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## Reading Online News: A Comparison of Three Presentation Formats

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With the ever-increasing progression towards online newsletters as a principal source of information presentation, the Web has offered many opportunities as well as challenges that are unique to this environment. For instance, the traditional newspaper presents information within the confines of evenly-spaced, gridded columns. This has worked quite well in the past, and readers have become very accustomed to this style of information presentation. However, with the advent of the Web, it is now possible to place information in multiple sources that are connected by link titles—permitting online newsletters to initially present only a small amount of pertinent information through the use of these links. That is to say, online newsletters may only need to present links that provide enough information to give the reader a general idea pertaining to that article. This, obviously, might reduce the amount of information clutter that the reader has to initially wade through. Yet, unfortunately, little is known about the most efficient, as well as the most preferred way to present information within this type of medium. Accordingly, this study addressed the question of how information should be presented within a news-style web page. For example, should all the information related to a single article be presented on one page, or should the newsletter contain a page that lists only the link titles that relate to each specific article, and which is presented on another page? Moreover, if the newsletter presents initial information in the form of link titles, should they present supplementary information that provides a general overview of the entire article, along with the link title?

### METHOD

A Pentium II based personal computer, with a 60 Hz, 96dpi 17" monitor with a resolution setting of 1024 x 768 pixels was used. Content for the articles came from the [New York Times](#) website. The participants' performance was tracked by using Ergobrowser<sup>TM</sup> software.

### Participants

Twenty-one participants (5 males, 16 females) volunteered for this study. They ranged in age from 18 to 47, with a mean age of 26 (S.D. = 9 years). The median Web use for the participants was 7-14 hours per week (94% used the Web a few times per week or more).

### Procedure

Users were asked to locate specific information within news articles on three different layouts: full text (Full), link titles plus abstracts (Summary), or link titles only (Links). Each of the layouts contained information on different domains (sports, health, and science). The Full condition presented twelve full articles on one page (see Figure 1). The Summary provided a short summary of approximately two to three sentences for each of the twelve articles on one page plus a linked title to the full article (see Figure 2). The Links condition provided just the linked titles for the twelve articles on one page (see Figure 3).

Participants searched for information within all three conditions. For each layout, they were presented with ten different search tasks asking them to find specific information (For example, "What type of device is a Large Hadron Collider?") within one of the articles. After finding the information, participants were asked to highlight the information they believed was correct with their cursor. If the answer was verified as correct, participants would perform the next search. Information had to be found within the five-minutes to be considered correct. Participants were allowed to search using the links, as well as the "forward" and "back" buttons until the time expired. The layouts, domains and search terms were all counterbalanced using a Latin square design. The layouts were stored on a local server, allowing instant access to the pages in all conditions.



Figure 1. "Full" condition



Figure 2. "Summary" condition



Figure 3. "Links" condition

After finishing all the questions for each condition, participants answered a satisfaction questionnaire.

The questionnaire consisted of a 6-point Likert scale, with 1 = "Disagree" and 6 = "Agree" as anchors. The questionnaire items were: "The layout made it easy to find information," "This site was visually pleasing", "The arrangement of this site promotes comprehension," "I am satisfied with this site," and, "The layout looks professional." After participants completed the questionnaire for all conditions they ranked the three layouts for general preference.

## RESULTS

A within-subject ANOVA design was used to investigate participant performance (Mean task completion time and search accuracy) and perceived ease of use of the three conditions. Preference for all three conditions was analyzed using a Friedman  $\chi^2$ .

### Task Completion Time

Evaluation of the time (in seconds) taken to complete each of the tasks revealed no significant differences between the three groups [ $F(2,40) = 1.007, p = .37$ ] (S.D. Full = 326.07, S.D. Summary = 239.86, S.D. Links = 354.23; See Figure 4).

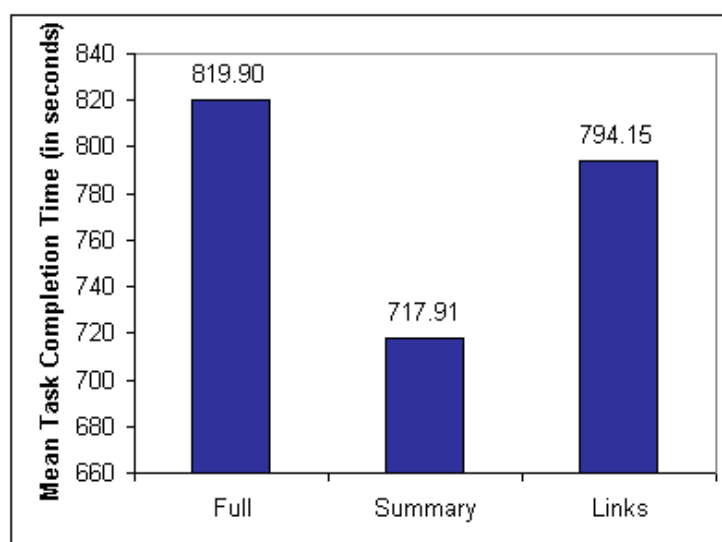
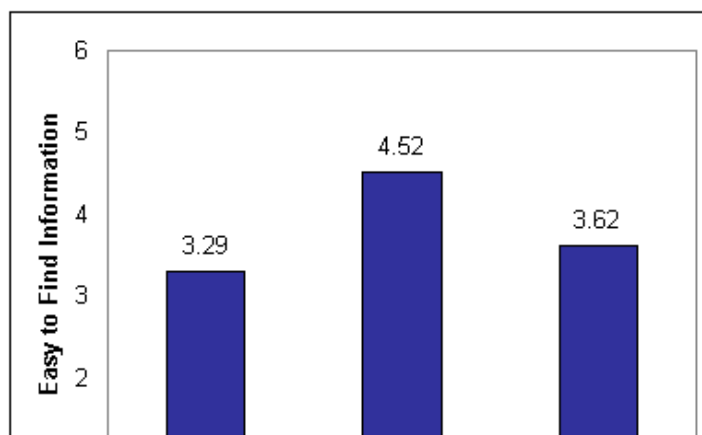


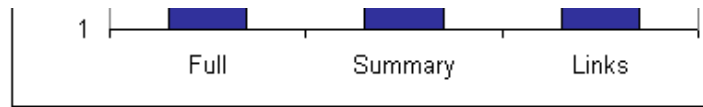
Figure 4. Mean Task Completion Time (in seconds)

### Perceptions of Site Efficiency

#### *Easy to Find Information*

Significant differences were found in the perception that a particular condition was easier to find information [ $F(2,40) = 4.966, p < .01$ ]. Post hoc analysis indicated that participants perceived the Summary condition as being easier to find information than the Full condition (See Figure 5).

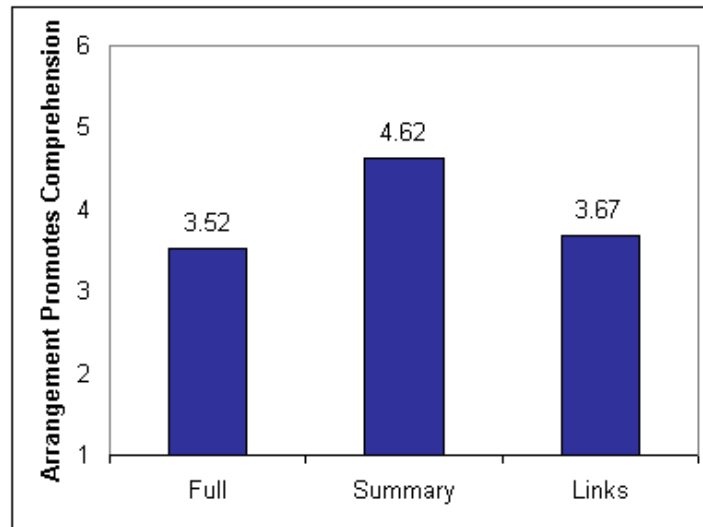




**Figure 5. Easy to Find Information (1 = Disagree and 6 = Agree)**

#### *Arrangement Promotes Comprehension*

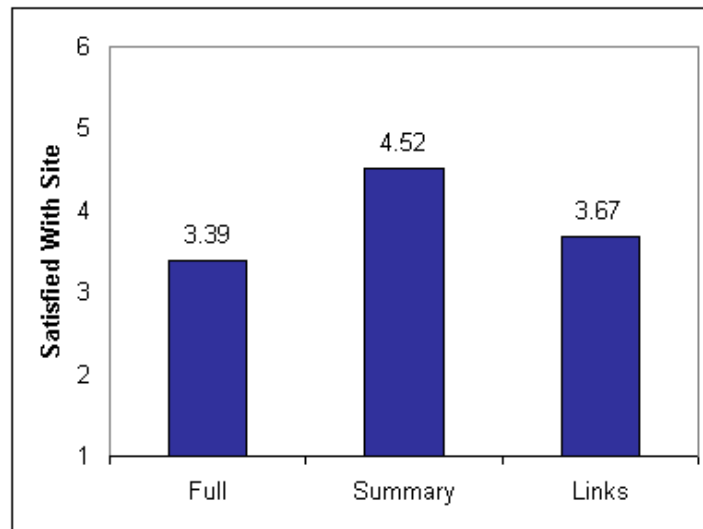
Significant differences were also found for the perception that a particular layout promoted comprehension [ $F(2,40) = 6.321, p < .01$ ], in that participants perceived the Summary condition as being more conducive to comprehension than the Full condition (See Figure 6.).



**Figure 6. Arrangement Promotes Comprehension (1 = Disagree and 6 = Agree)**

#### *Satisfied with Site*

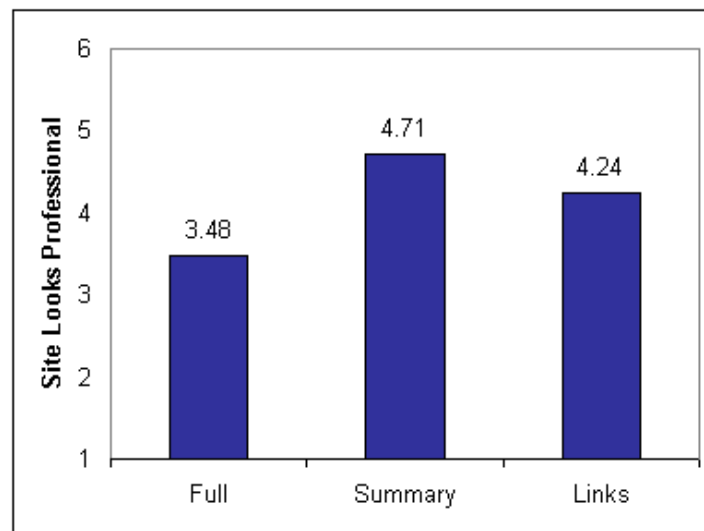
Moreover significant difference were found for participant satisfaction between the conditions [ $F(2,40) = 3.309, p < .05$ ], in that users indicated that they were more satisfied with the Summary site than the Full site (See Figure 7).



**Figure 7. Satisfied with Site (1 = Disagree and 6 = Agree)**

#### *Looks Professional*

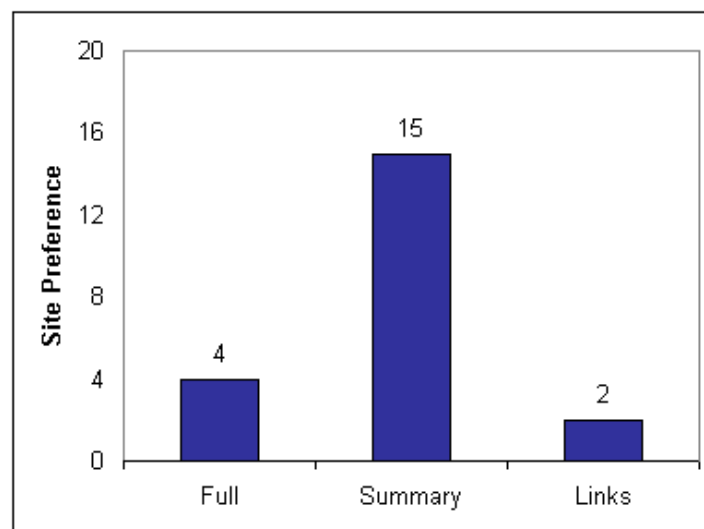
Significant differences were also found for the perception that a particular condition looked more professional-looking [ $F(2,40) = 5.621, p < .05$ ], in that the Summary condition was perceived as more professional-looking than the Full condition (See Figure 8).



**Figure 8. Site Looks Professional (1 = Disagree and 6 = Agree)**

#### *Layout Preference*

Four participants chose the Full condition as their number one preference. Fifteen participants selected the Summary condition as their first choice, and two participants selected the Links condition as their highest preference (See Figure 9).



**Figure 9. Site Preference (participants ranking site as their first choice)**

## **DISCUSSION**

Overall, there were no statistical differences in search time across the three presentation types. However, the Summary condition was perceived most positively in terms of ease of finding information, being visually pleasing, promoting comprehension, participants' satisfaction with the site, and looking professional. The Summary condition was also the most preferred. The Full condition was the least preferred, and had the most negative perceptions associated with it. The Full condition was perceived as being most difficult to find information, not promoting comprehension, not being visually pleasing, and not being satisfying.

Participants reported that they preferred the Summary condition over the Links only condition because the brief summaries accompanying the headline links often guided them to the information they were searching for. Participants commented that, in the Links condition, they sometimes felt as if they were "jumping blindly" into the article. Several participants also reported that they did not like having to scroll through all of the articles in the Full condition. This study suggests that providing a small amount of information about an article on a page is superior to having long, scrolling pages filled with articles.

## REFERENCE

Ergobrowser<sup>TM</sup>, Ergosoft Laboratories © 2001

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