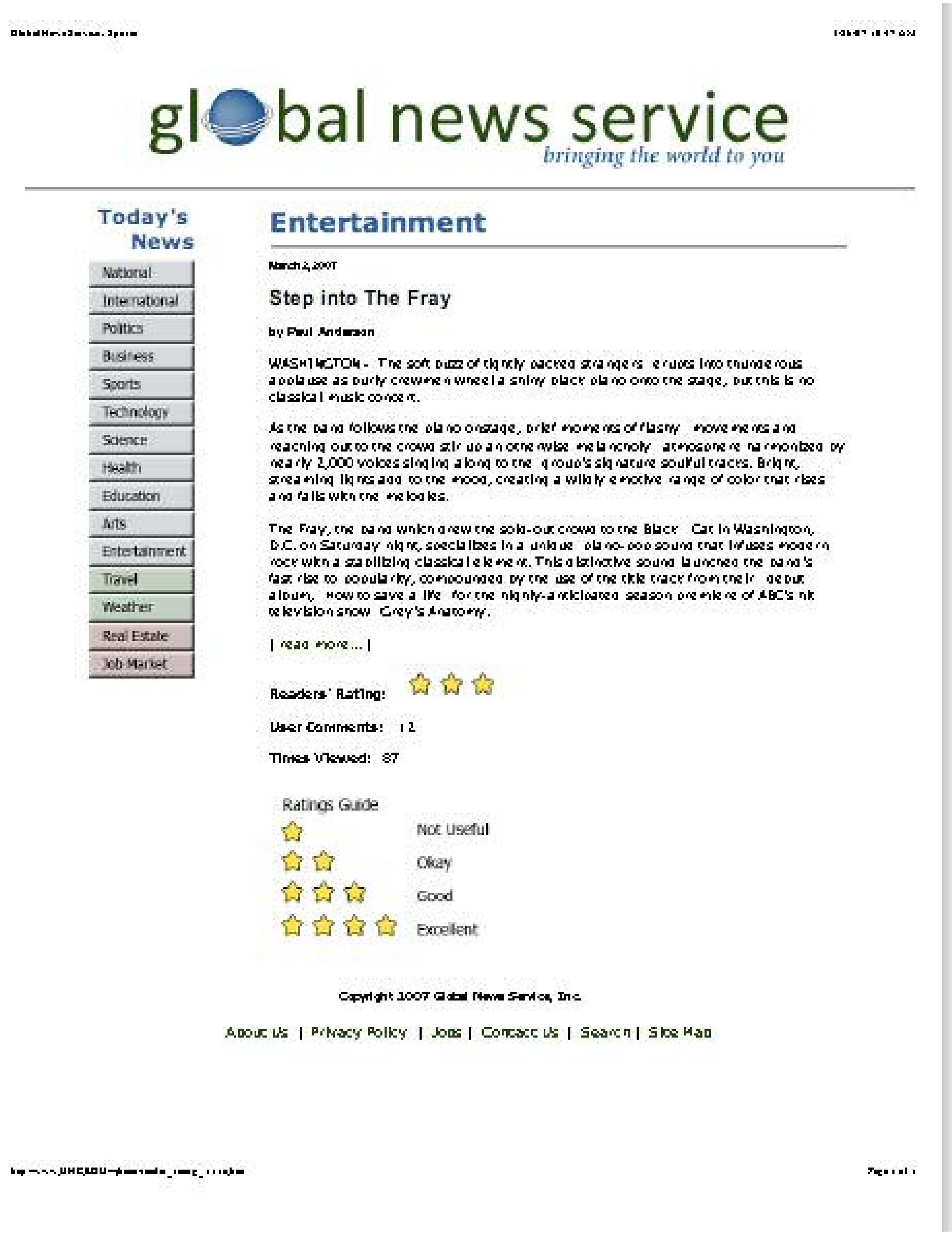
Please do not visit any other websites, navigate off the study pages, or check email during the course of this session.

Please do not click on the link above until the researcher asks you to begin the study.

Thank you!

CONDITION 2: CUSTOMIZATION x AUDIENCE RECOMMENDATION

STIMULUS WEBSITE HOMEPAGE


global news service
bringing the world to you
Today's News
National
International
Politics
Business
Sports
Technology
Science
Health
Education
Arts
Entertainment
Travel
Weather
Real Estate
Job Market

Entertainment

March 2, 2007

Step into The Fray

by Paul Anderson

WASHINGTON - The soft buzz of tightly packed strangers erupts into thunderous applause as burly crewmen wheel a shiny black piano onto the stage, but this is no classical music concert.

As the band follows the piano onstage, brief moments of flashy movements and reaching out to the crowd stir up an otherwise melancholy atmosphere harmonized by nearly 2,000 voices singing along to the group's signature soulful tracks. Bright, streaming lights add to the mood, creating a wildly emotive range of color that rises and falls with the melodies.

The Fray, the band which drew the sold-out crowd to the Black Cat in Washington, D.C. on Saturday night, specializes in a unique piano-pop sound that infuses modern rock with a stabilizing classical element. This distinctive sound launched the band's fast rise to popularity, compounded by the use of the title track from their debut album, How to Save a Life, for the highly-anticipated season premiere of ABC's hit television show Grey's Anatomy.

| read more ... |

Readers' Rating: ★★★

User Comments: 12

Times Viewed: 87

Ratings Guide

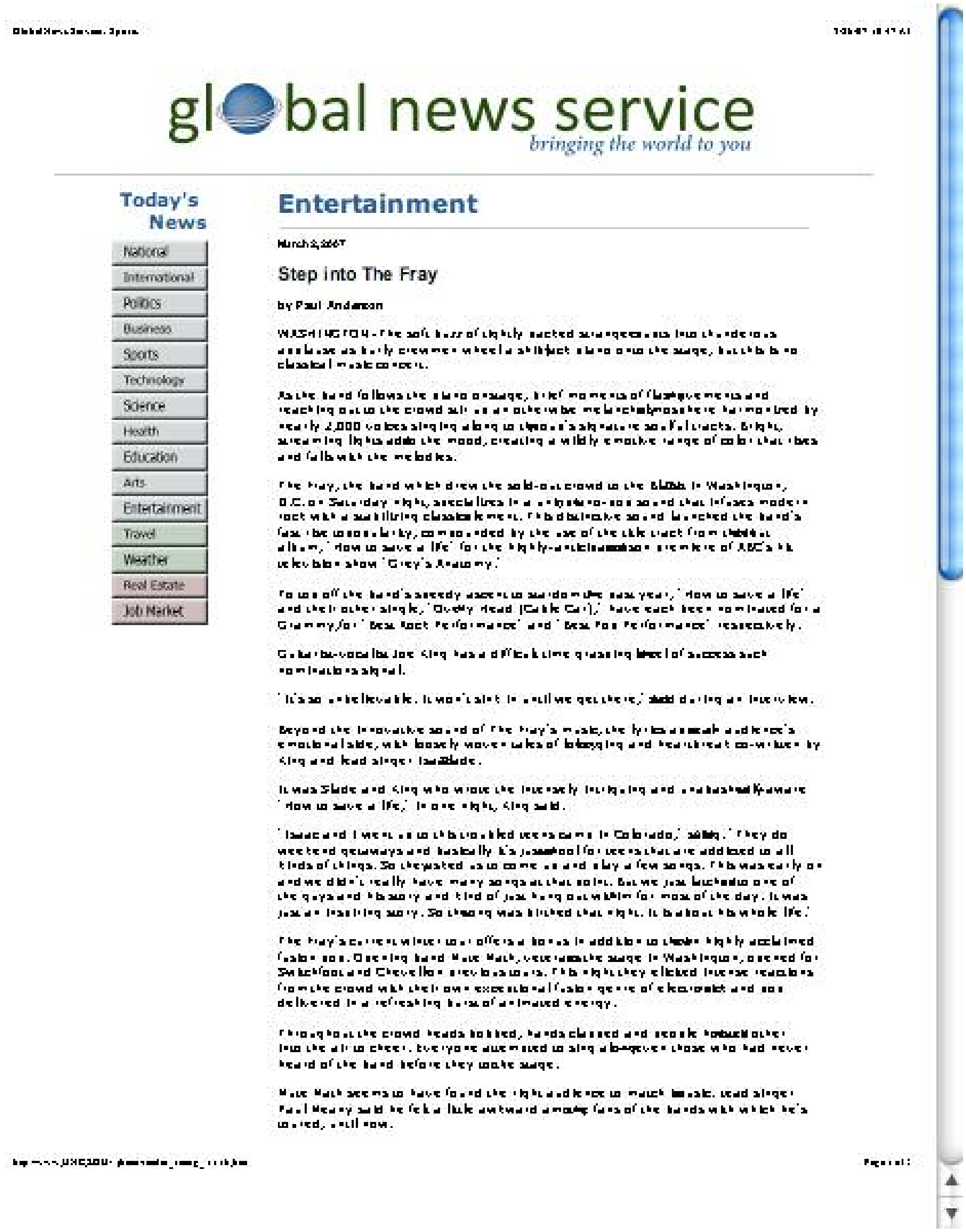
★	Not Useful
★★	Okay
★★★	Good
★★★★	Excellent

Copyright 2007 Global News Service, Inc.

About Us | Privacy Policy | Jobs | Contact Us | Search | Site Map

CONDITION 2: CUSTOMIZATION x AUDIENCE RECOMMENDATION

STIMULUS WEBSITE FULL-ARTICLE PAGE


global news service
bringing the world to you
Today's News
National
International
Politics
Business
Sports
Technology
Science
Health
Education
Arts
Entertainment
Travel
Weather
Real Estate
Job Market

Entertainment

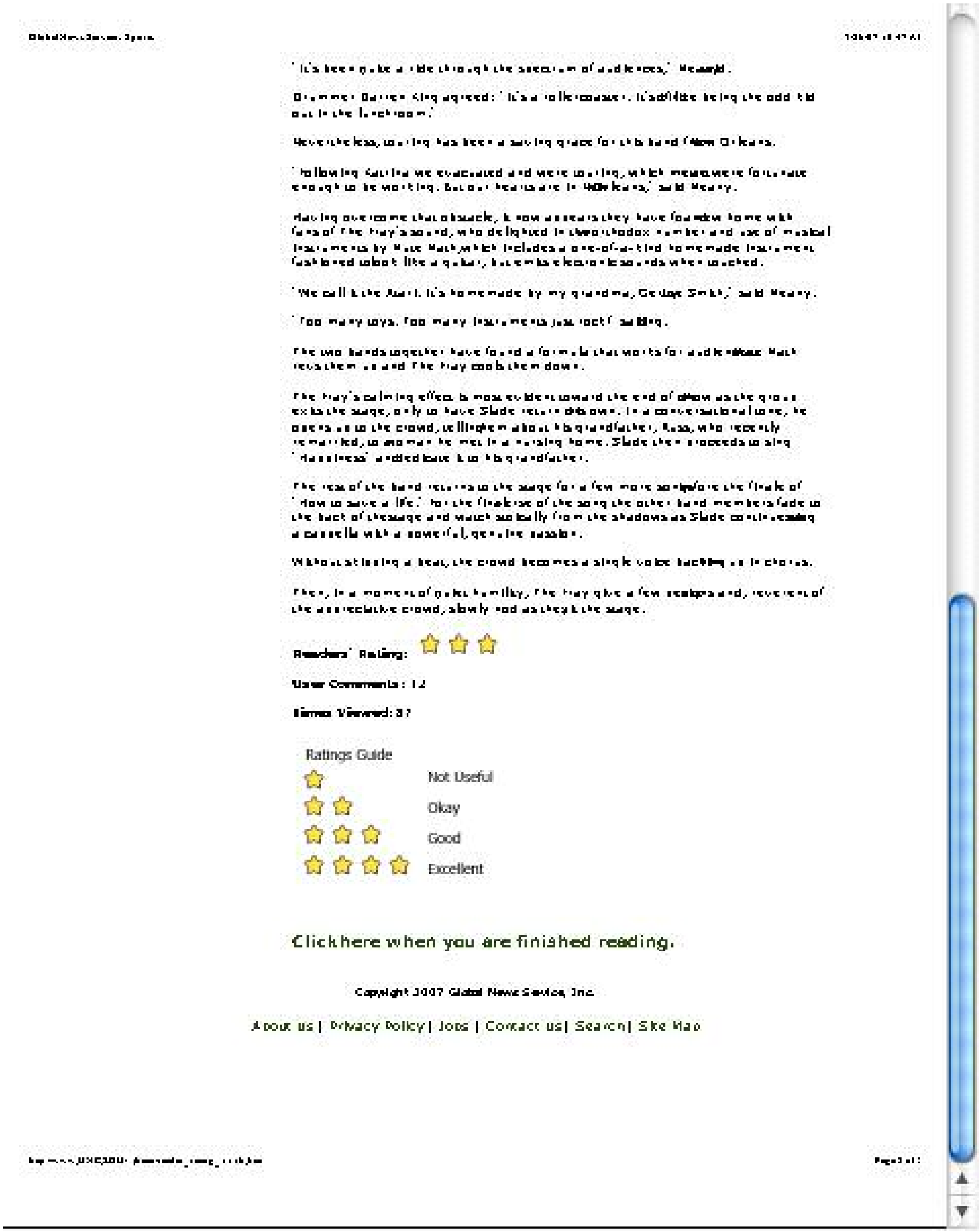
March 2, 2007

Step into The Fray

by Paul Anderson

CONDITION 2: CUSTOMIZATION x AUDIENCE RECOMMENDATION

STIMULUS WEBSITE FULL-ARTICLE PAGE (CONT'D)



"It's been quite a ride through the spectrum of audiences," Meany said.

Drummer Darren King agreed: "It's a rollercoaster. It's a little like being the odd kid out in the lunchroom."

Nevertheless, touring has been a saving grace for this band from New Orleans.

"Following Katrina we evacuated and were touring, which meant we were fortunate enough to be working. But our hearts are in New Orleans," said Meany.

Having overcome that obstacle, it now appears they have found a new home with fans of The Fray's sound, who delighted in the unorthodox number and use of musical instruments by Mute Math, which includes a one-of-a-kind homemade instrument fashioned to look like a guitar, but emits electronic sounds when touched.

"We call it the Atari. It's homemade by my grandma, George Smith," said Meany.

"Too many toys. Too many instruments just rock," [illegible].

The two bands together have found a formula that works for audiences: Mute Math revs them up and The Fray cools them down.

The Fray's calming effect is most evident toward the end of the show as the group exits the stage, only to have Slade return alone. In a conversational tone, he opens up to the crowd, telling them about his grandfather, Russ, who recently remarried, to a woman he met in a nursing home. Slade then proceeds to sing "Happiness" and dedicates it to his grandfather.

The rest of the band returns to the stage for a few more songs before the finale of "How to Save a Life." For the final verse of the song the other band members fade to the back of the stage and watch [illegible] from the shadows as Slade continues singing a cappella with a powerful, genuine passion.

Without skipping a beat, the crowd becomes a single voice backing up in chorus.

Then, in a moment of quiet humility, The Fray give a few [illegible] and, reverent of the appreciative crowd, slowly nod as they exit the stage.

Readers' Rating: ★★★

User Comments: 12

Times Viewed: 37

Ratings Guide

★	Not Useful
★★	Okay
★★★	Good
★★★★	Excellent

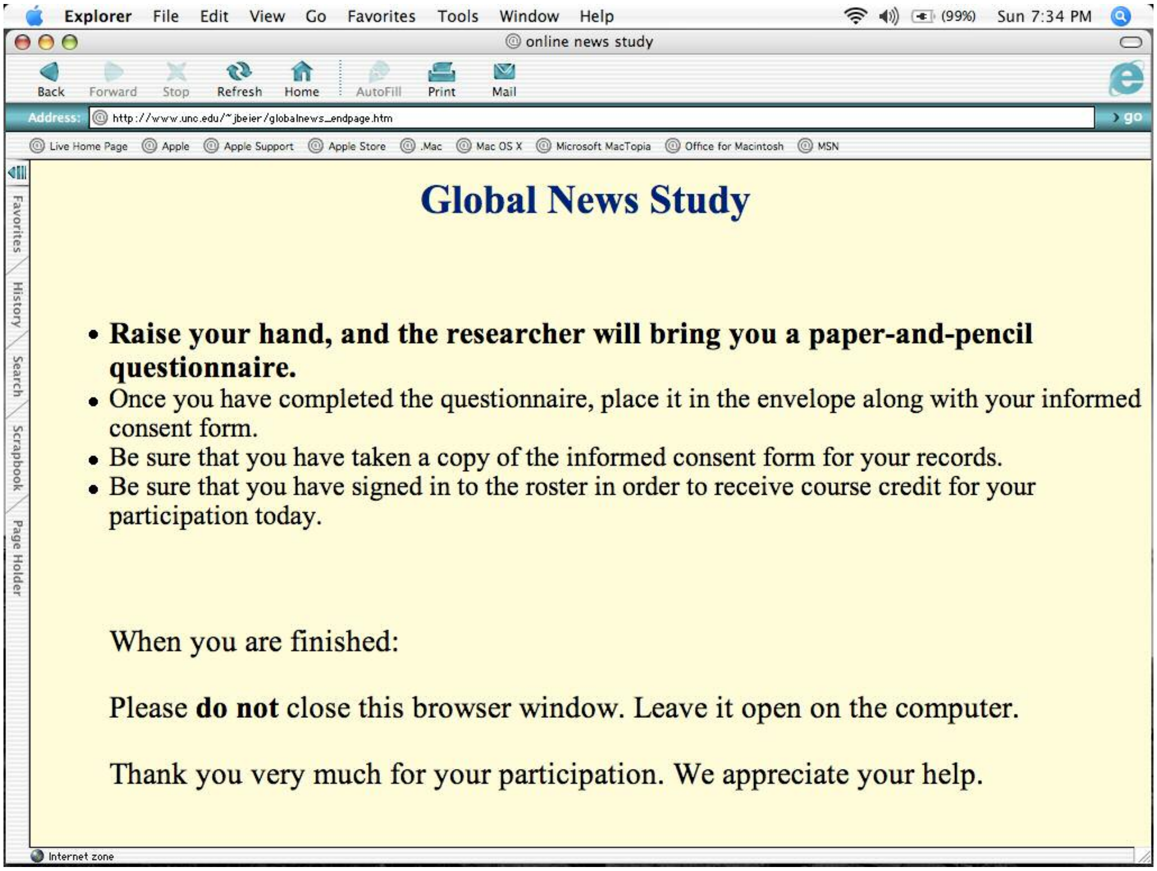
Click here when you are finished reading.

Copyright 2007 Global News Service, Inc.

About us | Privacy Policy | Jobs | Contact us | Search | Site Map

CONDITION 2: CUSTOMIZATION x AUDIENCE RECOMMENDATION

POST-STIMULUS END PAGE


Explorer File Edit View Go Favorites Tools Window Help
(99%) Sun 7:34 PM
online news study
Back Forward Stop Refresh Home AutoFill Print Mail
Address: http://www.unc.edu/~jbeier/globalnews_endpage.htm
go
Live Home Page Apple Apple Support Apple Store .Mac Mac OS X Microsoft MacTopia Office for Macintosh MSN
Favorites History Search Scrapbook Page Holder
Internet zone

Global News Study

- **Raise your hand, and the researcher will bring you a paper-and-pencil questionnaire.**
- Once you have completed the questionnaire, place it in the envelope along with your informed consent form.
- Be sure that you have taken a copy of the informed consent form for your records.
- Be sure that you have signed in to the roster in order to receive course credit for your participation today.

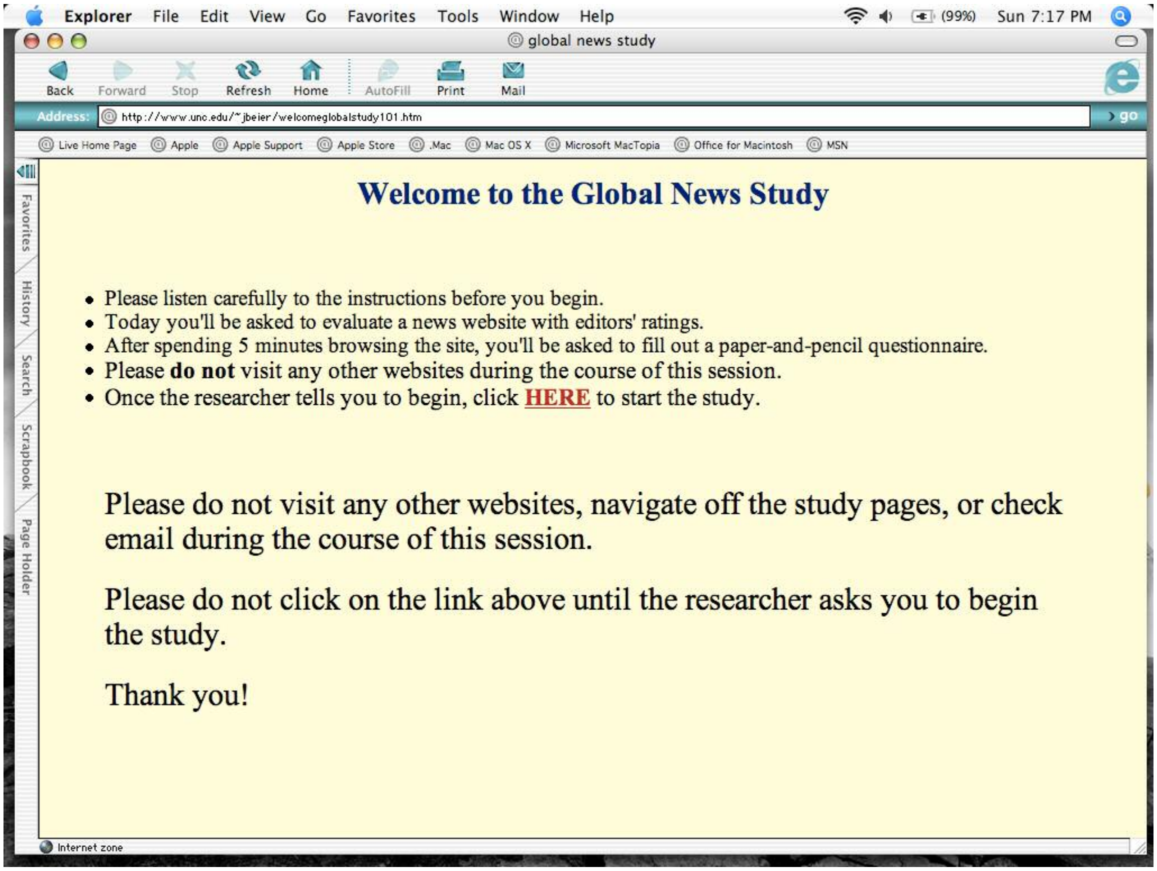
When you are finished:

Please **do not** close this browser window. Leave it open on the computer.

Thank you very much for your participation. We appreciate your help.

CONDITION 3: CUSTOMIZATION x CONTROL RECOMMENDATION

INTRODUCTORY INSTRUCTION PAGE


Explorer
File
Edit
View
Go
Favorites
Tools
Window
Help
(99%)
Sun 7:17 PM
global news study
Back
Forward
Stop
Refresh
Home
AutoFill
Print
Mail
Address:
http://www.unc.edu/~jbeier/welcomeglobalstudy101.htm
go
Live Home Page
Apple
Apple Support
Apple Store
.Mac
Mac OS X
Microsoft MacTopia
Office for Macintosh
MSN
Favorites
History
Search
Scrapbook
Page Holder
Internet zone

Welcome to the Global News Study

- Please listen carefully to the instructions before you begin.
- Today you'll be asked to evaluate a news website with editors' ratings.
- After spending 5 minutes browsing the site, you'll be asked to fill out a paper-and-pencil questionnaire.
- Please **do not** visit any other websites during the course of this session.
- Once the researcher tells you to begin, click **HERE** to start the study.

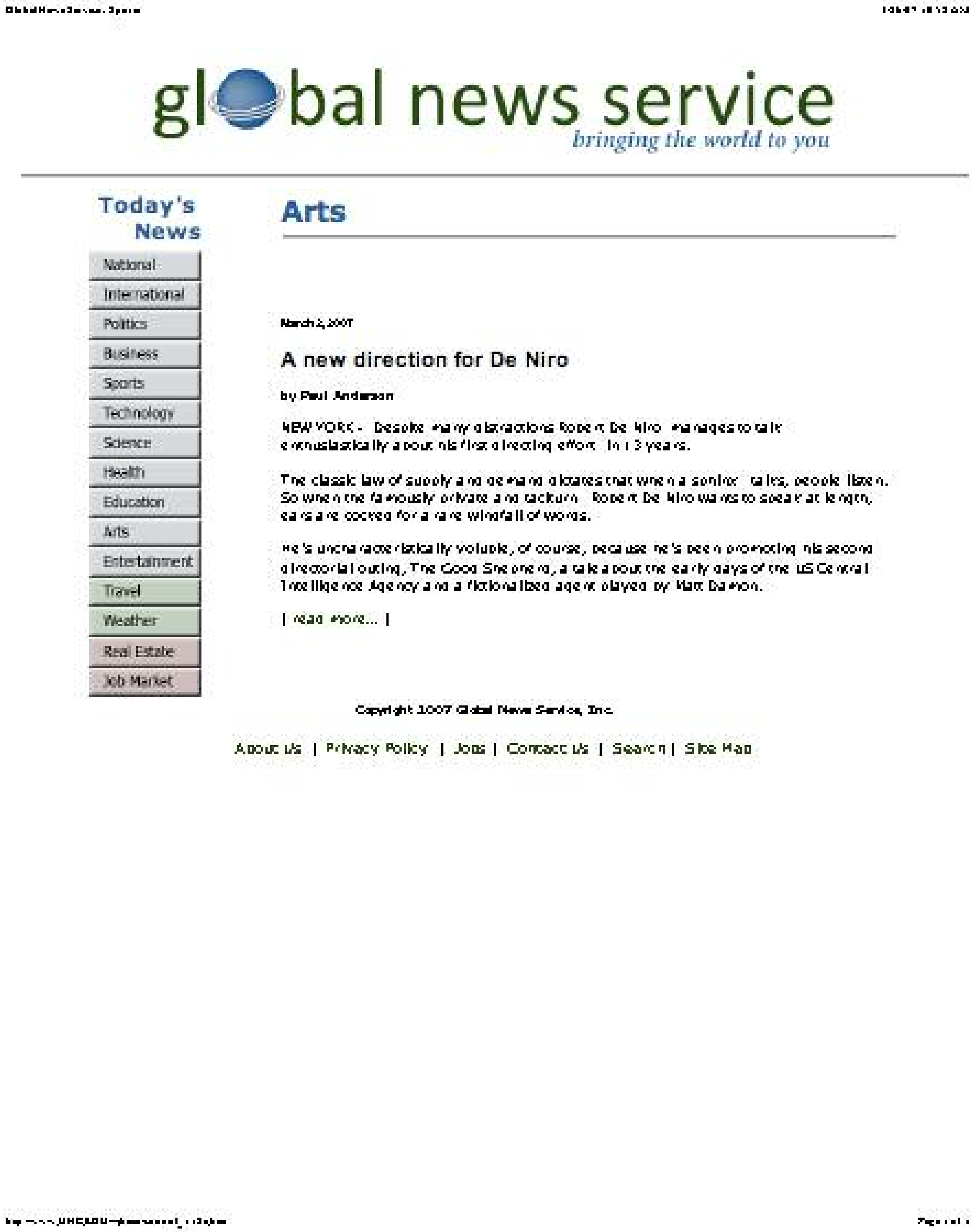
Please do not visit any other websites, navigate off the study pages, or check email during the course of this session.

Please do not click on the link above until the researcher asks you to begin the study.

Thank you!

CONDITION 3: CUSTOMIZATION x CONTROL RECOMMENDATION

STIMULUS WEBSITE HOMEPAGE



global news service
bringing the world to you
Today's News
National
International
Politics
Business
Sports
Technology
Science
Health
Education
Arts
Entertainment
Travel
Weather
Real Estate
Job Market

Arts

March 2, 2007

A new direction for De Niro

by Paul Anderson

NEW YORK - Despite many distractions Robert De Niro manages to talk enthusiastically about his first directing effort in 13 years.

The classic law of supply and demand dictates that when a seldom talks, people listen. So when the famously private and taciturn Robert De Niro wants to speak at length, ears are cocked for a rare windfall of words.

He's uncharacteristically voluble, of course, because he's been promoting his second directorial outing, The Good Shepherd, a tale about the early days of the US Central Intelligence Agency and a fictionalized agent played by Matt Damon.

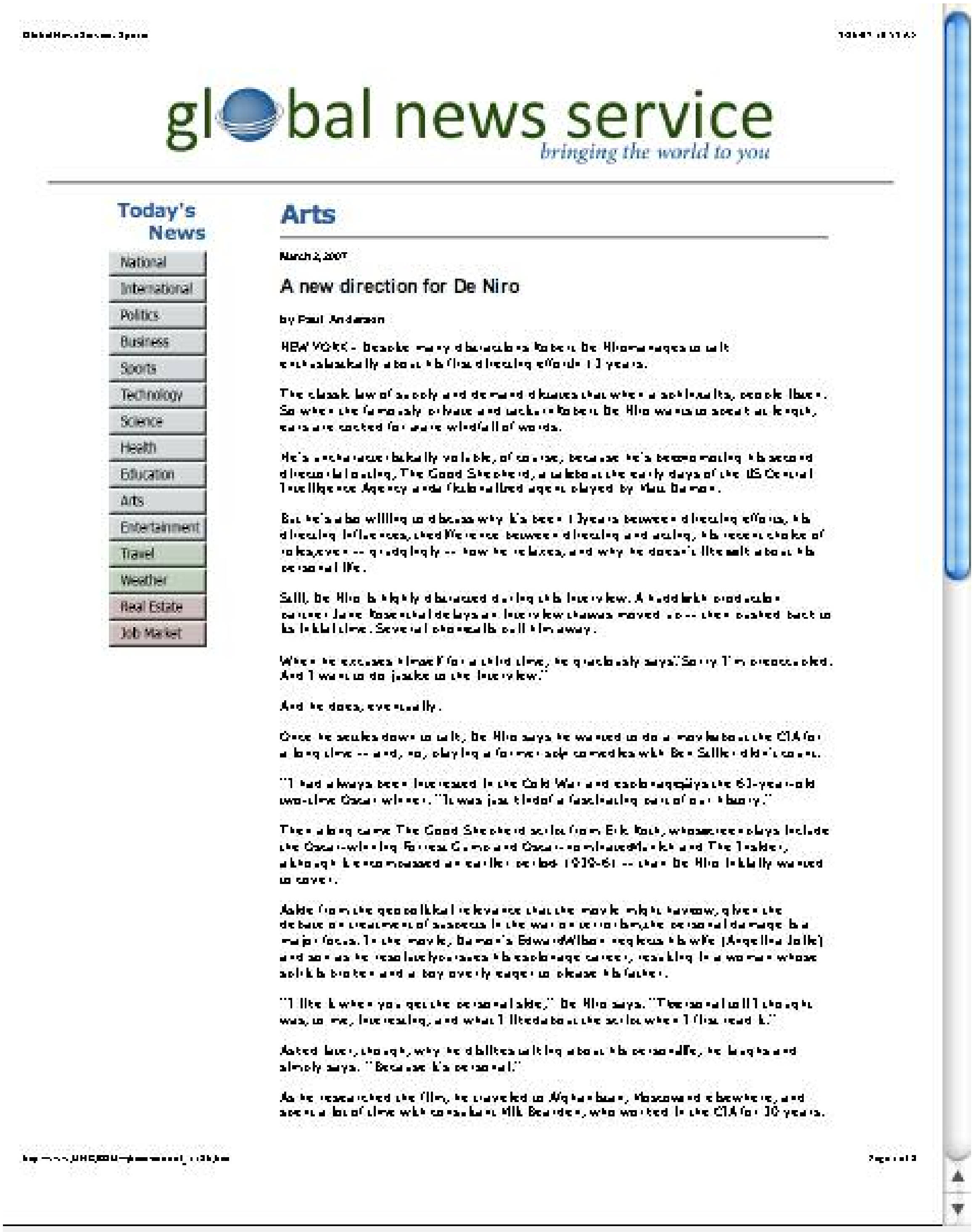
| read more... |

Copyright 2007 Global News Service, Inc.

About Us | Privacy Policy | Jobs | Contact Us | Search | Site Map

CONDITION 3: CUSTOMIZATION x CONTROL RECOMMENDATION

STIMULUS WEBSITE FULL-ARTICLE PAGE


global news service
bringing the world to you
Today's News
National
International
Politics
Business
Sports
Technology
Science
Health
Education
Arts
Entertainment
Travel
Weather
Real Estate
Job Market

Arts

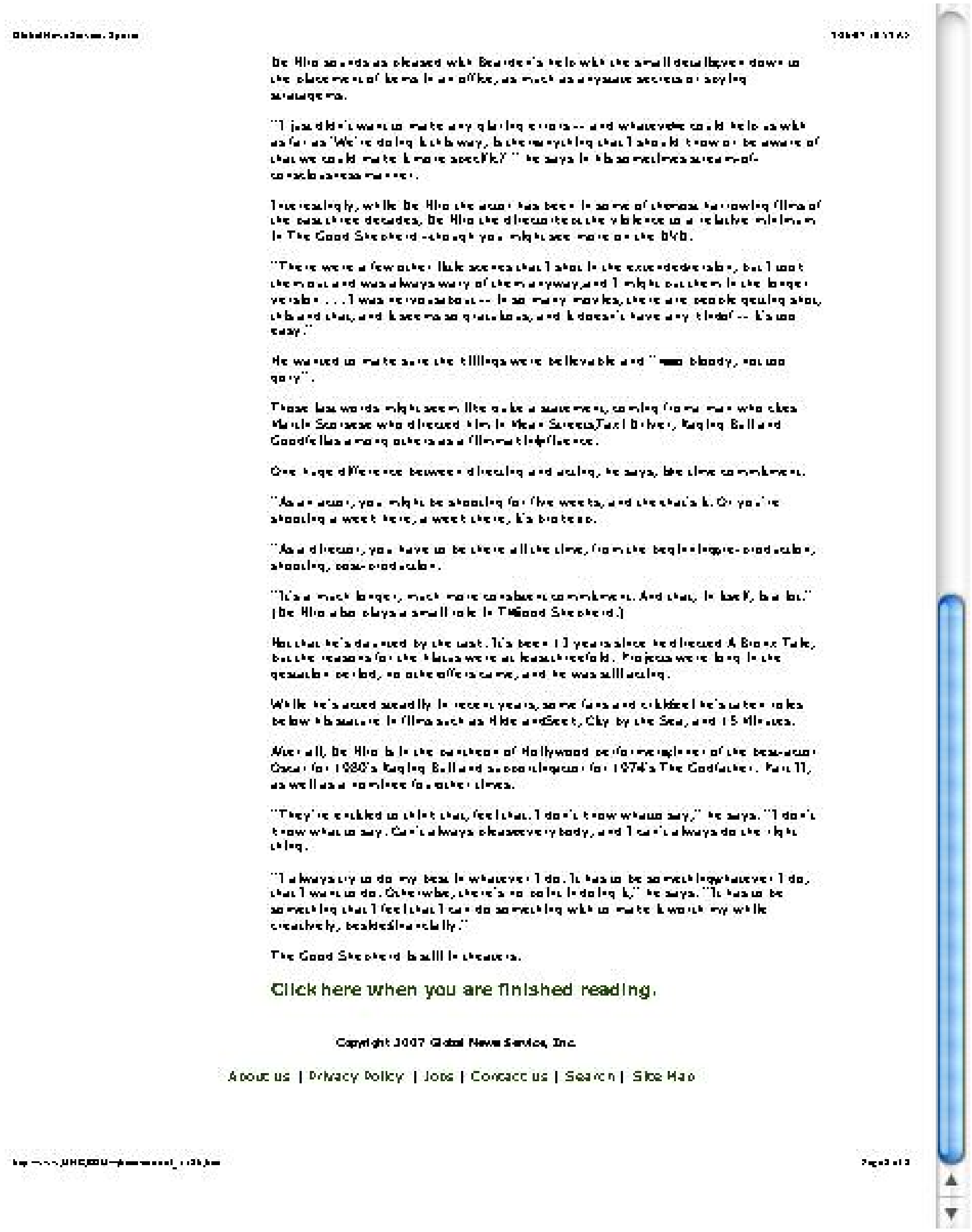
March 2, 2007

A new direction for De Niro

by Paul Anderson

CONDITION 3: CUSTOMIZATION x CONTROL RECOMMENDATION

STIMULUS WEBSITE FULL-ARTICLE PAGE (CONT'D)



De Niro sounds as pleased with Bearden's help with the small details, even down to the placement of items in an office, as much as any state secrets or spying stratagems.

"I just didn't want to make any glaring errors -- and whatever he could help us with as far as 'We're doing it this way, is there anything that I should know or be aware of that we could make it more specific?' " he says in his sometimes stream-of-consciousness manner.

Interestingly, while De Niro the actor has been in some of the most harrowing films of the past three decades, De Niro the director kept the violence to a relative minimum in The Good Shepherd - though you might see more on the DVD.

"There were a few other little scenes that I shot in the extended version, but I took them out and was always wary of them anyway, and I might put them in the longer version . . . I was nervous about -- in so many movies, there are people getting shot, this and that, and it becomes so gratuitous, and it doesn't have any kind of -- it's too easy."

He wanted to make sure the killings were believable and "not bloody, not too gory".

Those last words might seem like quite a statement, coming from a man who cites Martin Scorsese who directed him in Mean Streets, Taxi Driver, Raging Bull and Goodfellas among others as a filmmaking influence.

One huge difference between directing and acting, he says, is the time commitment.

"As an actor, you might be shooting for five weeks, and then that's it. Or you're shooting a week here, a week there, it's broken up.

"As a director, you have to be there all the time, from the beginning, pre-production, shooting, post-production.

"It's a much longer, much more constant commitment. And that, in itself, is a lot." (De Niro also plays a small role in The Good Shepherd.)

Not that he's daunted by the task. It's been 13 years since he directed A Bronx Tale, but the reasons for the hiatus were at least threefold. Projects were long in the gestation period, no other offers came, and he was still acting.

While he's acted steadily in recent years, some fans and critics feel he's taken roles below his stature in films such as Hide and Seek, City by the Sea, and 15 Minutes.

After all, De Niro is in the pantheon of Hollywood performers, winner of the best-actor Oscar for 1980's Raging Bull and supporting actor for 1974's The Godfather: Part II, as well as a nominee four other times.

"They're entitled to think that, feel that. I don't know what to say," he says. "I don't know what to say. Can't always please everybody, and I can't always do the right thing.

"I always try to do my best in whatever I do. It has to be something, whatever I do, that I want to do. Otherwise, there's no point in doing it," he says. "It has to be something that I feel that I can do something with to make it worth my while creatively, besides financially."

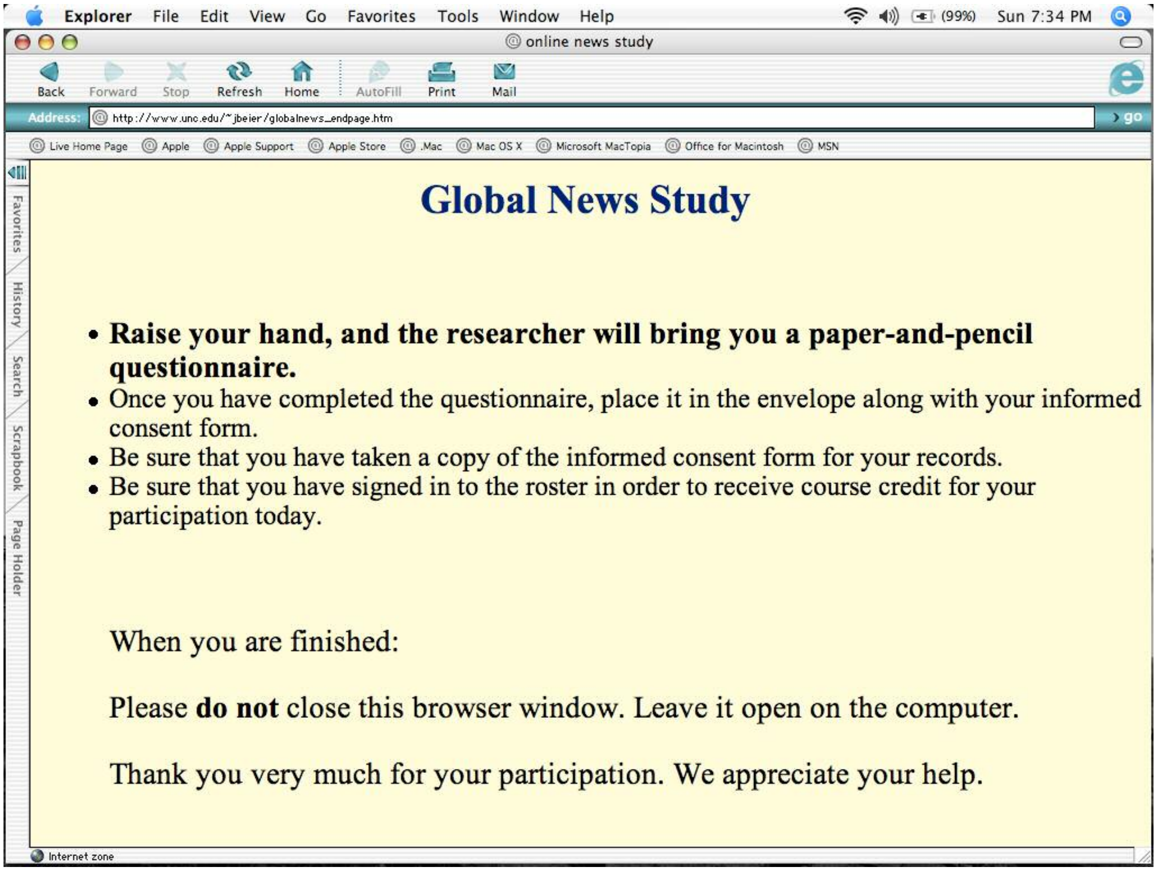
The Good Shepherd is still in theaters.

Copyright 2007 Global News Service, Inc.

About us | Privacy Policy | Jobs | Contact us | Search | Site Map

CONDITION 3: CUSTOMIZATION x CONTROL RECOMMENDATION

POST-STIMULUS END PAGE


Explorer File Edit View Go Favorites Tools Window Help
(99%) Sun 7:34 PM
online news study
Back
Forward
Stop
Refresh
Home
AutoFill
Print
Mail
Address:
go
Live Home Page
Apple
Apple Support
Apple Store
.Mac
Mac OS X
Microsoft MacTopia
Office for Macintosh
MSN
Favorites
History
Search
Scrapbook
Page Holder
Internet zone

Address: http://www.unc.edu/~jbeier/globalnews_endpage.htm

Global News Study

- **Raise your hand, and the researcher will bring you a paper-and-pencil questionnaire.**
- Once you have completed the questionnaire, place it in the envelope along with your informed consent form.
- Be sure that you have taken a copy of the informed consent form for your records.
- Be sure that you have signed in to the roster in order to receive course credit for your participation today.

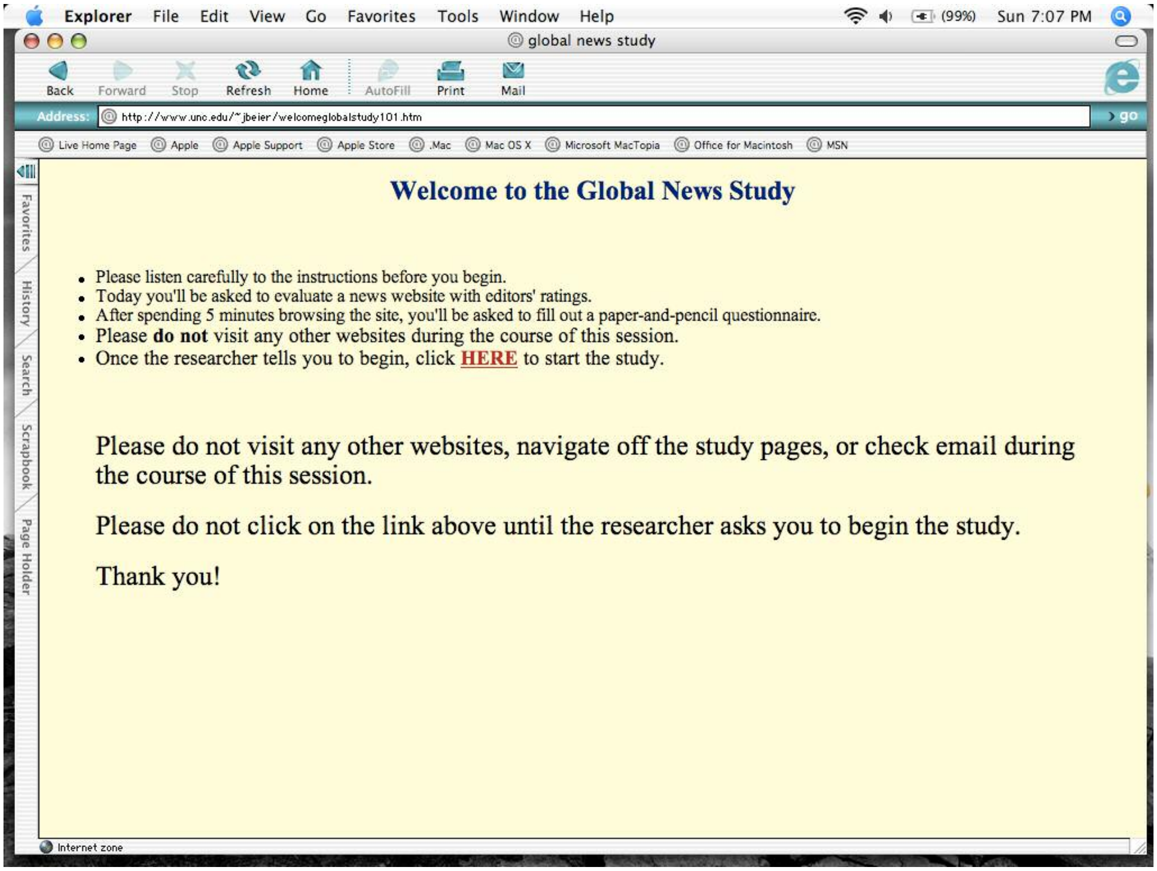
When you are finished:

Please **do not** close this browser window. Leave it open on the computer.

Thank you very much for your participation. We appreciate your help.

CONDITION 4:
NON-CUSTOMIZATION x GATEKEEPER RECOMMENDATION

INTRODUCTORY INSTRUCTION PAGE


Explorer
File
Edit
View
Go
Favorites
Tools
Window
Help
(99%)
Sun 7:07 PM
global news study
Back
Forward
Stop
Refresh
Home
AutoFill
Print
Mail
Address:
http://www.unc.edu/~jbeier/welcomeglobalstudy101.htm
go
Live Home Page
Apple
Apple Support
Apple Store
.Mac
Mac OS X
Microsoft MacTopia
Office for Macintosh
MSN
Favorites
History
Search
Scrapbook
Page Holder
Internet zone

Welcome to the Global News Study

- Please listen carefully to the instructions before you begin.
- Today you'll be asked to evaluate a news website with editors' ratings.
- After spending 5 minutes browsing the site, you'll be asked to fill out a paper-and-pencil questionnaire.
- Please **do not** visit any other websites during the course of this session.
- Once the researcher tells you to begin, click **HERE** to start the study.

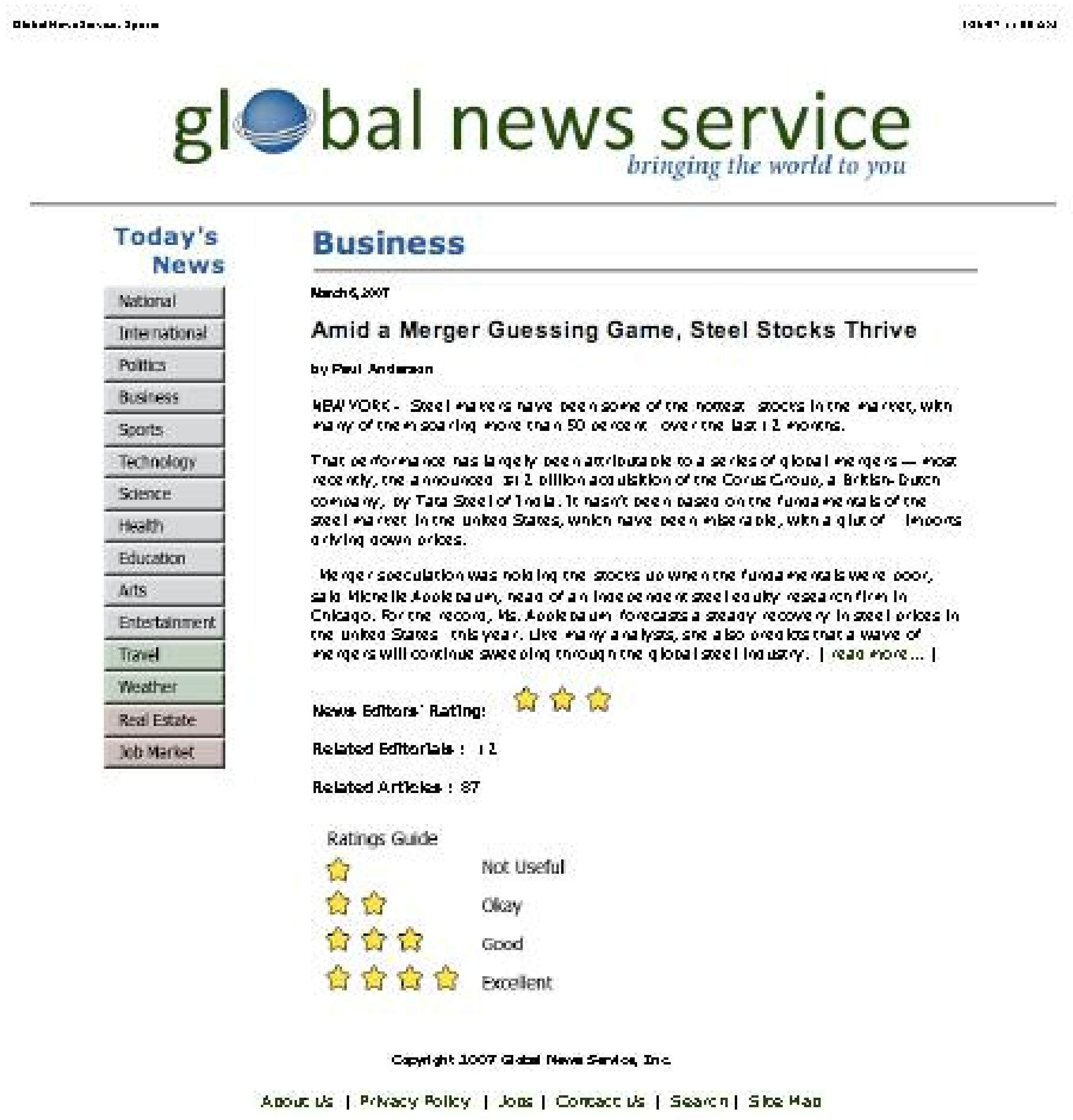
Please do not visit any other websites, navigate off the study pages, or check email during the course of this session.

Please do not click on the link above until the researcher asks you to begin the study.

Thank you!

CONDITION 4:
NON-CUSTOMIZATION x GATEKEEPER RECOMMENDATION

STIMULUS WEBSITE HOMEPAGE



global news service
bringing the world to you
Today's News
National
International
Politics
Business
Sports
Technology
Science
Health
Education
Arts
Entertainment
Travel
Weather
Real Estate
Job Market

Business

March 6, 2007

Amid a Merger Guessing Game, Steel Stocks Thrive

by Paul Anderson

NEW YORK - Steel makers have been some of the hottest stocks in the market, with many of them soaring more than 50 percent over the last 12 months.

That performance has largely been attributable to a series of global mergers — most recently, the announced $12 billion acquisition of the Corus Group, a British-Dutch company, by Tata Steel of India. It hasn't been based on the fundamentals of the steel market in the United States, which have been miserable, with a glut of imports driving down prices.

Merger speculation was holding the stocks up when the fundamentals were poor, said Michelle Applebaum, head of an independent steel equity research firm in Chicago. For the record, Ms. Applebaum forecasts a steady recovery in steel prices in the United States this year. Like many analysts, she also predicts that a wave of mergers will continue sweeping through the global steel industry. | read more ... |

News Editors' Rating: ★★★

Related Editorials : 12

Related Articles : 87

Ratings Guide

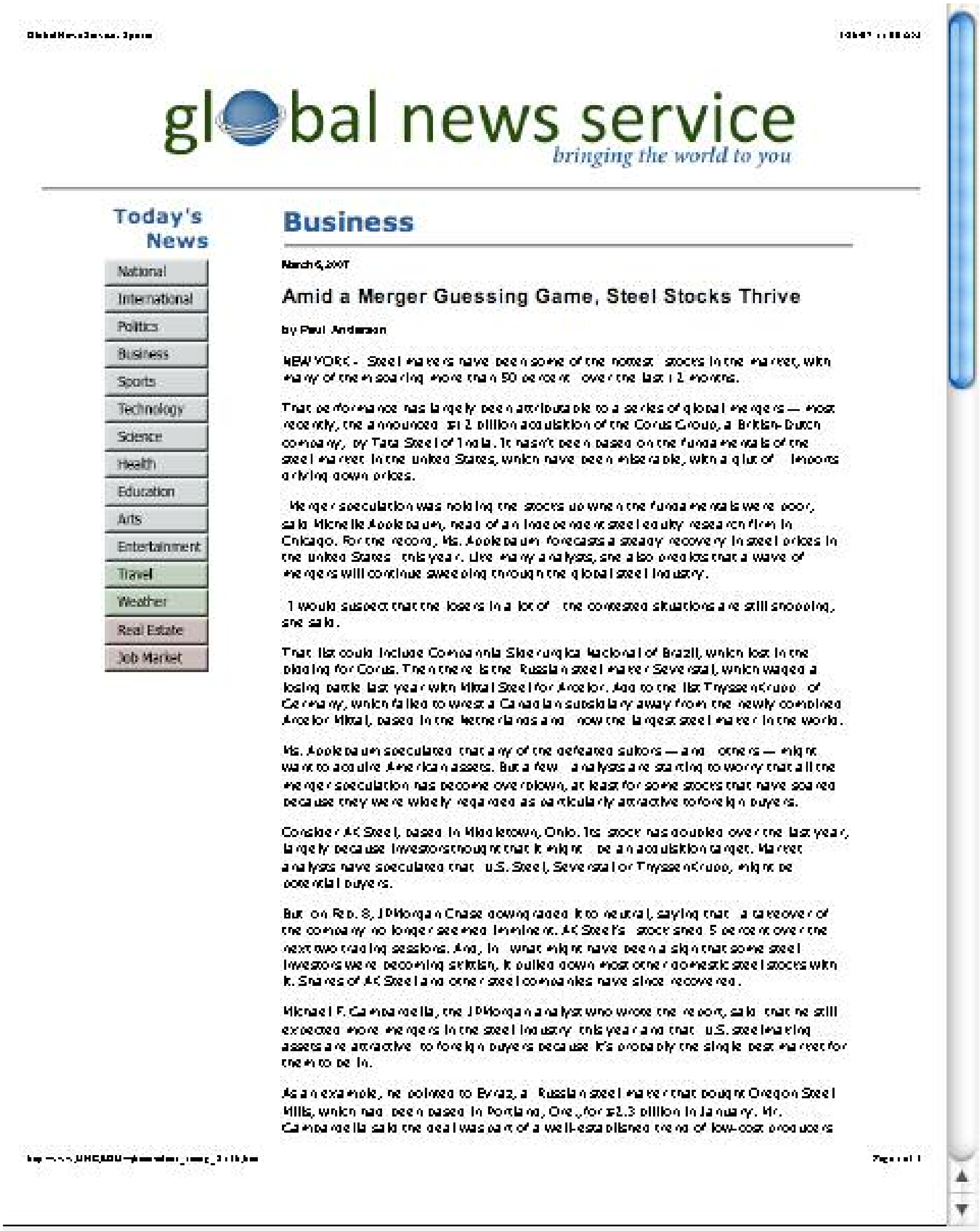
★	Not Useful
★★	Okay
★★★	Good
★★★★	Excellent

Copyright 2007 Global News Service, Inc.

About Us | Privacy Policy | Jobs | Contact Us | Search | Site Map

CONDITION 4:
NON-CUSTOMIZATION x GATEKEEPER RECOMMENDATION

STIMULUS WEBSITE FULL-ARTICLE PAGE



Business

March 6, 2007

Amid a Merger Guessing Game, Steel Stocks Thrive

by Paul Anderson

NEW YORK - Steel makers have been some of the hottest stocks in the market, with many of them soaring more than 50 percent over the last 12 months.

That performance has largely been attributable to a series of global mergers — most recently, the announced $12 billion acquisition of the Corus Group, a British-Dutch company, by Tata Steel of India. It hasn't been based on the fundamentals of the steel market in the United States, which have been miserable, with a glut of imports driving down prices.

Merger speculation was holding the stocks up when the fundamentals were poor, said Michelle Applebaum, head of an independent steel equity research firm in Chicago. For the record, Ms. Applebaum forecasts a steady recovery in steel prices in the United States this year. Like many analysts, she also predicts that a wave of mergers will continue sweeping through the global steel industry.

I would suspect that the losers in a lot of the contested situations are still shopping, she said.

That list could include Companhia Siderurgica Nacional of Brazil, which lost in the bidding for Corus. Then there is the Russian steel maker Severstal, which waged a losing battle last year with Mittal Steel for Arcelor. Add to the list ThyssenKrupp of Germany, which failed to wrest a Canadian subsidiary away from the newly combined Arcelor Mittal, based in the Netherlands and now the largest steel maker in the world.

Ms. Applebaum speculated that any of the defeated suitors — and others — might want to acquire American assets. But a few analysts are starting to worry that all the merger speculation has become overblown, at least for some stocks that have soared because they were widely regarded as particularly attractive to foreign buyers.

Consider AK Steel, based in Middletown, Ohio. Its stock has doubled over the last year, largely because investors thought that it might be an acquisition target. Market analysts have speculated that U.S. Steel, Severstal or ThyssenKrupp, might be potential buyers.

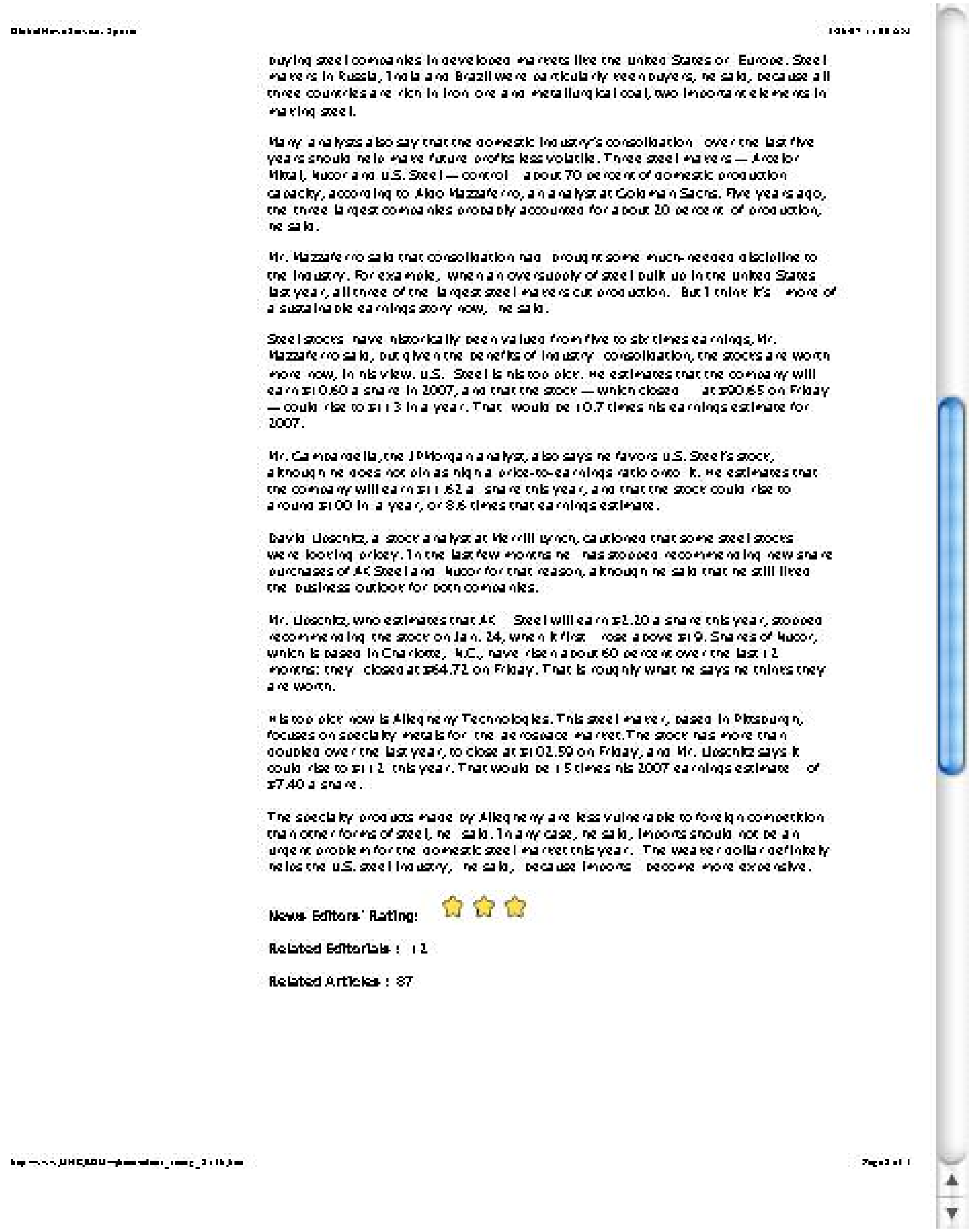
But on Feb. 8, JPMorgan Chase downgraded it to neutral, saying that a takeover of the company no longer seemed imminent. AK Steel's stock shed 5 percent over the next two trading sessions. And, in what might have been a sign that some steel investors were becoming skittish, it pulled down most other domestic steel stocks with it. Shares of AK Steel and other steel companies have since recovered.

Michael F. Gambardella, the JPMorgan analyst who wrote the report, said that he still expected more mergers in the steel industry this year and that U.S. steelmaking assets are attractive to foreign buyers because it's probably the single best market for them to be in.

As an example, he pointed to Evraz, a Russian steel maker that bought Oregon Steel Mills, which had been based in Portland, Ore., for $2.3 billion in January. Mr. Gambardella said the deal was part of a well-established trend of low-cost producers

CONDITION 4:
NON-CUSTOMIZATION x GATEKEEPER RECOMMENDATION

STIMULUS WEBSITE FULL-ARTICLE PAGE (CONT'D)



buying steel companies in developed markets like the United States or Europe. Steel makers in Russia, India and Brazil were particularly keen buyers, he said, because all three countries are rich in iron ore and metallurgical coal, two important elements in making steel.

Many analysts also say that the domestic industry's consolidation over the last five years should help make future profits less volatile. Three steel makers — Arcelor Mittal, Nucor and U.S. Steel — control about 70 percent of domestic production capacity, according to Aldo Mazzaferro, an analyst at Goldman Sachs. Five years ago, the three largest companies probably accounted for about 20 percent of production, he said.

Mr. Mazzaferro said that consolidation had brought some much-needed discipline to the industry. For example, when an oversupply of steel built up in the United States last year, all three of the largest steel makers cut production. But I think it's more of a sustainable earnings story now, he said.

Steel stocks have historically been valued from five to six times earnings, Mr. Mazzaferro said, but given the benefits of industry consolidation, the stocks are worth more now, in his view. U.S. Steel is his top pick. He estimates that the company will earn $10.60 a share in 2007, and that the stock — which closed at $90.65 on Friday — could rise to $113 in a year. That would be 10.7 times his earnings estimate for 2007.

Mr. Campanella, the JPMorgan analyst, also says he favors U.S. Steel's stock, although he does not pin as high a price-to-earnings ratio onto it. He estimates that the company will earn $11.62 a share this year, and that the stock could rise to around $100 in a year, or 8.6 times that earnings estimate.

David Lipschitz, a stock analyst at Merrill Lynch, cautioned that some steel stocks were looking pricey. In the last few months he has stopped recommending new share purchases of AK Steel and Nucor for that reason, although he said that he still liked the business outlook for both companies.

Mr. Lipschitz, who estimates that AK Steel will earn $2.20 a share this year, stopped recommending the stock on Jan. 24, when it first rose above $19. Shares of Nucor, which is based in Charlotte, N.C., have risen about 60 percent over the last 12 months; they closed at $64.72 on Friday. That is roughly what he says he thinks they are worth.

His top pick now is Allegheny Technologies. This steel maker, based in Pittsburgh, focuses on specialty metals for the aerospace market. The stock has more than doubled over the last year, to close at $102.59 on Friday, and Mr. Lipschitz says it could rise to $112 this year. That would be 15 times his 2007 earnings estimate of $7.40 a share.

The specialty products made by Allegheny are less vulnerable to foreign competition than other forms of steel, he said. In any case, he said, imports should not be an urgent problem for the domestic steel market this year. The weaker dollar definitely helps the U.S. steel industry, he said, because imports become more expensive.

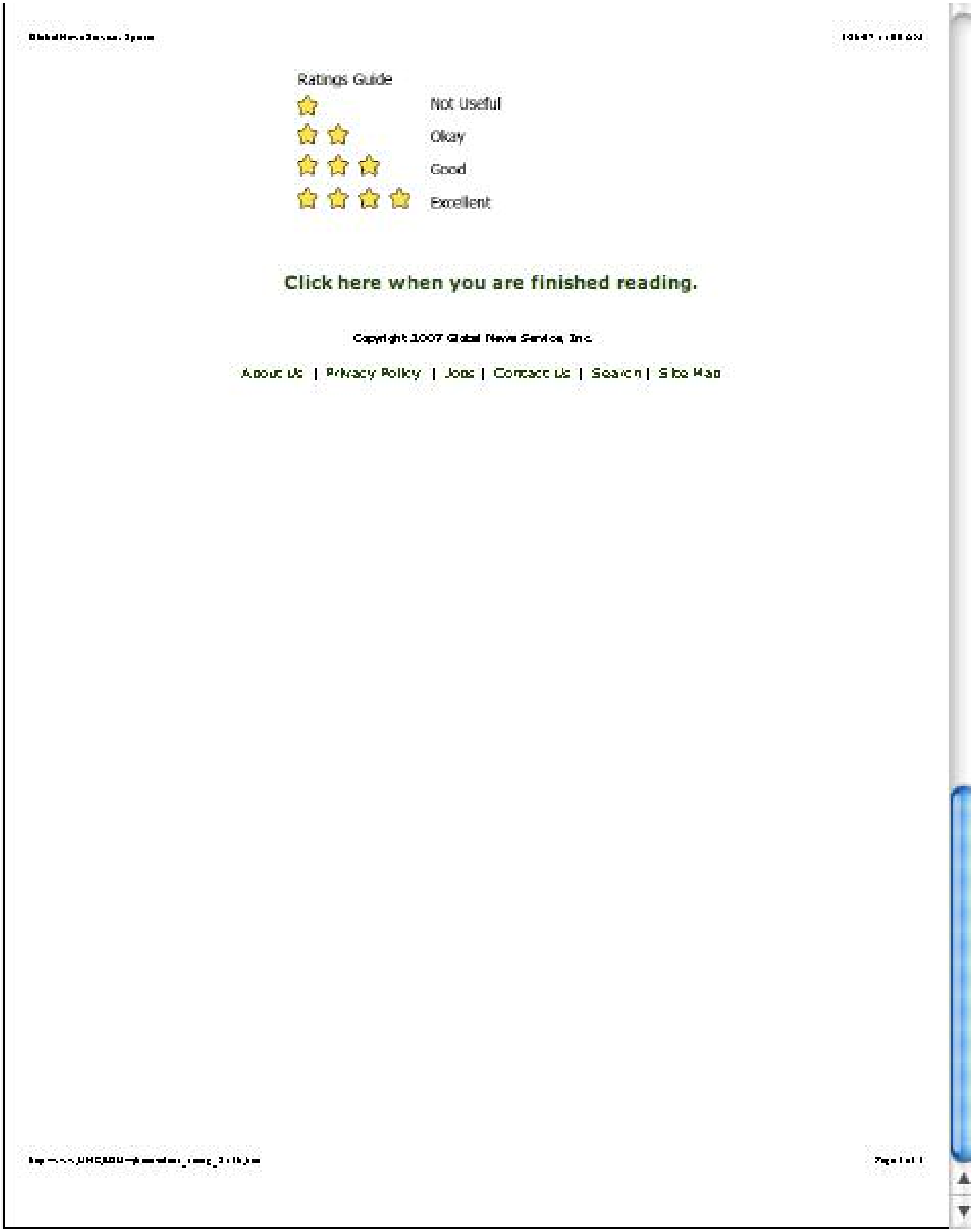
News Editors' Rating: ★★★

Related Editorials : 12

Related Articles : 87

CONDITION 4:
NON-CUSTOMIZATION x GATEKEEPER RECOMMENDATION

STIMULUS WEBSITE FULL-ARTICLE PAGE (CONT'D)



Ratings Guide

★	Not Useful
★ ★	Okay
★ ★ ★	Good
★ ★ ★ ★	Excellent

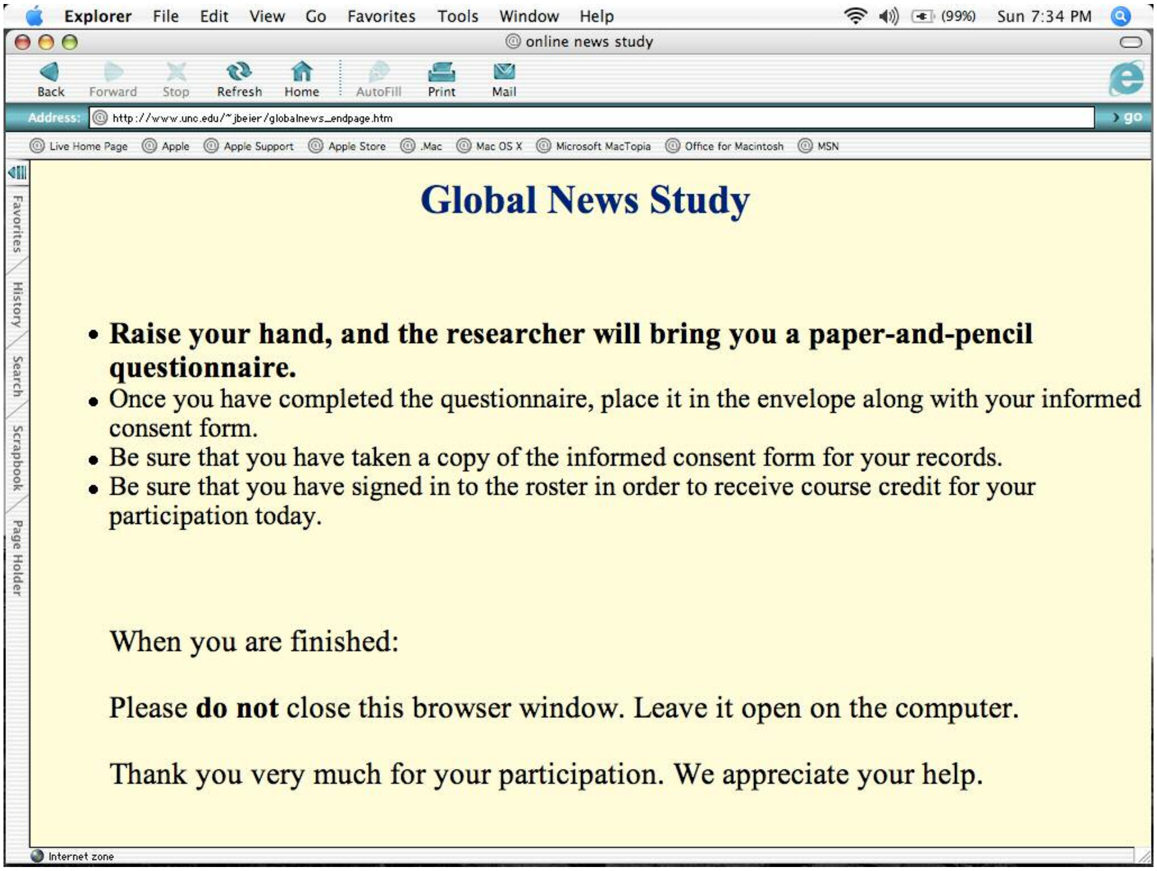
Click here when you are finished reading.

Copyright 2007 Global News Service, Inc.

About Us | Privacy Policy | Jobs | Contact Us | Search | Site Map

CONDITION 4:
NON-CUSTOMIZATION x GATEKEEPER RECOMMENDATION

POST-STIMULUS END PAGE


Explorer File Edit View Go Favorites Tools Window Help
(99%) Sun 7:34 PM
online news study
Back Forward Stop Refresh Home AutoFill Print Mail
Address: http://www.unc.edu/~jbeier/globalnews_endpage.htm
go
Live Home Page Apple Apple Support Apple Store .Mac Mac OS X Microsoft MacTopia Office for Macintosh MSN
Favorites History Search Scrapbook Page Holder
Internet zone

Global News Study

- **Raise your hand, and the researcher will bring you a paper-and-pencil questionnaire.**
- Once you have completed the questionnaire, place it in the envelope along with your informed consent form.
- Be sure that you have taken a copy of the informed consent form for your records.
- Be sure that you have signed in to the roster in order to receive course credit for your participation today.

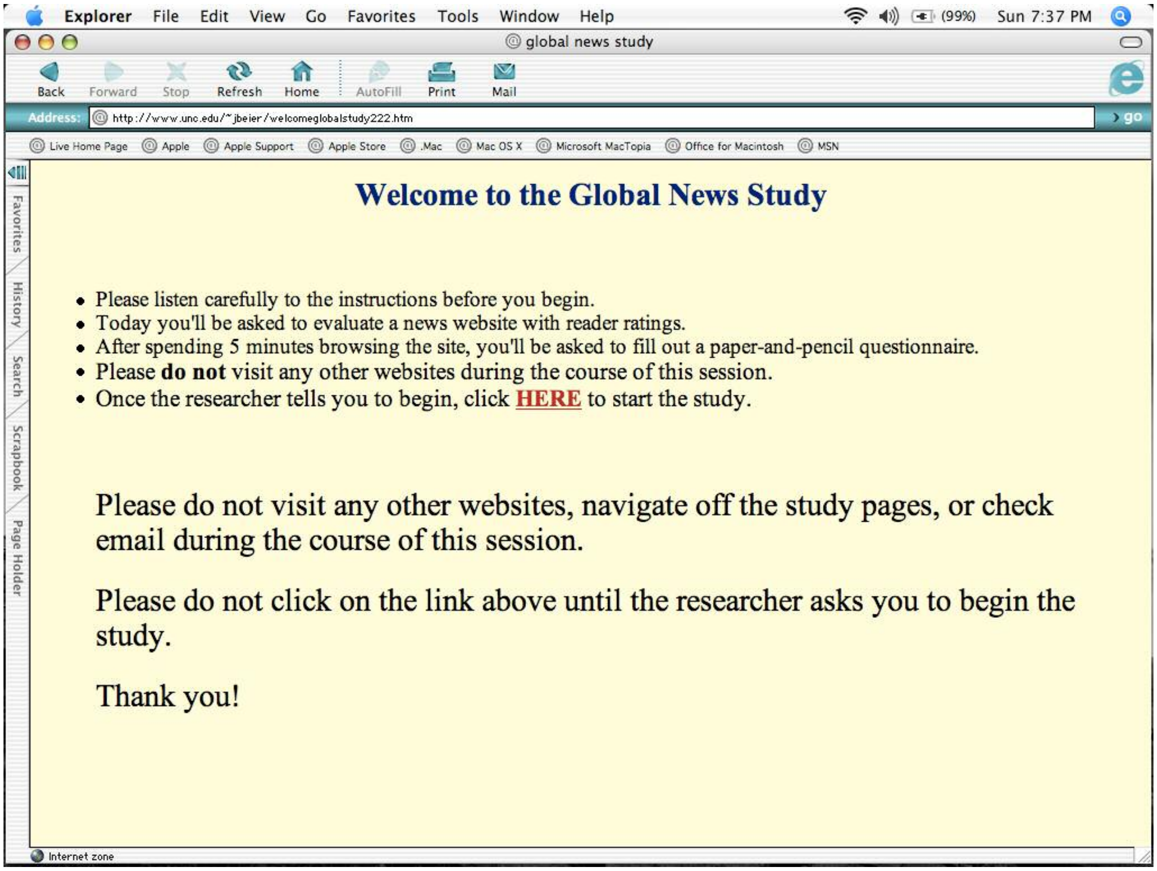
When you are finished:

Please **do not** close this browser window. Leave it open on the computer.

Thank you very much for your participation. We appreciate your help.

CONDITION 5: NON-CUSTOMIZATION x AUDIENCE RECOMMENDATION

INTRODUCTORY PAGE


Explorer
File
Edit
View
Go
Favorites
Tools
Window
Help
(99%)
Sun 7:37 PM
global news study
Back
Forward
Stop
Refresh
Home
AutoFill
Print
Mail
Address:
go
Live Home Page
Apple
Apple Support
Apple Store
.Mac
Mac OS X
Microsoft MacTopia
Office for Macintosh
MSN
Favorites
History
Search
Scrapbook
Page Holder
Internet zone

Address: http://www.unc.edu/~jbeier/welcomeglobalstudy222.htm

Welcome to the Global News Study

- Please listen carefully to the instructions before you begin.
- Today you'll be asked to evaluate a news website with reader ratings.
- After spending 5 minutes browsing the site, you'll be asked to fill out a paper-and-pencil questionnaire.
- Please **do not** visit any other websites during the course of this session.
- Once the researcher tells you to begin, click **HERE** to start the study.

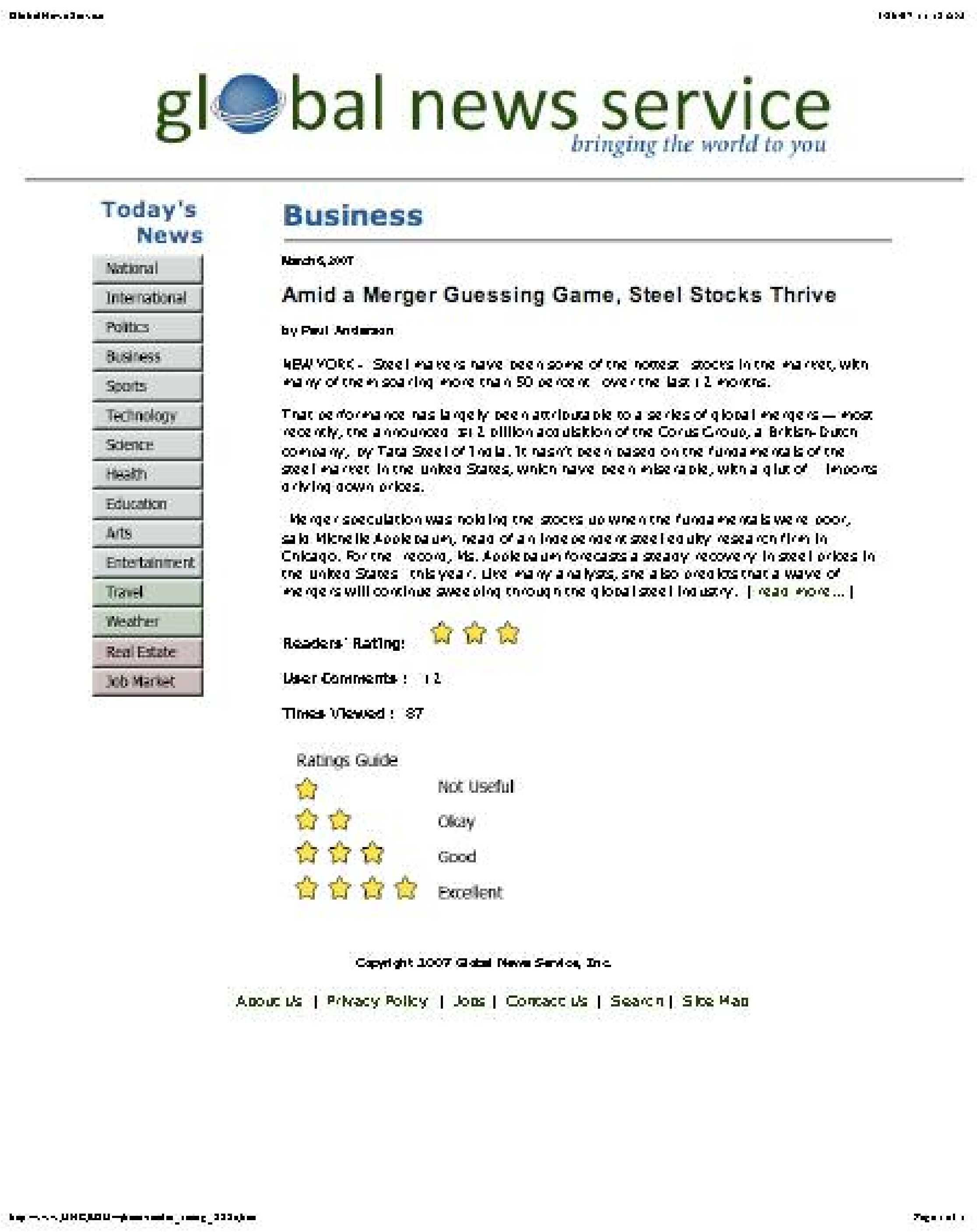
Please do not visit any other websites, navigate off the study pages, or check email during the course of this session.

Please do not click on the link above until the researcher asks you to begin the study.

Thank you!

CONDITION 5: NON-CUSTOMIZATION x AUDIENCE RECOMMENDATION

STIMULUS WEBSITE HOMEPAGE


Global News Service
global news service
bringing the world to you
Today's News
National
International
Politics
Business
Sports
Technology
Science
Health
Education
Arts
Entertainment
Travel
Weather
Real Estate
Job Market

Business

March 6, 2007

Amid a Merger Guessing Game, Steel Stocks Thrive

by Paul Anderson

NEW YORK - Steel makers have been some of the hottest stocks in the market, with many of them soaring more than 50 percent over the last 12 months.

That performance has largely been attributable to a series of global mergers — most recently, the announced $12 billion acquisition of the Corus Group, a British-Dutch company, by Tata Steel of India. It hasn't been based on the fundamentals of the steel market in the United States, which have been miserable, with a glut of imports driving down prices.

"Merger speculation was holding the stocks up when the fundamentals were poor," said Michelle Applebaum, head of an independent steel equity research firm in Chicago. For the record, Ms. Applebaum forecasts a steady recovery in steel prices in the United States this year. Like many analysts, she also predicts that a wave of mergers will continue sweeping through the global steel industry. [read more...]

Readers' Rating: ★★★

User Comments : 12

Times Viewed : 87

Ratings Guide

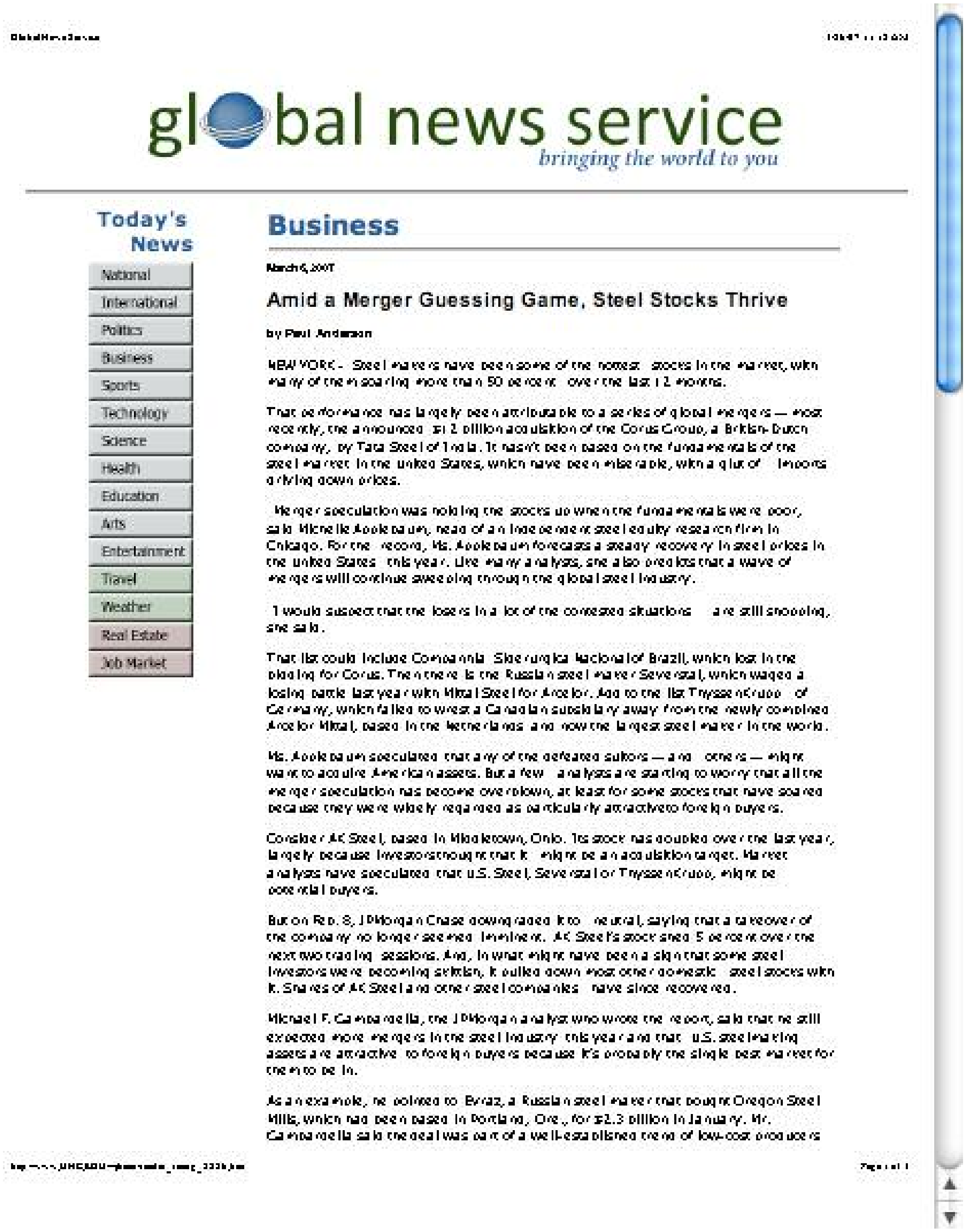
★	Not Useful
★★	Okay
★★★	Good
★★★★	Excellent

Copyright 2007 Global News Service, Inc.

About Us | Privacy Policy | Jobs | Contact Us | Search | Site Map

CONDITION 5: NON-CUSTOMIZATION x AUDIENCE RECOMMENDATION

STIMULUS WEBSITE FULL-ARTICLE PAGE



Business

March 6, 2007

Amid a Merger Guessing Game, Steel Stocks Thrive

by Paul Anderson

NEW YORK - Steel makers have been some of the hottest stocks in the market, with many of them soaring more than 50 percent over the last 12 months.

That performance has largely been attributable to a series of global mergers — most recently, the announced $12 billion acquisition of the Corus Group, a British-Dutch company, by Tata Steel of India. It hasn't been based on the fundamentals of the steel market in the United States, which have been miserable, with a glut of imports driving down prices.

Merger speculation was holding the stocks up when the fundamentals were poor, said Michelle Applebaum, head of an independent steel equity research firm in Chicago. For the record, Ms. Applebaum forecasts a steady recovery in steel prices in the United States this year. Like many analysts, she also predicts that a wave of mergers will continue sweeping through the global steel industry.

I would suspect that the losers in a lot of the contested situations are still shopping, she said.

That list could include Companhia Siderurgica Nacional of Brazil, which lost in the bidding for Corus. Then there is the Russian steel maker Severstal, which waged a losing battle last year with Mittal Steel for Arcelor. Add to the list ThyssenKrupp of Germany, which failed to wrest a Canadian subsidiary away from the newly combined Arcelor Mittal, based in the Netherlands and now the largest steel maker in the world.

Ms. Applebaum speculated that any of the defeated suitors — and others — might want to acquire American assets. But a few analysts are starting to worry that all the merger speculation has become overblown, at least for some stocks that have soared because they were widely regarded as particularly attractive to foreign buyers.

Consider AK Steel, based in Middletown, Ohio. Its stock has doubled over the last year, largely because investors thought that it might be an acquisition target. Market analysts have speculated that U.S. Steel, Severstal or ThyssenKrupp, might be potential buyers.

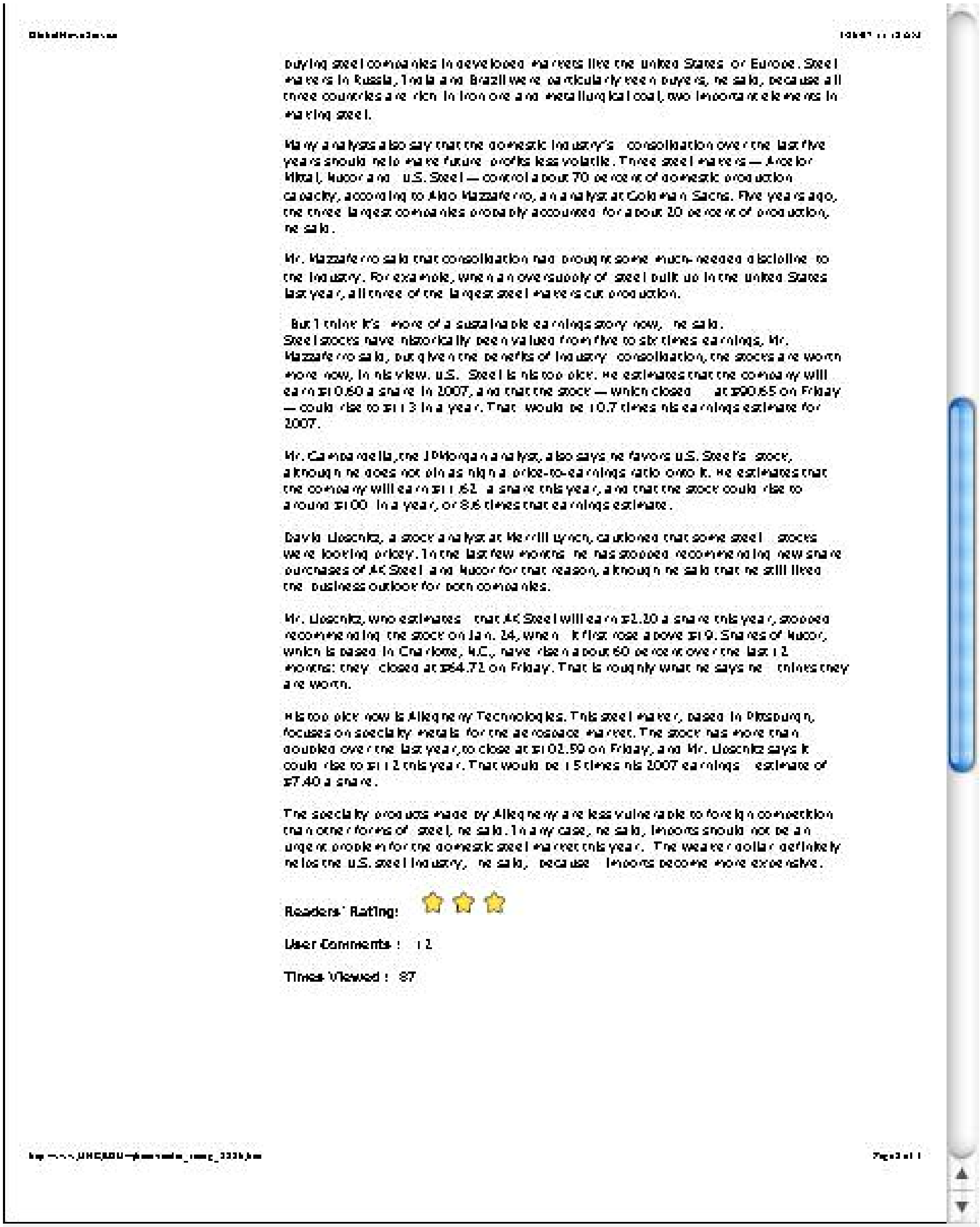
But on Feb. 8, JPMorgan Chase downgraded it to neutral, saying that a takeover of the company no longer seemed imminent. AK Steel's stock shed 5 percent over the next two trading sessions. And, in what might have been a sign that some steel investors were becoming skittish, it pulled down most other domestic steel stocks with it. Shares of AK Steel and other steel companies have since recovered.

Michael F. Gambardella, the JPMorgan analyst who wrote the report, said that he still expected more mergers in the steel industry this year and that U.S. steelmaking assets are attractive to foreign buyers because it's probably the single best market for them to be in.

As an example, he pointed to Evraz, a Russian steel maker that bought Oregon Steel Mills, which had been based in Portland, Ore., for $2.3 billion in January. Mr. Gambardella said the deal was part of a well-established trend of low-cost producers

CONDITION 5: NON-CUSTOMIZATION x AUDIENCE RECOMMENDATION

STIMULUS WEBSITE FULL-ARTICLE PAGE (CONT'D)



buying steel companies in developed markets like the United States or Europe. Steel makers in Russia, India and Brazil were particularly keen buyers, he said, because all three countries are rich in iron ore and metallurgical coal, two important elements in making steel.

Many analysts also say that the domestic industry's consolidation over the last five years should help make future profits less volatile. Three steel makers — Arcelor Mittal, Nucor and U.S. Steel — control about 70 percent of domestic production capacity, according to Aldo Mazzaferro, an analyst at Goldman Sachs. Five years ago, the three largest companies probably accounted for about 20 percent of production, he said.

Mr. Mazzaferro said that consolidation had brought some much-needed discipline to the industry. For example, when an oversupply of steel built up in the United States last year, all three of the largest steel makers cut production.

But I think it's more of a sustainable earnings story now, he said.
Steel stocks have historically been valued from five to six times earnings, Mr. Mazzaferro said, but given the benefits of industry consolidation, the stocks are worth more now, in his view. U.S. Steel is his top pick. He estimates that the company will earn $10.60 a share in 2007, and that the stock — which closed at $90.65 on Friday — could rise to $113 in a year. That would be 10.7 times his earnings estimate for 2007.

Mr. Campanella, the JPMorgan analyst, also says he favors U.S. Steel's stock, although he does not pin as high a price-to-earnings ratio onto it. He estimates that the company will earn $11.62 a share this year, and that the stock could rise to around $100 in a year, or 8.6 times that earnings estimate.

David Lipschitz, a stock analyst at Merrill Lynch, cautioned that some steel stocks were looking pricey. In the last few months he has stopped recommending new share purchases of AK Steel and Nucor for that reason, although he said that he still liked the business outlook for both companies.

Mr. Lipschitz, who estimates that AK Steel will earn $1.20 a share this year, stopped recommending the stock on Jan. 24, when it first rose above $19. Shares of Nucor, which is based in Charlotte, N.C., have risen about 60 percent over the last 12 months; they closed at $64.72 on Friday. That is roughly what he says he thinks they are worth.

His top pick now is Allegheny Technologies. This steel maker, based in Pittsburgh, focuses on specialty metals for the aerospace market. The stock has more than doubled over the last year, to close at $102.59 on Friday, and Mr. Lipschitz says it could rise to $112 this year. That would be 15 times his 2007 earnings estimate of $7.40 a share.

The specialty products made by Allegheny are less vulnerable to foreign competition than other forms of steel, he said. In any case, he said, imports should not be an urgent problem for the domestic steel market this year. The weaker dollar definitely helps the U.S. steel industry, he said, because imports become more expensive.

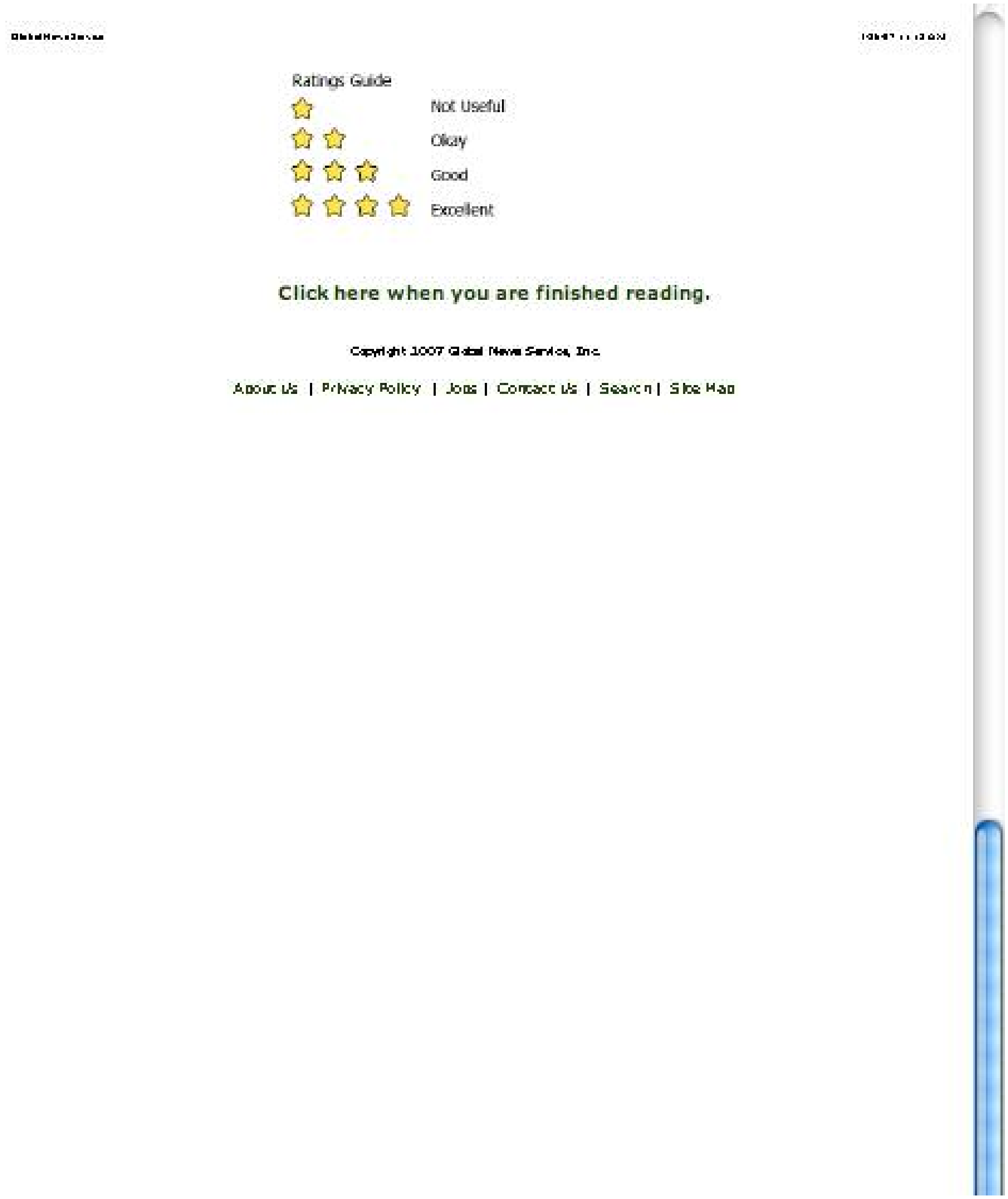
Readers' Rating: ★★★

User Comments : 12

Times Viewed : 87

CONDITION 5: NON-CUSTOMIZATION x AUDIENCE RECOMMENDATION

STIMULUS WEBSITE FULL-ARTICLE PAGE (CONT'D)



Ratings Guide

☆	Not Useful
☆ ☆	Okay
☆ ☆ ☆	Good
☆ ☆ ☆ ☆	Excellent

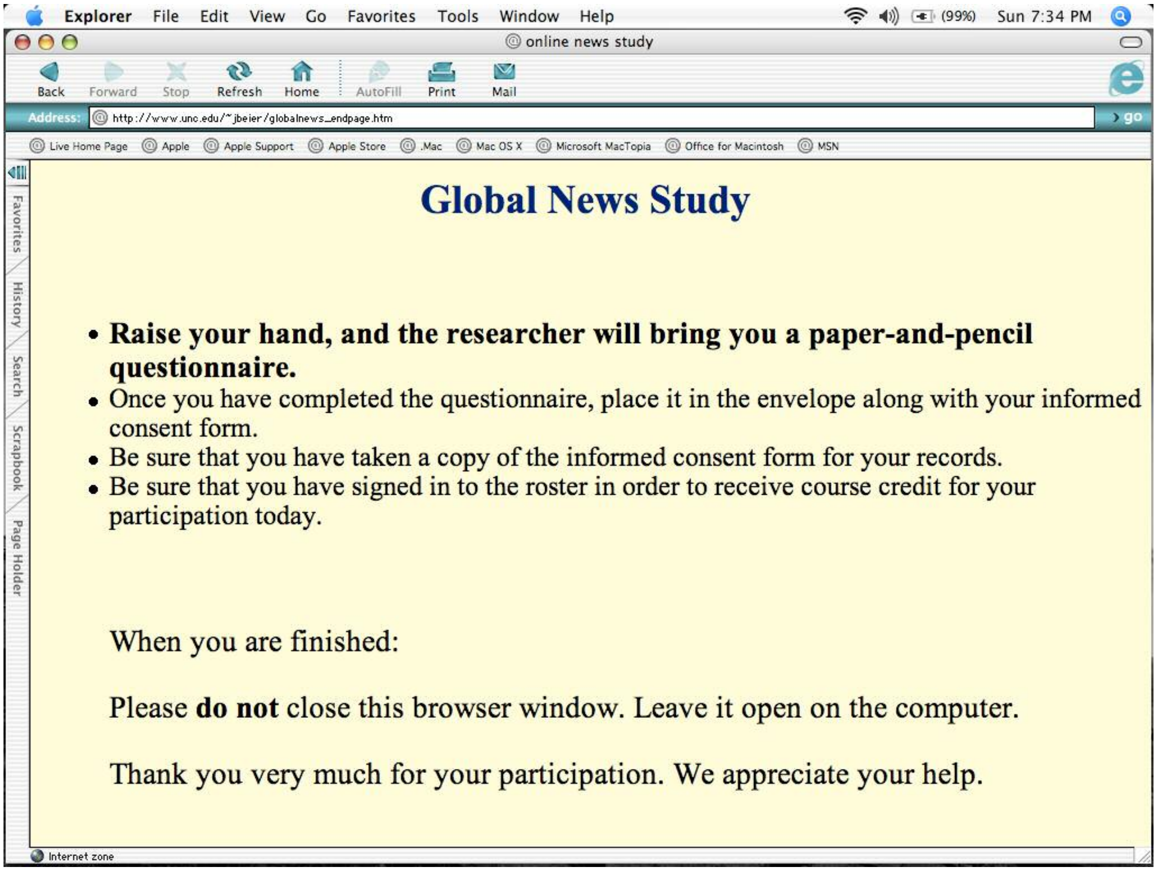
Click here when you are finished reading.

Copyright 2007 Global News Service, Inc.

About us | Privacy Policy | Jobs | Contact us | Search | Site Map

CONDITION 5: NON-CUSTOMIZATION x AUDIENCE RECOMMENDATION

POST-STIMULUS END PAGE


Explorer File Edit View Go Favorites Tools Window Help
(99%) Sun 7:34 PM
online news study
Back Forward Stop Refresh Home AutoFill Print Mail
Address: http://www.unc.edu/~jbeier/globalnews_endpage.htm
go
Live Home Page Apple Apple Support Apple Store .Mac Mac OS X Microsoft MacTopia Office for Macintosh MSN
Favorites History Search Scrapbook Page Holder
Internet zone

Global News Study

- **Raise your hand, and the researcher will bring you a paper-and-pencil questionnaire.**
- Once you have completed the questionnaire, place it in the envelope along with your informed consent form.
- Be sure that you have taken a copy of the informed consent form for your records.
- Be sure that you have signed in to the roster in order to receive course credit for your participation today.

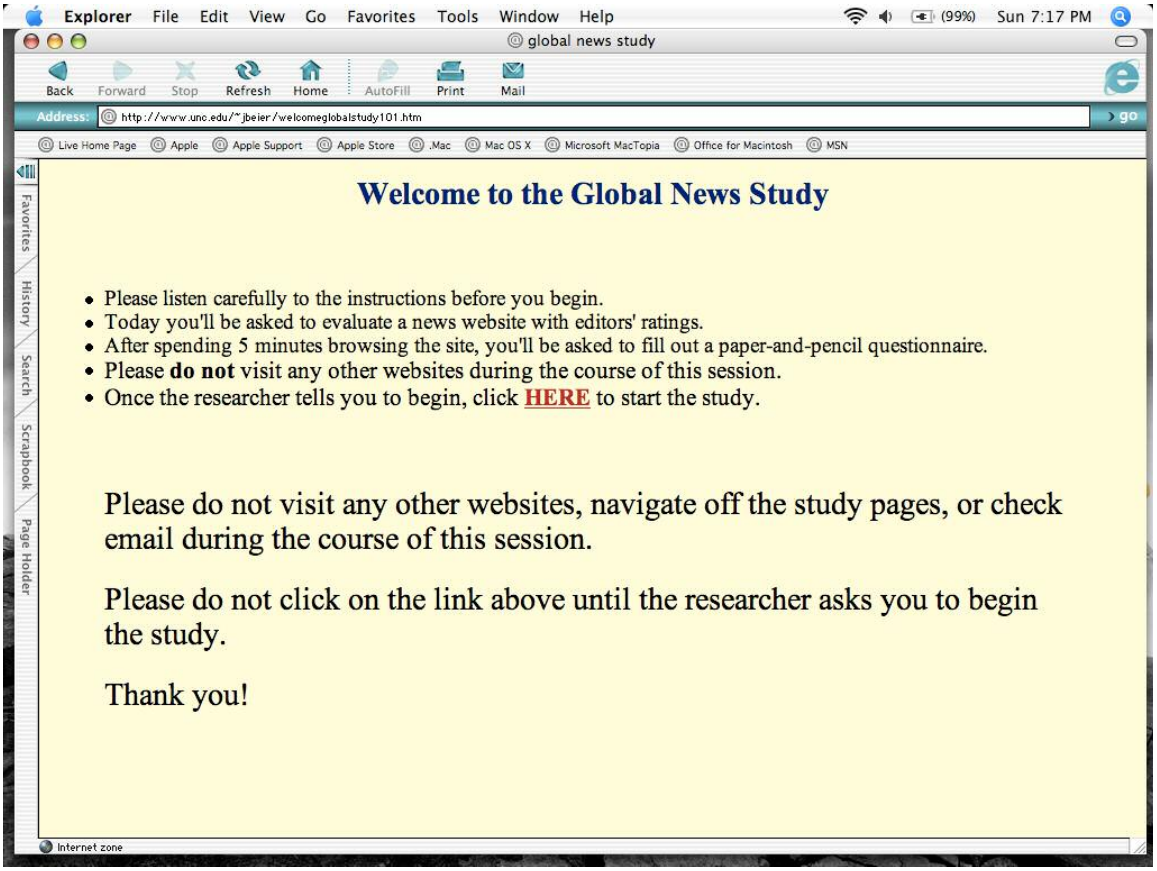
When you are finished:

Please **do not** close this browser window. Leave it open on the computer.

Thank you very much for your participation. We appreciate your help.

CONDITION 6: NON-CUSTOMIZATION x CONTROL RECOMMENDATION

INTRODUCTORY PAGE


Explorer File Edit View Go Favorites Tools Window Help
(99%) Sun 7:17 PM
global news study
Back Forward Stop Refresh Home AutoFill Print Mail
Address: http://www.unc.edu/~jbeier/welcomeglobalstudy101.htm
go
Live Home Page Apple Apple Support Apple Store .Mac Mac OS X Microsoft MacTopia Office for Macintosh MSN
Favorites History Search Scrapbook Page Holder
Internet zone

Welcome to the Global News Study

- Please listen carefully to the instructions before you begin.
- Today you'll be asked to evaluate a news website with editors' ratings.
- After spending 5 minutes browsing the site, you'll be asked to fill out a paper-and-pencil questionnaire.
- Please **do not** visit any other websites during the course of this session.
- Once the researcher tells you to begin, click **HERE** to start the study.

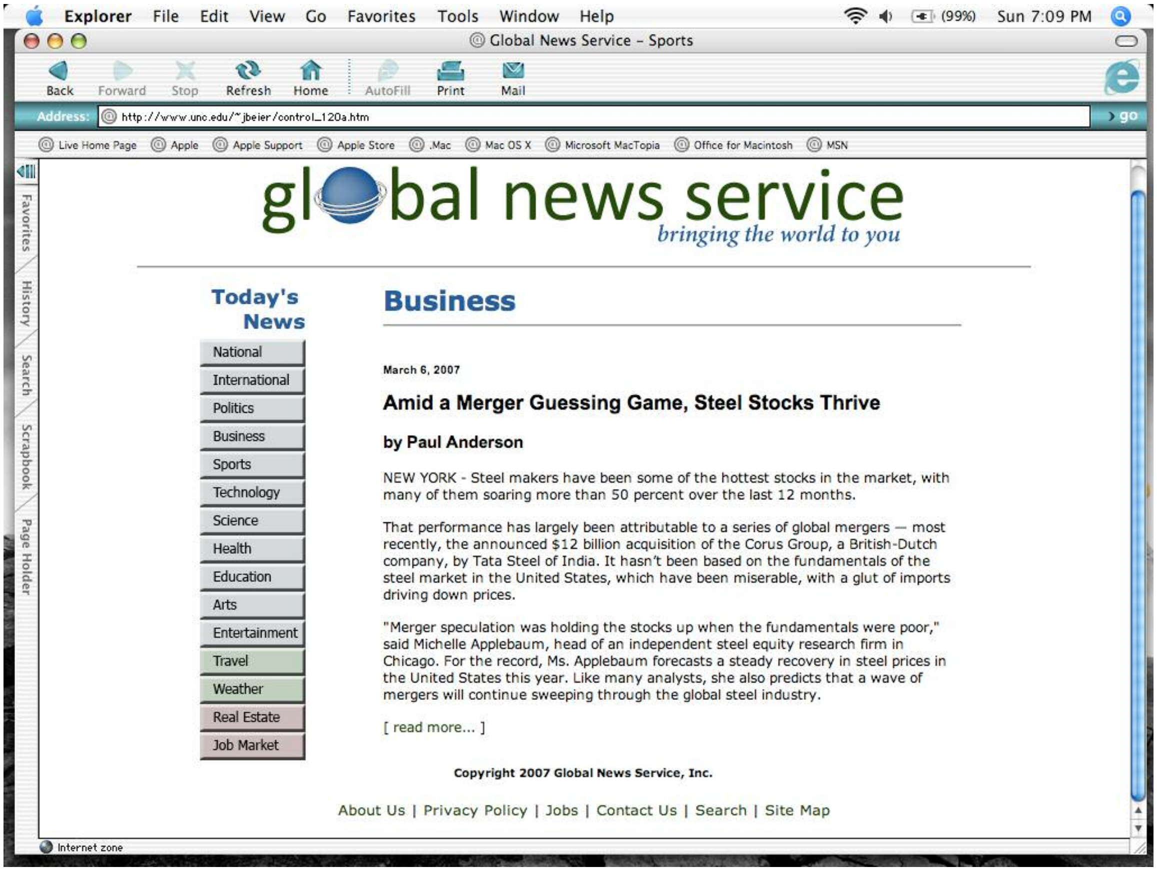
Please do not visit any other websites, navigate off the study pages, or check email during the course of this session.

Please do not click on the link above until the researcher asks you to begin the study.

Thank you!

CONDITION 6: NON-CUSTOMIZATION x CONTROL RECOMMENDATION

STIMULUS WEBSITE HOMEPAGE


Explorer File Edit View Go Favorites Tools Window Help
(99%) Sun 7:09 PM
Global News Service – Sports
Back Forward Stop Refresh Home AutoFill Print Mail
Address: http://www.unc.edu/~jbeier/control_120a.htm
› go
Live Home Page Apple Apple Support Apple Store .Mac Mac OS X Microsoft MacTopia Office for Macintosh MSN
Favorites History Search Scrapbook Page Holder
global news service
bringing the world to you
Today's News
National
International
Politics
Business
Sports
Technology
Science
Health
Education
Arts
Entertainment
Travel
Weather
Real Estate
Job Market
About Us | Privacy Policy | Jobs | Contact Us | Search | Site Map
Internet zone

Business

March 6, 2007

Amid a Merger Guessing Game, Steel Stocks Thrive

by Paul Anderson

NEW YORK - Steel makers have been some of the hottest stocks in the market, with many of them soaring more than 50 percent over the last 12 months.

That performance has largely been attributable to a series of global mergers — most recently, the announced $12 billion acquisition of the Corus Group, a British-Dutch company, by Tata Steel of India. It hasn't been based on the fundamentals of the steel market in the United States, which have been miserable, with a glut of imports driving down prices.

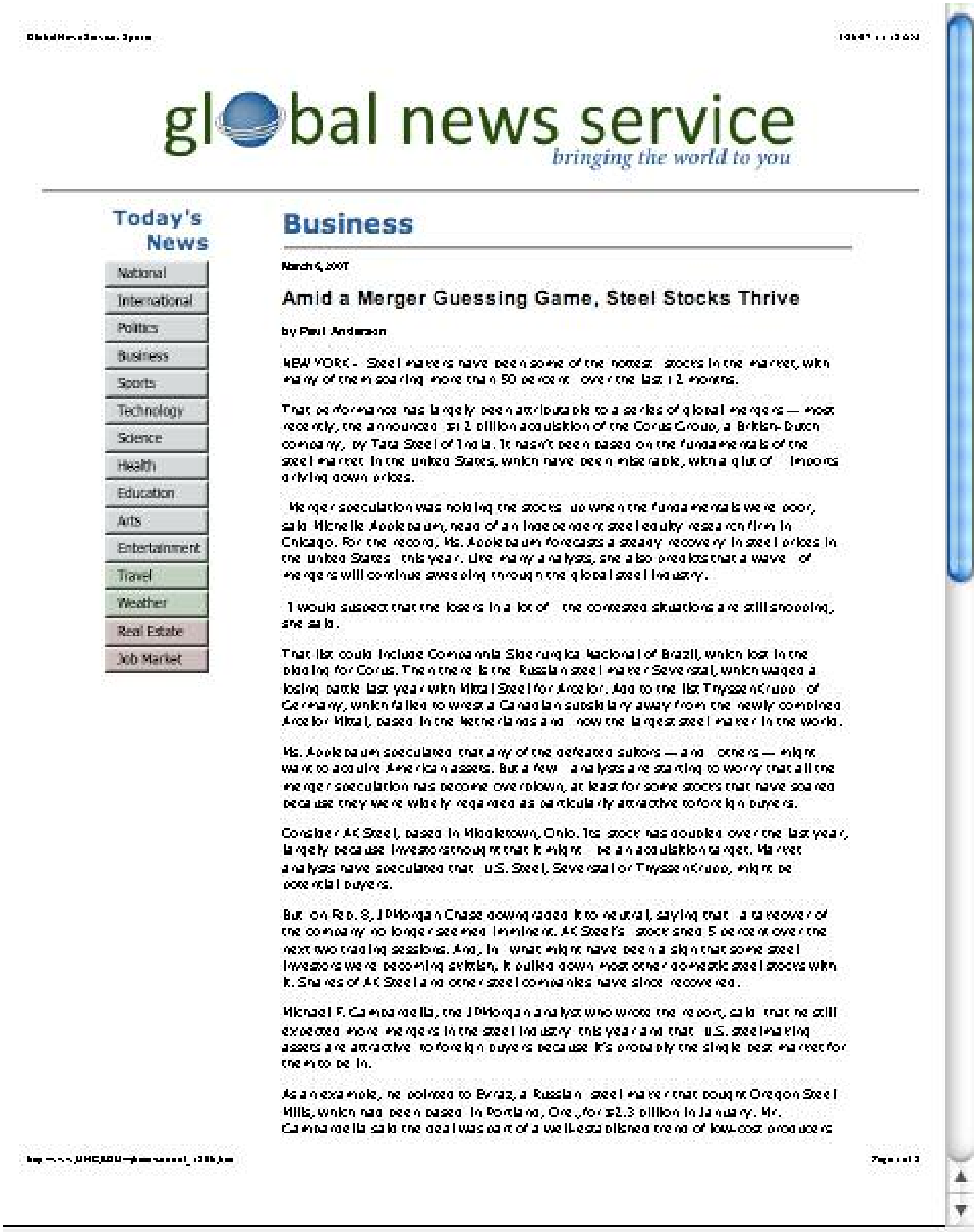
"Merger speculation was holding the stocks up when the fundamentals were poor," said Michelle Applebaum, head of an independent steel equity research firm in Chicago. For the record, Ms. Applebaum forecasts a steady recovery in steel prices in the United States this year. Like many analysts, she also predicts that a wave of mergers will continue sweeping through the global steel industry.

[read more...]

Copyright 2007 Global News Service, Inc.

CONDITION 6: NON-CUSTOMIZATION x CONTROL RECOMMENDATION

STIMULUS WEBSITE FULL-ARTICLE PAGE



Business

March 6, 2007

Amid a Merger Guessing Game, Steel Stocks Thrive

by Paul Anderson

NEW YORK – Steel makers have been some of the hottest stocks in the market, with many of them soaring more than 50 percent over the last 12 months.

That performance has largely been attributable to a series of global mergers — most recently, the announced $12 billion acquisition of the Corus Group, a British-Dutch company, by Tata Steel of India. It hasn't been based on the fundamentals of the steel market in the United States, which have been miserable, with a glut of imports driving down prices.

Merger speculation was holding the stocks up when the fundamentals were poor, said Michelle Applebaum, head of an independent steel equity research firm in Chicago. For the record, Ms. Applebaum forecasts a steady recovery in steel prices in the United States this year. Like many analysts, she also predicts that a wave of mergers will continue sweeping through the global steel industry.

I would suspect that the losers in a lot of the contested situations are still shopping, she said.

That list could include Companhia Siderurgica Nacional of Brazil, which lost in the bidding for Corus. Then there is the Russian steel maker Severstal, which waged a losing battle last year with Mittal Steel for Arcelor. Add to the list ThyssenKrupp of Germany, which failed to wrest a Canadian subsidiary away from the newly combined Arcelor Mittal, based in the Netherlands and now the largest steel maker in the world.

Ms. Applebaum speculated that any of the defeated suitors — and others — might want to acquire American assets. But a few analysts are starting to worry that all the merger speculation has become overblown, at least for some stocks that have soared because they were widely regarded as particularly attractive to foreign buyers.

Consider AK Steel, based in Middletown, Ohio. Its stock has doubled over the last year, largely because investors thought that it might be an acquisition target. Market analysts have speculated that U.S. Steel, Severstal or ThyssenKrupp, might be potential buyers.

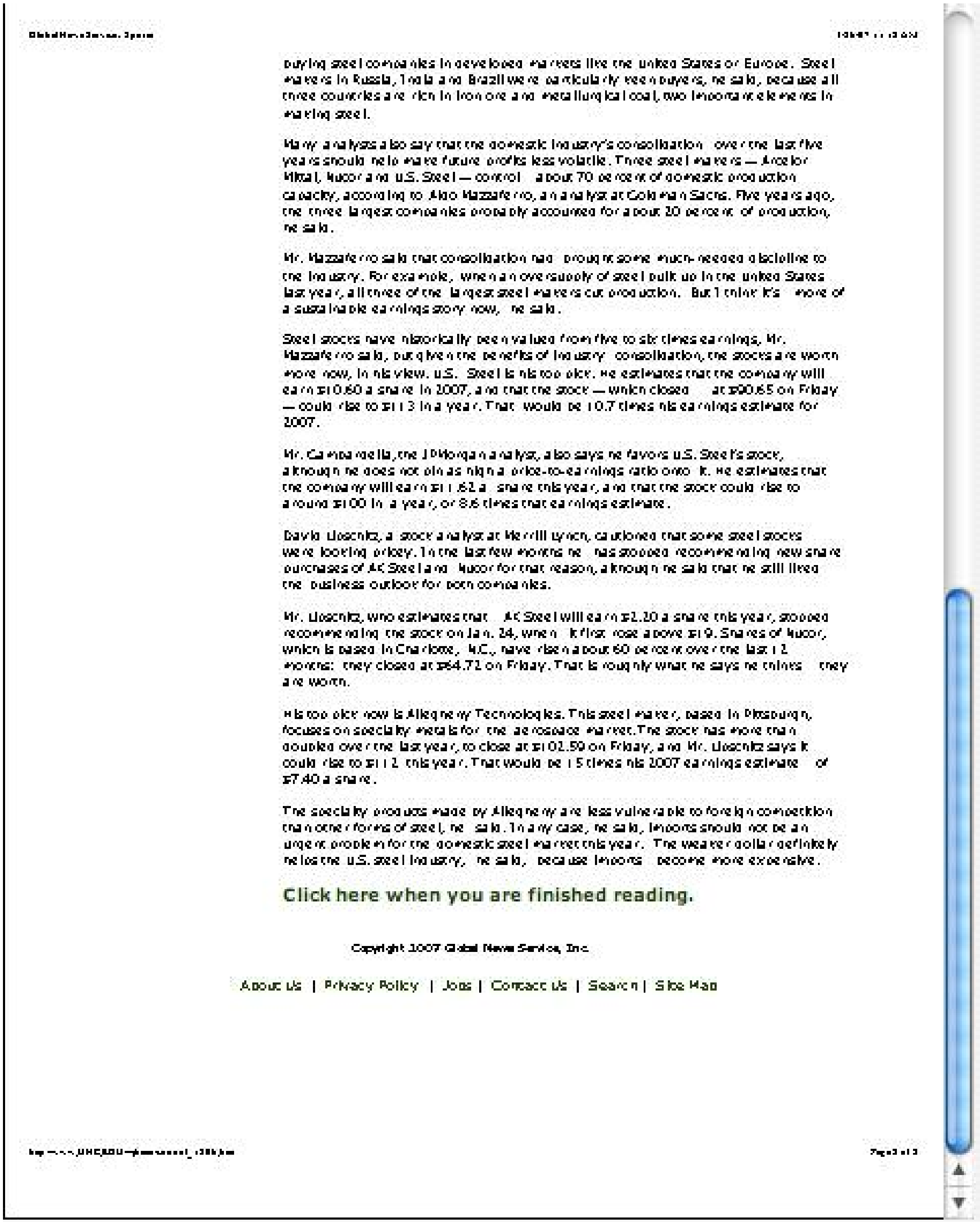
But on Feb. 8, JPMorgan Chase downgraded it to neutral, saying that a takeover of the company no longer seemed imminent. AK Steel's stock shed 5 percent over the next two trading sessions. And, in what might have been a sign that some steel investors were becoming skittish, it pulled down most other domestic steel stocks with it. Shares of AK Steel and other steel companies have since recovered.

Michael F. Gambardella, the JPMorgan analyst who wrote the report, said that he still expected more mergers in the steel industry this year and that U.S. steelmaking assets are attractive to foreign buyers because it's probably the single best market for them to be in.

As an example, he pointed to Evraz, a Russian steel maker that bought Oregon Steel Mills, which had been based in Portland, Ore., for $2.3 billion in January. Mr. Gambardella said the deal was part of a well-established trend of low-cost producers

CONDITION 6: NON-CUSTOMIZATION x CONTROL RECOMMENDATION

STIMULUS WEBSITE FULL-ARTICLE PAGE (CONT'D)



buying steel companies in developed markets like the United States or Europe. Steel makers in Russia, India and Brazil were particularly keen buyers, he said, because all three countries are rich in iron ore and metallurgical coal, two important elements in making steel.

Many analysts also say that the domestic industry's consolidation over the last five years should help make future profits less volatile. Three steel makers — Arcelor Mittal, Nucor and U.S. Steel — control about 70 percent of domestic production capacity, according to Aldo Mazzaferro, an analyst at Goldman Sachs. Five years ago, the three largest companies probably accounted for about 20 percent of production, he said.

Mr. Mazzaferro said that consolidation had brought some much-needed discipline to the industry. For example, when an oversupply of steel built up in the United States last year, all three of the largest steel makers cut production. But I think it's more of a sustainable earnings story now, he said.

Steel stocks have historically been valued from five to six times earnings, Mr. Mazzaferro said, but given the benefits of industry consolidation, the stocks are worth more now, in his view. U.S. Steel is his top pick. He estimates that the company will earn $10.60 a share in 2007, and that the stock — which closed at $90.65 on Friday — could rise to $113 in a year. That would be 10.7 times his earnings estimate for 2007.

Mr. Campanella, the JPMorgan analyst, also says he favors U.S. Steel's stock, although he does not pin as high a price-to-earnings ratio onto it. He estimates that the company will earn $11.62 a share this year, and that the stock could rise to around $100 in a year, or 8.6 times that earnings estimate.

David Lipschitz, a stock analyst at Merrill Lynch, cautioned that some steel stocks were looking pricey. In the last few months he has stopped recommending new share purchases of AK Steel and Nucor for that reason, although he said that he still liked the business outlook for both companies.

Mr. Lipschitz, who estimates that AK Steel will earn $2.20 a share this year, stopped recommending the stock on Jan. 24, when it first rose above $19. Shares of Nucor, which is based in Charlotte, N.C., have risen about 60 percent over the last 12 months; they closed at $64.71 on Friday. That is roughly what he says he thinks they are worth.

His top pick now is Allegheny Technologies. This steel maker, based in Pittsburgh, focuses on specialty metals for the aerospace market. The stock has more than doubled over the last year, to close at $102.59 on Friday, and Mr. Lipschitz says it could rise to $112 this year. That would be 15 times his 2007 earnings estimate of $7.40 a share.

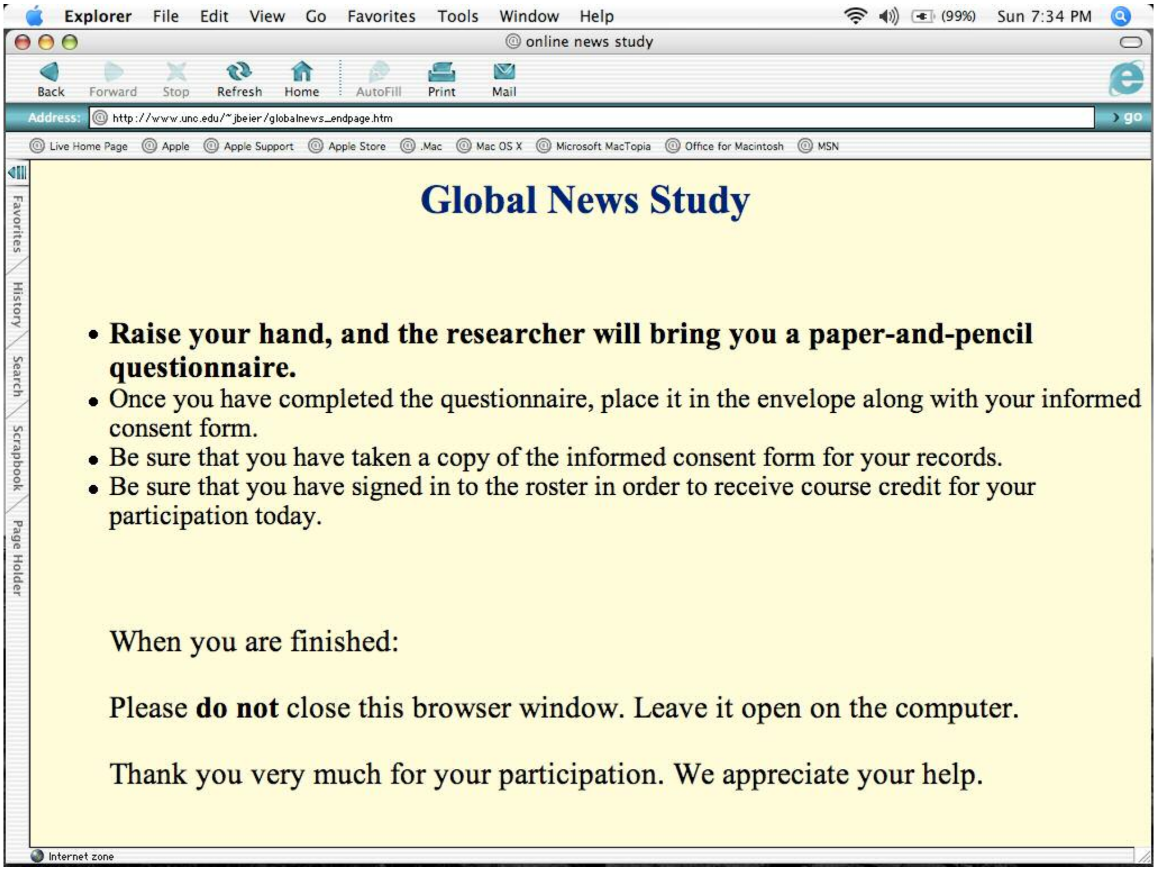
The specialty products made by Allegheny are less vulnerable to foreign competition than other forms of steel, he said. In any case, he said, imports should not be an urgent problem for the domestic steel market this year. The weaker dollar definitely helps the U.S. steel industry, he said, because imports become more expensive.

Copyright 2007 Global News Service, Inc.

About Us | Privacy Policy | Jobs | Contact Us | Search | Site Map

CONDITION 6: NON-CUSTOMIZATION x CONTROL RECOMMENDATION

POST-STIMULUS END PAGE


Explorer File Edit View Go Favorites Tools Window Help
(99%) Sun 7:34 PM
online news study
Back Forward Stop Refresh Home AutoFill Print Mail
Address: http://www.unc.edu/~jbeier/globalnews_endpage.htm
go
Live Home Page Apple Apple Support Apple Store .Mac Mac OS X Microsoft MacTopia Office for Macintosh MSN
Favorites History Search Scrapbook Page Holder
Internet zone

Global News Study

- **Raise your hand, and the researcher will bring you a paper-and-pencil questionnaire.**
- Once you have completed the questionnaire, place it in the envelope along with your informed consent form.
- Be sure that you have taken a copy of the informed consent form for your records.
- Be sure that you have signed in to the roster in order to receive course credit for your participation today.

When you are finished:

Please **do not** close this browser window. Leave it open on the computer.

Thank you very much for your participation. We appreciate your help.

APPENDIX B:
PREQUESTIONNAIRE

SURVEY OF UNIVERSITY STUDENTS' INTERESTS AND PREFERENCES

Part A

1. On a 1-7 scale, with "1" representing "**Not at all interested**" and "7" representing "**Extremely interested**," please rate your level of interest in the following topics:

Topic	Level of interest						
Pro Sports (e.g., NFL, NBA)	1	2	3	4	5	6	7
News (US & Local)	1	2	3	4	5	6	7
College Sports	1	2	3	4	5	6	7
Music	1	2	3	4	5	6	7
Travel	1	2	3	4	5	6	7
Weather	1	2	3	4	5	6	7
Business & Finance	1	2	3	4	5	6	7
Online chatting	1	2	3	4	5	6	7
Online shopping	1	2	3	4	5	6	7
World News	1	2	3	4	5	6	7
Movies	1	2	3	4	5	6	7
Books	1	2	3	4	5	6	7
Comics	1	2	3	4	5	6	7
Health & Science	1	2	3	4	5	6	7
Political News	1	2	3	4	5	6	7
Carolina Basketball	1	2	3	4	5	6	7

2. What is your favorite pro sports team? ___________________________

3. What is your favorite college sports team? _________________________

4. What is your favorite sport? _____________________________________

5. If you had an opportunity to take a vacation, what would your top **three** destinations be?

1) _______________________
2) _______________________
3) _______________________

6. Did you watch the Super Bowl this year?

Yes/No (**Note:** If you circle "No" please proceed to Question 8)

7. Among the ads aired during this year's Super Bowl, which was your favorite?

_______________________ (If you don't remember exact details, just mention the product/service/brand).

8. What are your **three** favorite ads of all time (PLEASE NAME THEM IN ORDER OF PREFERENCE)?

1) _______________________
2) _______________________
3) _______________________

9. If you could choose to watch ads for **three** products/brands/services (e.g., Coke, Budweiser, BMW, Apple iPod, Banana Republic, etc.), what would they be (PLEASE NAME THEM IN ORDER OF PREFERENCE)?

1) _______________________
2) _______________________
3) _______________________

10. What is your favorite **movie** genre (such as action/adventure, comedy, romance, horror, etc.—PLEASE NAME ONE ONLY)? ______________________

11. Who are your **three** favorite musical groups/artists (PLEASE NAME THEM IN ORDER OF PREFERENCE)?

1) ______________________
2) ______________________
3) ______________________

12. Who are your **three** favorite movie actors/actresses (PLEASE NAME THEM IN ORDER OF PREFERENCE)?

1) ______________________
2) ______________________
3) ______________________

13. What is your favorite **news** Website (PLEASE NAME ONE ONLY)?

____

14. What is your favorite **entertainment** Website (PLEASE NAME ONE ONLY)?

____

15. What is your favorite **search engine** (PLEASE NAME ONE ONLY)?

____

16. What is your favorite **newspaper** (PLEASE NAME ONE ONLY)?

____

17. What is your favorite **clothing brand/apparel** (PLEASE NAME ONE ONLY)? ____

18. What is your favorite **beverage/drink** (PLEASE NAME ONE ONLY)?
____

19. What is your favorite make of **car/automobile** (PLEASE NAME ONE ONLY)? ____

20. If you could opt to keep up to date on **three** topics/people, which three would you choose (THESE COULD ENCOMPASS A WIDE RANGE such as John Edwards, the Apple iPhone, the Oscars, Grammy Awards, Graduate School, Advertising Agencies, UNC, Vegetarian Recipes, London, and so on)?

1) ______________________

2) ______________________

3) ______________________

Part B

Please give us some information about yourself (all information that you provide will be **completely confidential**).

1. Your name (PLEASE PRINT, first and last names):

____

2. Your hometown: ____

3. Your birthday (MM/DD/YY): ________________________

4. Your age: ____

5. Your major: ____

6. Your semester standing: ______________________________

7. Your gender: ____

THANK YOU VERY MUCH FOR YOUR TIME AND COOPERATION!

APPENDIX C:
QUESTIONNAIRE PACKET

QUESTIONNAIRE PACKET

Please tell us about your perceptions of GlobalNewsService.com

This questionnaire contains several questions asking for your opinions about the GlobalNewsService.com website.

Thank you for sharing your opinions with us.

Please continue to the next page.

Part A

This section tests your memory for the article that was just presented on the website. Please try to write as much as you can remember based about your experience.

List ALL the things that you can remember about the article that you read. While we would like you to be as specific as you can be, please list ANY detail that you can remember.

____
____
____
____
____
____
____
____
____
____
____
____
____.

Please continue to the next page.

Part B

1. Based on your experience with GlobalNewsService.com during this session, please provide an **overall evaluation of the GlobalNewsService.com website** using the scales below. On a scale of 1 to 9, where **"1" means "describes very poorly"** and **"9" means "describes very well,"** please circle the number that indicates how well each term describes the GlobalNewsService.com website you just used.

Describes:	Very poorly								Very Well
Appealing	1	2	3	4	5	6	7	8	9
Useful	1	2	3	4	5	6	7	8	9
Positive	1	2	3	4	5	6	7	8	9
Good	1	2	3	4	5	6	7	8	9
Favorable	1	2	3	4	5	6	7	8	9
Attractive	1	2	3	4	5	6	7	8	9
Exciting	1	2	3	4	5	6	7	8	9
Pleasant	1	2	3	4	5	6	7	8	9
Likeable	1	2	3	4	5	6	7	8	9
High Quality	1	2	3	4	5	6	7	8	9
Interesting	1	2	3	4	5	6	7	8	9
Clear	1	2	3	4	5	6	7	8	9
Coherent	1	2	3	4	5	6	7	8	9
Comprehensive	1	2	3	4	5	6	7	8	9
Concise	1	2	3	4	5	6	7	8	9
Well-Written	1	2	3	4	5	6	7	8	9
Disturbing	1	2	3	4	5	6	7	8	9
Important	1	2	3	4	5	6	7	8	9
Relevant	1	2	3	4	5	6	7	8	9
Timely	1	2	3	4	5	6	7	8	9

Please continue to the next page.

Part C

Based on your experience with GlobalNewsService.com during this session, please rate your **perceptions of the GlobalNewsService.com Website**. Circle the number that represents your level of agreement with the following statements on a scale from 1 to 9 with **"1" being "strongly disagree"** and **"9" being "strongly agree."**

1. I **trust** the information presented on the GlobalNewsService.com Website.

Strongly disagree	1	2	3	4	5	6	7	8	9	**Strongly agree**

2. I believe the information presented on the GlobalNewsService.com Website to be **credible.**

Strongly disagree	1	2	3	4	5	6	7	8	9	**Strongly agree**

3. I found the information presented on the GlobalNewsService.com Website to be of **high quality**.

Strongly disagree	1	2	3	4	5	6	7	8	9	**Strongly agree**

4. I found the information presented on the GlobalNewsService.com Website to be **accurate**.

Strongly disagree	1	2	3	4	5	6	7	8	9	**Strongly agree**

5. I found the information presented on the GlobalNewsService.com Website to be **reliable**.

Strongly disagree	1	2	3	4	5	6	7	8	9	**Strongly agree**

6. I found the information presented on the GlobalNewsService.com Website to be **believable**.

Strongly disagree	1	2	3	4	5	6	7	8	9	**Strongly agree**

Please continue to the next page.

7. I was familiar with the information featured on this Website.

Strongly disagree	1 2 3 4 5 6 7 8 9	**Strongly agree**

8. I was familiar with the GlobalNewsService.com Website.

Strongly disagree	1 2 3 4 5 6 7 8 9	**Strongly agree**

9. This Website had links to my favorite topics.

Strongly disagree	1 2 3 4 5 6 7 8 9	**Strongly agree**

10. I paid a great deal of attention when going through the website.

Strongly disagree	1 2 3 4 5 6 7 8 9	**Strongly agree**

11. The content featured on the Website targeted me as a unique individual.

Strongly disagree	1 2 3 4 5 6 7 8 9	**Strongly agree**

12. The content of the Website made it interactive.

Strongly disagree	1 2 3 4 5 6 7 8 9	**Strongly agree**

13. The structure of the Website made it interactive.

Strongly disagree	1 2 3 4 5 6 7 8 9	**Strongly agree**

14. This Website was "personalized" according to my interests.

Strongly disagree	1 2 3 4 5 6 7 8 9	**Strongly agree**

15. The content in the Website said something important to me.

Strongly disagree	1 2 3 4 5 6 7 8 9	**Strongly agree**

Please continue to the next page.

16. The content featured in the Website was meaningful for me.

Strongly disagree	1	2	3	4	5	6	7	8	9	**Strongly agree**

17. The Website didn't have anything to do with me or my life.

Strongly disagree	1	2	3	4	5	6	7	8	9	**Strongly agree**

18. The Website talked about something that concerned me.

Strongly disagree	1	2	3	4	5	6	7	8	9	**Strongly agree**

19. While being exposed to the Website, I thought about how the content was useful to me.

Strongly disagree	1	2	3	4	5	6	7	8	9	**Strongly agree**

20. The Website did not show me anything that made me want to use it.

Strongly disagree	1	2	3	4	5	6	7	8	9	**Strongly agree**

21. This Website featured readers’ ratings of the articles.

Strongly disagree	1	2	3	4	5	6	7	8	9	**Strongly agree**

22. This Website was typical of most Websites you see today.

Strongly disagree	1	2	3	4	5	6	7	8	9	**Strongly agree**

23. You see Websites like this all the time; it’s the same old thing.

Strongly disagree	1	2	3	4	5	6	7	8	9	**Strongly agree**

Please continue to the next page.

24. I've seen a lot of Websites like this before.

Strongly disagree	1	2	3	4	5	6	7	8	9	**Strongly agree**

25. This Website featured news editors' ratings of the articles.

Strongly disagree	1	2	3	4	5	6	7	8	9	**Strongly agree**

26. This Website was just like other Websites.

Strongly disagree	1	2	3	4	5	6	7	8	9	**Strongly agree**

27. I got emotionally involved in this Website.

Strongly disagree	1	2	3	4	5	6	7	8	9	**Strongly agree**

28. I experienced emotion while going through this Website.

Strongly disagree	1	2	3	4	5	6	7	8	9	**Strongly agree**

29. I found myself responding strongly to this Website.

Strongly disagree	1	2	3	4	5	6	7	8	9	**Strongly agree**

30. I got involved with the information and content on this Website.

Strongly disagree	1	2	3	4	5	6	7	8	9	**Strongly agree**

Please continue to the next page.

Part D

We are interested in **everything that went through your mind as you browsed the website**.

Please spend approximately **three (3) minutes** listing any thoughts (**positive, negative, or neutral**) that you had regarding the GlobalNewsService.com website you just used. Don't worry about spelling, grammar, or punctuation; they are not important for this exercise.

We have deliberately included more space than we think people will need to ensure that everyone will have plenty of room to write their thoughts.

Please be completely honest. Your responses will be anonymous.

The next page contains the form we have prepared for you to record your thoughts or ideas. Simply write down the first thought you had in the first box, the second thought in the second box, etc.

Please put only one idea or thought in a box.

Please continue to the next page.

1.	**2.**
3.	**4.**
5.	**6.**
7.	**8.**
9.	**10.**
11.	**12.**
13.	**14.**
15.	**16.**
17.	**18.**
19.	**20.**

	Not at all								Extremely
How confident are you in the thoughts you listed above?	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
How certain are you about the thoughts you listed above?	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
How valid are the thoughts you listed above?	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
How convinced are you of the thoughts you listed above?	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

When you have finished, please continue to the next page.

Part E

1. Your Age: ___________

2. Your Gender (PLEASE CIRCLE): Male Female

3. Your Major: _______________________

4. How many **hours per day**, if any, do you spend **browsing the web**?

____________ hours per day

5. How many **hours per day**, if any, do you spend….

a. reading **an online news site**? ____________ hours per day

b. reading a **print newspaper** or news magazine? ____________ hours per day

c. watching **television** news? ____________ hours per day

d. listening to news on the **radio**? ____________ hours per day

6. What is your favorite news website?

____

Please continue to the next page.

7. Do you use a customized news website or portal (e.g., MyYahoo, Google News)? (PLEASE CHECK ONE)

____ Yes
____ No

8. If you answered "no" to Question 7, how likely are you register for your own customized site in the future (with "1" indicating "**Not at all likely**" and "9" indicating "**Very likely**")?

Not at all likely	1	2	3	4	5	6	7	8	9	**Very likely**

9. If you use **customized news websites or portals** regularly, **which ones** do you use?

____

____

____

Please continue to the next page.

Please take your completed questionnaire and place it inside the envelope at your workstation.

Please return the envelope to the researcher before you leave this session today.

Thank you for participating in this study.
We appreciate your time and cooperation.

APPENDIX D:
SCRIPT FOR ADMINISTRATION OF PREQUESTIONNAIRE

Hello, I'm [confederate name]. I'm here today to ask you to participate in a survey for the university that I'm helping to conduct. The university is interested in finding out about students' opinions on a wide variety of topics and issues. This is one of the classes that have been selected to participate this semester.

I have a paper-and-pencil survey for you that will take about 20 minutes to complete. Your answers and any information you provide will be kept confidential. You will be asked to provide your name and other basic information at the end of the survey. Because this is a campus-wide survey, we want to be sure that you don't receive it twice and that you get the proper credit for participating.

We appreciate your time. I'm going to hand out the surveys now, and if you have any questions feel free to raise your hand. Are there any questions right now? Thank you.

[hand out the surveys]
[collect them when finished]

Thank you very much for taking part in our survey today.

APPENDIX E:
CONSENT FORM

University of North Carolina-Chapel Hill
Consent to Participate in a Research Study through the Journalism Participant Pool

IRB Study #: 07-0112
Consent Form Version Date: 3/2/07
Title of Study: Global News Study

Principal Investigator: Jean Beier
UNC-Chapel Hill Department: JOMC
UNC-Chapel Hill Phone number: 917-494-2177
Email Address: jbeier@email.unc.edu

Faculty Advisor: Dr. Sri Kalyanaraman
UNC-Chapel Hill Department: JOMC
UNC-Chapel Hill Phone number: 919-843-5858
Email Address: sri@unc.edu

What are some general things you should know about research studies?

You are being asked to take part in a research study. To join the study is voluntary. You may refuse to join, or you may withdraw your consent to be in the study, for any reason, without penalty.

Research studies are designed to obtain new knowledge. This new information may help people in the future. You may not receive any direct benefit from being in the research study. There also may be risks to being in research studies.

Details about this study are discussed below. It is important that you understand this information so that you can make an informed choice about being in this research study. You will be given a copy of this consent form. You should ask the researchers named above any questions you have about this study at any time.

What is the purpose of this study?

The purpose of this study is to learn about readers' preferences for online news and their reactions to different types of online news websites. Past research has examined the effects of many different variables on the opinions and attitudes readers form about news websites. Many elements influence the way readers evaluate websites and determine how effective the presentation of information is for them. We are interested in the strength of the relationship between some of these variables and readers' overall evaluations of their experience using a news website.

How many people will take part in this study?

Approximately 120 participants will take part in this study.

How long will your part in this study last?

The study will take no more than one hour. Therefore, you will receive **1 hour of credit** towards your Journalism research requirement. If you decide at any point that you do not wish to continue, you may leave with no negative consequences. You will receive credit for the time spent in the study. For example, if you leave after half an hour, you will receive 0.5 hours of credit. Remember also that there are other ways to fulfill your research requirement in addition to study participation.

What will happen if you take part in the study?

After agreeing to participate in the study, you will be asked to browse an online news website at your computer terminal. After you have done so, you will be asked to complete a series of questionnaires asking you to share your thoughts about the website and your attitudes toward the content and presentation. You do not have to answer any questions you do not wish to answer, for any reason. More specific directions will be provided during the study, and you may ask questions at any time. We will also tell you more about the rationale for the study afterwards.

What are the possible benefits from being in this study?

Research is designed to benefit society by gaining new knowledge. Though you may not receive any direct benefit from participating in this study, you will learn more about research in general and this topic in particular.

What are the possible risks or discomforts involved from being in this study?

We do not anticipate you will experience any risks or discomforts.

How will your privacy be protected?

The researchers will make every effort to protect your privacy. Your name will only appear on this informed consent form and in the records for the Journalism Participant Pool. Your responses to the questionnaires will only be associated with a code number that we assign, but that number is not and will not be connected in any way with your name. Thus, your responses are anonymous. The data will only be accessible to the researchers, and will be stored separately from consent forms and anything that might identify you. Data from this study may be kept for seven years, in keeping with the requirements of academic journals, after which time the data may be destroyed. In any presentations, written reports, or publications, no one will be identifiable and only group results will be presented.

Will it cost you anything to be in this study?

There will be no costs for being in the study.

Will you receive anything for being in this study?

You will not receive any financial incentive for taking part in this study, but you will receive 1 hour of credit towards your Journalism research requirement.

What if you have questions about this study?

You have the right to ask, and have answered, any questions you may have about this research. If you have questions, or concerns, you should contact the researchers listed on the first page of this form.

What if you have questions about your rights as a research participant?

All research on human volunteers is reviewed by a committee that works to protect your rights and welfare. If you have questions or concerns about your rights as a research subject you may contact, anonymously if you wish, the Institutional Review Board at 919-966-3113 or by email to IRB_subjects@unc.edu.

Participant's Agreement:

I have read the information provided above. I have asked all the questions that I have at this time. I voluntarily agree to participate in this research study.

Participant’s Signature	Printed Name of Participant	Date
Researcher’s Signature	Printed Name of Researcher	Date

Please sign one copy and give it to the researchers, and keep the other copy for your records.

APPENDIX F:
SCRIPT FOR EXPERIMENTAL SESSIONS

[greet participants]
[have them sign in to the roster]
[instruct them to find the computer terminal labeled with their name and be seated]

Thank you for coming today. This research study will take about one hour, and you will receive one hour of course credit for participating in it today.

At your workstation you'll find two informed consent forms and an envelope. Please read the consent forms carefully.

In case you haven't participated in a research study before, the form tells you about the purpose of the study, informs you of your rights as a participant, and is a way of showing that you have freely participated in this research. It also includes my contact information in case you should have any questions afterward.

If you're *not* interested in participating, you're free to leave, and you may sign up for another study or complete an assignment from your professor instead.

So please read the form carefully now. If you choose to participate, please sign one copy and place it in the envelope, and keep the other copy for your records. Are there any questions? If you do have any questions while reading, please feel free to raise your hand and I will answer them for you.

[watch them read, sign, and place in the envelope]

In this study we are interested in learning about readers' opinions of a news website. You will be asked to look at a news website, read an article from it, and then provide some opinions about the website.

There is a web page open on your workstation. I'm going to ask you to please read the instructions there and, when we're ready to begin the study, click on the link at the bottom of that page and you will be directed to the news website.

Please read the article that is presented on the site. When you reach the end of the article you will see a link to click on that will take you to an end page. That end page will have additional instructions. Raise your hand when you've read those, and I will bring you a paper questionnaire to complete.

When you've completed all the questions please place the questionnaire packet into the envelope and return the envelope to me before leaving this session.

Are there any questions? If you have any questions during the study feel free to just raise your hand and I'll come by and try to answer them.

Thank you!

[during study, hand out individual questionnaire packets]
[when they return the envelope, hand each participant a debriefing form]

APPENDIX G:
DEBRIEFING FORM

GLOBAL NEWS STUDY
DEBRIEFING FORM

FOR IRB STUDY #: 07-0112

PRINCIPAL RESEARCHER: Jean Beier
EMAIL: jbeier@email.unc.edu
PHONE: 917-494-2177
FACULTY ADVISOR: Sri Kalyanaraman; sri@unc.edu
EMAIL: sri@unc.edu
PHONE: 919-843-5858

Thank you for participating in this study.

In order to preserve the experimental validity of this study, **please do not speak with anyone about the study** or your participation in it. It is very important that others who may participate in the next couple of weeks *not* know the purpose of this study beforehand.

This study was concerned with readers' reactions to different presentation styles for online news websites. Sometimes subtle changes in the information presented can affect the way we process information and the degree to which we trust that information.

We were interested in learning how readers evaluate websites that present news topics featuring information relevant to their interests. We were also interested in which articles readers would select to read in response to information such as editor and reader ratings. We wanted to know the extent to which these variables affect readers' perceptions of the website overall.

The news website you used was designed specifically for this study, and the articles you read were adapted versions of actual news articles. If you have any questions about the results or the procedure, please feel free to contact me by phone or email. My information is listed above.

Thank you very much for participating! We appreciate your help!
If you would like to learn more about this topic, you may be interested in reading:

Reeves, B., & Nass, C. (1996). *The Media Equation: How People Treat Computers, Television, and New Media Like Real People and Places.* Stanford, CA: CSLI Publications.

Sundar, S. S., & Nass, C. (2001). Conceptualizing sources in online news. *Journal of Communication, 51*(1), 52–72.

REFERENCES

Alba, J., Lynch, J., Weitz, B., Janiszewski, C., Lutz, R., Sawyer, A., & Wood, S. (1997). Interactive home shopping: Consumer, retailer, and manufacturer incentives to participate in electronic marketplaces. *Journal of Marketing, 61*(3), 39-53.

Beniger, J. R. (1987). Personalization of mass media and the growth of pseudo-community. *Communication Research, 14*(3), 352-371.

Brug, J., Steenhaus, I., van Assema, P., & de Vries, H. (1996). The impact of computer-tailored nutrition intervention. *Preventive Medicine, 25,* 236-242.

Cacioppo, J. T., & Petty, R. E. (1981). Social psychological procedures for cognitive response assessment: The thought-listing technique. In T. Merluzzi, C. Glass, and M. Genest (Eds.), *Cognitive Assessment,* 114-138. New York: Guilford.

Chaiken, S. (1980). Heuristic versus systematic information processing and the use of source versus message cues in persuasion. *Journal of Personality and Social Psychology, 39,* 752-766.

Chaiken, S., Liberman, A., & Eagly A. H. (1989). Heuristic and systematic processing within and beyond the persuasion context. In J. Uleman & J. Bargh (Eds.), *Unintended thought* (pp. 212–252). New York: Guilford Press.

Chaiken, S., & Trope, Y. (1999). *Dual-process theories in social psychology.* New York: Guilford.

Cooke, A. D. J., Sujan, H., Sujan, M., & Weitz, B. (2002). Marketing the unfamiliar: The role of context and item-specific information in electronic agent recommendations. *Journal of Marketing Research, 39*(4), 488-497.

Gilmore, J. H., & Pine, B. J. (1999). *Markets of one: Creating customer-unique value through mass customization.* Boston: Harvard Business School Press.

Grier, S. A., & Brumbaugh, A. M. (1999). Noticing cultural differences: Ad meanings created by target and non target markets. *Journal of Advertising, 28*(1), 79-93.

Hass, R. G. (1988). Effects of source characteristics on cognitive responses and persuasion. In R. E. Petty, T. M. Ostrom, & T. C. Brock (Eds.), *Cognitive responses in persuasion* (141-175). Hillsdale, NJ: Erlbaum.

Hovland, C. I., Janis, I. L., & Kelley, J. J. (1953). *Communication and persuasion.* New Haven, CT: Yale University Press.

Hovland, C. I., & Weiss, W. (1951). The influence of source credibility on communication effectiveness. *Public Opinion Quarterly, 15(4)*, 635–650.

Johnson, T. J., & Kaye, B. K. (1998). Cruising is believing?: Comparing Internet and traditional sources on media credibility measures. *Journalism & Mass Communication Quarterly, 75(2)*, 325–340.

Johnson, T. J., & Kaye, B. K. (2004). For whom the web toils: How Internet experience predicts web reliance and credibility. *Atlantic Journal of Communication, 12(1)*, 19–45.

Joseph, W. B. (1982). The credibility of physically attractive communicators: A review. *Journal of Advertising, 11*(3), 15-24.

Kalyanaraman, S., & Sundar, S. S. (2006). The psychological appeal of personalized content in web portals: Does customization affect attitudes and behavior? *Journal of Communication, 56,* 110-132.

Knobloch-Westerwick, S., Sharma, N., Hansen, D. L., & Alter, S. (2005). Impact of popularity indications on readers' selective exposure to online news. *Journal of Broadcasting & Electronic Media, 49*(3), 296-313.

Kreuter, M. W. (2000). Tailoring: What's in a name? *Health Education Research, 15*(4), 1-4.

Kreuter, M. W., Bull, F. C., Clark, E. M., & Oswald, D. L. (1999). Understanding how people process health information: A comparison of tailored and untailored weight loss materials. *Health Psychology, 18,* 487-494.

Kreuter, M. W., Farrell, D., Olevitch, L., & Brennan, L. (1999). *Tailoring health messages: Customizing communication with computer technology.* Mahwah, NJ: Erlbaum.

Kreuter, M. W., & Wray, R. J. (2003). Tailored and targeted health communication: Strategies for enhancing information relevance. *American Journal of Health Behavior, 27*(S3), S227-232.

Metzger, M. J., Flanagin, A., Eyal, K., Lemus, D., & McCann R. M. (2003). Credibility for the 21st century: Integrating perspectives on source, message, and media credibility in the contemporary media environment. *Communication Yearbook, 27*, 293–335.

Miller, G. R., & Hewgill, M. A. (1966). Some recent research on fear-arousing message appeals. *Speech Monographs, 33*(4), 377-392.

Mobasher, B., Dai, H., Luo, T., Sung, Y., Zhu, J. (2000). Integrating web usage and content mining for more effective personalization. In *Proceedings of the International Conference on Ecommerce and Web Technologies,* 165-176.

Murthi, B. P. S., & Sarkar, S. (2003). The role of management sciences in research on personalization. *Management Science, 49*(10), 1344-1362.

Newhagen, J., & Nass, C. (1989). Differential criteria for evaluating credibility of newspapers and TV news. *Journalism Quarterly, 66(2)*, 277–284.

Newitz, A. (2007, March). Herding the mob. Wired, 15.03, 34-40.

Oenema, A., Tan, F., & Brug, J. (2005). Short-term efficacy of a web-based computer-tailored nutrition intervention: Main effects and mediators. *Annals of Behavioral Medicine, 29*(1), 54-63.

Petty, R. E., & Cacioppo, J. T. (1986). *Communication and persuasion: central and peripheral routes to attitude change.* New York: Springer-Verlag.

Petty, R. E., Priester, J. R., & Briñol, P. (2002a). Mass media attitude change: Implications of the Elaboration Likelihood Model of Persuasion. In J. Bryant & D. Zillmann (Eds.), *Media effects: advances in theory and research* (2nd ed., pp. 155–198). Mahwah, NJ: Lawrence Erlbaum Associates.

Petty, R. E., & Wegener, D. T. (1998). Matching versus mismatching attitude functions: Implications for scrutiny of persuasive messages. *Personality and Social Psychology Bulletin, 24*(3), 227-240.

Petty, R. E., Wheeler, S. C., & Bizer, G. Y. (2002b). Attitude functions and persuasion: an elaboration likelihood approach to matched versus mismatched messages.

Pew Research Center (2006). *Online Papers Modestly Boost Newspaper Readership Maturing Internet News Audience Broader Than Deep.* Retrieved December 10, 2006, from http://people-press.org/reports/display.php3?ReportID=282

Pew Research Center (2007). *Election 2006 Online.* Retrieved March 21, 2007, from http://www.pewinternet.org/pdfs/PIP_Politics_2006.pdf

Pierrakos, D., Paliouras, G., Papatheodorou, C., & Spyropoulos, C. D. (2003). Web usage mining as a tool for the personalizing a survey. *User Modeling and User-Adapted Interaction, 13*(3), 311-372.

Pine, B. J. (1999). *Mass customization: The new frontier in business competition.* Boston: Harvard Business School Press.

Reeves, B., & Nass, C. (1996). *The Media Equation: How People Treat Computers, Television, and New Media Like Real People and Places.* Stanford, CA: CSLI Publications.

Rimer, B., & Kreuter, M. W. (2006). Advancing tailored health communication: A persuasion and message effects perspective. *Journal of Communication, 56*, S184-201.

Slater, M. D., & Rouner, D. (1997). How message evaluation and source attributes may influence credibility assessment and belief change. *Journalism & Mass Communication Quarterly, 73(4)*, 974–991.

Sundar, S. S., Kalyanaraman, S., & Brown, J. (2003). Explicating website interactivity: Impression-formation effects in political campaign sites. *Communication Research, 30*(1), 30-59.

Sundar, S. S., Knobloch, S., & Hastall, M. (2005). Clicking news: Impacts of newsworthiness, source credibility, and timeliness as online news features on news consumption. Presented at the International Communication Association, 2005 Annual Meeting, New York, NY.

Sundar, S. S., & Nass, C. (2000). Source orientation in human-computer interaction. *Communication Research, 27*(6), 683-703.

Sundar, S. S., & Nass, C. (2001). Conceptualizing sources in online news. *Journal of Communication, 51*(1), 52–72.

Wedel, M., & Kamakura, W. A. (1998). *Marketing segmentation: conceptual and methodological foundations.* Boston: Kluwer Academic.

Weinstein, A. (1994). *Marketing segmentation: using demographics, psychographics, and other niche marketing techniques to predict and model customer behavior.* Chicago: Probus.

White, D. M. (1950). The “gate keeper”: A case study in the selection of news. *Journalism Quarterly, 27,* 382-390.