

Modeling a Reader's Preferences for Online News Presentation Formats: Effects of Interactivity

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ABSTRACT

This paper explores the interaction capability of online news and presents an approach for modelling the presentation format preferences of different usage groups and for evaluating the differences among these groups. The paper demonstrates the influence of different interactivity attributes on the presentation format preferences of different usage groups. A site may present news in five different formats: instant news, special report, photo gallery, video-on-demand, and TV news. Interactivity is classified using three attributes: active control, synchronicity, and two-way communication. The models are tested with the data collected from 9,653 members of a leading Taiwan-based news website and their 17,731 choices. The results show that the readers are most likely to choose instant news followed by special report, TV news, video-on-demand, and photo gallery. The three interactivity attributes all significantly affect the choice probability. Synchronicity in particular has a relatively higher impact. Implications for publishers and researchers are discussed.

Keywords: *online news; electronic media; electronic commerce; experimental design; logit model.*

INTRODUCTION

Newspapers have been a source of information and entertainment for centuries. The industry is driven by three key elements: content, delivery, and advertising (Palmer and Eriksen, 1993). Most of the revenues of traditional newspapers come from subscription and advertising. However, their commercial potential is constrained by the size and prosperity of their home markets. To date, the newspaper has extended beyond the traditional print media through the Internet. The Internet is a new channel that offers more interactive mechanisms, which allow readers to choose what they want, to interact with other readers online, and to communicate with the online journalists. Essentially, news websites provide not only the content of the original paper version, but also interactive content. The interactivity of the Internet drives many news publishers to develop online news websites that compete with their and others' off-line newspapers.

The literature about Internet interactivity thus far has focused primarily on marketing issues facing Internet retailers (Coyle and Thorson, 2001; Ghose and Dou, 1998; Haubl and Trifts, 2000) and on website usability (Agarwal and Venkadesh, 2002; Albert, Goes and Gupta, 2004; Chen and Yen, 2004; Helm, Chaparro and Farmer, 2005; Liu and Shrum, 2009). Whereas most Web sites offer interactive functions to pull or push consumers to shop, news websites are highly information management-intensive, and the revenues of most news websites come from advertising. What are the best ways to present online news to attract readers and eventually advertisers who wish to gain access to specific markets? Given that interactivity is a key feature of online news, this paper explores the online news interactivity and its impact on a reader's probabilistic choices for online news presentation formats: instant news,

special report, photo gallery, video-on-demand, and TV news. Specifically, this paper addresses a series of research questions:

1. Why readers prefer some news presentation formats over others?
2. How to model reader preferences regarding online news presentation formats? Does interactivity matter?
3. If so, would this impact vary across different usage groups?

In addressing these questions, three attributes of online news interactivity are identified that should impact readers' preferences for the online news presentation formats: active control, synchronicity, and two-way communication. These presentation formats are also proposed by a leading Taiwan-based news website (hereafter referred to as eNews). eNews is a separate news website of the largest media group in Taiwan (hereafter referred to as eMedia). eMedia's multinational businesses include cable TV networks, suppliers of TV programs, radio stations, news websites, and newspaper publishing. Hence, this study has the opportunity to characterize the online news market in Taiwan.

Five individual-level probabilistic discrete choice models are developed, which examine a reader's preferences for online news presentation formats. 17,731 choices from the 9,653 eNews members of the eNews are used to estimate the models. The majority of the respondents are "at-work Internet audience". The at-work Internet audience is an ideal choice for advertisers and news websites that seek to reach highly educated and affluent consumers.

This paper proceeds as follows. The next section provides a conceptual background of Internet interactivity and news presentation formats available on eNews. Section 3 outlines the probabilistic discrete choice models addressing reader preferences regarding online news presentation formats. Data collection procedures are discussed in Section 4 and Section 5 presents the estimated models and results. We then provide the implications for practitioners and academics in Section 6. Section 7 concludes the paper and provides directions for future research.

CONCEPTUAL BACKGROUND

Internet Interactivity

Interactivity has been defined in many different ways in the communication literature (Bretz, 1983; Liu, 2003; Rafaeli and Sudweeks, 1997; Steuer, 1992; Williams, Ronald, Rice and Rogers, 1998). In the marketing literature, because most researchers assume its presence is universal, they have not defined interactivity very precisely (Alba et al., 1997; Burke, 2002; Peterson, Balasubramanian and Bronnenberg, 1997; Wolfenbarger and Gilly, 2000). A number of researchers consider the capacity to support interactivity as one of the key advantages of the Internet over other mass media (Hoffman, and Novak, 1996; Jarvenpaa, Todd and Peterson, 1997; Ries, 2000). Some models of interactivity stem from the field of computer-mediated communication (Rafaeli and Sudweeks, 1997; Burgoon et al., 2000). This stream of research tends to be primarily concerned with human interaction via the medium, as distinct from the medium itself. Other work (Liu, 2003) is concerned with an instrument for measuring the interactivity of Web sites themselves. Liu and Shrum (2002) review the various definitions of interactivity, including emphases on the reader-reader, reader-machine and reader-message interaction aspects. McMillan and Hwang (2000) emphasize the role of consumer perception in their operationalisation of interactivity, and isolate constructs of reader control, direction of communication and time (speed of message processing), which are all aspects commonly found in the literature (Liu, 2003).

Interactivity has been defined using multiple processes, functions, and perceptions. However, three elements appear frequently in the interactivity literature: two-way communication, active control, and synchronicity (time to load and time to find). These elements hold promise for the exploration of perceived interactivity on the Web because they serve as umbrellas for many of the elements identified (McMillan and Hwang, 2000). Two-way communication encompasses the concepts of responsiveness and exchange, active control includes functions such as participation and features such as search and query, and the concept of synchronicity embraces issues such as timely feedback and time required for information retrieval.

Researchers who examine ways that computers facilitate human interaction often focus on the importance of enabling two-way communication (Beniger 1987; Garramone, Harris, and Anderson 1986; Rafaeli and Sudweeks 1997). Massey and Levy (1999) note that the Web provides for interpersonal interactivity because persons can communicate with one another through tools such as chat rooms and bulletin boards. By making their Web sites friendly to users, marketers can facilitate this kind of interpersonal interactivity and generate positive word of mouth for their companies (Hoffman and Novak, 2000).

The Web often provides users with more content and navigational tools than do traditional media. Much of the literature that focuses on human-to-computer interaction examines the ways humans control computers (Milheim 1996; Trevino and Webster 1992). The perception of Web-based interactivity is influenced by the speeds at which messages can be delivered, and by the speeds at which people can process them. Crawford (1990) notes that, for interactive systems, “the ideal is to have the computer moving at a speed that doesn't inhibit the user.” Speed of response is a central concern of both developers and users of interactive media (Dellaert and Kahn, 1999). Another time element important to interactivity is the ability of users to navigate through a wealth of information quickly and easily find what they are seeking (Mahood, Kalyanaraman and Sundar 2000). One study (Latchem, Williamson and Henderson-Lancett, 1993) notes that a benefit of interactive systems is that users “can work in their own time and at their own pace, choose their preferred navigational pathways and delivery systems and develop their own mental models and schemata.”

For this study, online interactivity is defined along three dimensions: active control, two-way communication, and synchronicity. The three-dimensional nature of interactivity proposed by Liu (2003) and McMillan and Hwang (2000) provides a framework for analyzing the interactivity of a news website and measuring its impact on a reader's preferences regarding online news presentation formats. Active control is characterized by voluntary action that directly influences the reader's experience. The Internet features a network of linked contents (Hoffman and Novak, 1996) and readers are able to customize the information management flow and jump from one location to another. Many news websites also allow readers to customize pages. Readers can indicate what content and layout they like and immediately be able to see the page exactly as they want it. Two-way communication refers to the ability for reciprocal communication between a news website and readers and readers and readers. One function that news websites treasure about the Internet is the large quantity of immediate feedback that readers provide to them and its potential to improve ratings for the news. Synchronicity refers to the degree to which readers' input into an online communication and the responses they receive from the communication are simultaneous. “Time to load” and “time to find” are two key points of synchronicity. The Internet is able to make this communication much more synchronized.

Online News Presentation Formats

Providing multiple presentation formats of online news helps readers decide which formats best suit them. The formats available on eNews include instant news, special report, photo gallery, video-on-demand, and TV news. Instant news provides up-to-the-minute coverage of news, displaying the short abstracts or one- or two-line sentences that have links into the full story. Special reports permit greater depth or coverage of news stories. Photo galleries includes news photos, photos of locations and skylines, real estate photos, special photos of people, and photos of sports and entertainment. Video-on-demand contains an extensive database of TV programs. TV news is a service that allows readers to browse ongoing TV news while connected to the Internet.

Using mostly a uses and gratification approach, various scholars have studied the functions of the Internet from a consumer perspective. Many have concluded that information, communication, entertainment, transaction, and sociability are the most sought-after gratification items for online users (Kaye, 1998). Accordingly, when visiting a news website, an audience may attempt to gratify one or more of these needs. Since the traditional product for news is programming, the Web users will likely expect to obtain gratifications from Internet-enhanced news and other programming-related content from a news website, at least initially. Thus, from the consumer's perspective a news site's attractiveness will largely be determined by the degree of relevancy between a print newspaper and online content as well as the inclusion of the structure or content of the gratification items discussed earlier. Furthermore, as a Web surfer attempts to evaluate the value of a site based on his or her initial assessment of the gratification items that he or she may derive from the visit, it is plausible that the content components available on the "homepage" of a news website will have the biggest impact on that impression. Most news websites in existence subscribe to a structural model that follows a newspaper design metaphor, using a "front page" as the entry point to the site, relying on headlines and instant news to tell users what items are most important, and employing a division into sections similar to the sections of a large metropolitan newspaper, such as special reports and photo gallery. Also, from the consumer's perspective, research has shown that an Internet content provider that is associated with journalism was perceived as more credible.

As the TV programming market becomes more and more fragmented with a proliferation of channels, broadcast TV networks have begun "branding" their images and programming, attempting to differentiate themselves from their competitors. It is plausible that different broadcast networks will approach the Internet with different strategies that reinforce their branded positions. Subsequently, stations with different network affiliations may opt for different Web structures and content. Broadcast media are becoming more active in using the Internet for marketing, programming, and communication purposes. Subsequently, stations with different network affiliations may opt for different Web structures and content, and applications of Web features such as TV news and video-on-demand that presumably would contribute to the effectiveness of their Web sites from an organizational perspective as well as from the consumer's perspective.

MODEL

Five probabilistic discrete choice models are formulated to examine a reader's preferences for online news presentation formats. A reader's choices are a function of three interactivity attributes and unobserved effects; that is, reader i 's utility for choosing news presentation format j among n alternatives is probabilistic and takes the multinomial logit form (Louviere, Hensher and Swait, 2000):

$$U_{ij} = V_j + \varepsilon_{ij}, \quad (1)$$

where V_j is the systematic component that represents the utility of selecting format j , and ε_{ij} is the random component that is assumed to be independent and identically distributed according to a extreme-value (Gumbel) distribution. A format j 's systematic component can be expressed as the linear combination of attributes:

$$V_j = \sum \beta_a X_{aj}, \quad (2)$$

where β_a is the relative utility associated with attribute a , and X_{aj} is the vector of attributes associated with format j . The five probabilistic choice models are specified as follows:

$$U_{iIN} = asc_{IN} + \beta_{IN_1} Control_{IN} + \beta_{IN_2} Synchronicity_{IN} + \beta_{IN_3} Communication_{IN} + \varepsilon_{iIN} \quad (3)$$

$$U_{iSR} = asc_{SR} + \beta_{SR_1} Control_{SR} + \beta_{SR_2} Synchronicity_{SR} + \beta_{SR_3} Communication_{SR} + \varepsilon_{iSR} \quad (4)$$

$$U_{iPG} = asc_{PG} + \beta_{PG_1} Control_{PG} + \beta_{PG_2} Synchronicity_{PG} + \beta_{PG_3} Communication_{PG} + \varepsilon_{iPG} \quad (5)$$

$$U_{iVOD} = asc_{VOD} + \beta_{VOD_1} Control_{VOD} + \beta_{VOD_2} Synchronicity_{VOD} + \beta_{VOD_3} Communication_{VOD} + \varepsilon_{iVOD} \quad (6)$$

$$U_{iTV} = \beta_{TV_1} Control_{TV} + \beta_{TV_2} Synchronicity_{TV} + \beta_{TV_3} Communication_{TV} + \varepsilon_{iTV} \quad (7)$$

U is reader i 's utility of alternatives: instant news, special report, photo gallery, video-on-demand, and TV news, denoted by the subscripts "IN", "SR", "PG", "VOD", and "TV". asc is the alternative-specific constant, and $Control$, $Synchronicity$, and $Communication$ represent alternative-specific attributes: active control, synchronicity, and two-way communication, respectively. TV news is used as a base model and thus has no asc . The various β variables are the coefficients of different alternative-specific attributes, and ε_{ij} is the random component.

DATA

The models were estimated using the Web survey data collected from the 9,653 members of eNews and their 17,731 choices. The Web survey with gift certificates was administered by the survey unit of eMedia. They reached approximately 10,000 approved members, and 9,624 questionnaires are usable and valid (96-percent response).

Discrete choice analysis (DCA) was used to model the choice behavior of consumers faced with discrete alternatives (Louviere, 1983; Louviere et al., 2000; Tam and Hui, 2001). This approach involves modeling one's probabilistic preferences in response to experimentally designed alternatives, each of which is characterized by a different combination of product-and-service attributes (Pullman, Verma, and Goodale, 2001). In this study, alternative charging services were hypothetically designed by manipulating attribute levels. These alternatives were then arranged into several choice sets offered to the subjects. Each subject in a DCA experiment survey was asked to choose one charging service. The subject' choices were considered as a function of the attributes of the chosen alternative and unobserved effects.

Subjects were given the descriptions of the high-level 1 and low-level 0 for each attribute described in Table 1. In the pretest, the average response across all pretest respondents for each of the two levels was computed and used as the basis for the manipulation of service attributes, fixing the low level of News Customization to be 0. The results show that the values of resulting levels and the differences between the two levels of each attribute are all statistically significant at the .01 level, supporting the operationalization of attributes into two levels.

The two steps were followed to formulate the choice sets using fractional factorial design. First, the orthogonal design was used to generate eight experimental profiles. Second, these eight profiles were randomly triplicated without duplication to create eight choice sets (Louviere et al., 2000). The experimental profiles contained different levels of each of the five attributes described above. Each choice set contained one profile for each of these three charging services. Each respondent was then asked to choose one out of the possible choices (including none of them). The choice set questionnaire is presented in the Appendix.

Table 1: Operationalization of Three Attributes

Attributes	Operationalization	High level: 1	Low level: 0
<i>Active Control</i>	Ability to indicate desired content and layout and to customize pages	Highly customized	No customization
<i>Synchronicity</i>	Speed of message processing	High Speed	Low Speed
<i>Two-Way Communication</i>	Reciprocal communication between a news website and readers, and between readers and readers	Highly Communicated	No Communication

The respondents were classified into low-, medium-, and heavy-usage groups. To measure usage and group online markets, a measure better than visit frequency should be employed which takes into account the average number of hours spent online daily (Emmanouilides and Hammond, 2000). The findings show that the average browsing time per visit (which is a measure of the browsing time) is approximately 30 minutes. The maximum browsing is approximately 120 minutes. By “browsing” here, we mean the capability to view the results of a page and navigate through them on a page-by-page basis. Thus, the heavy-usage group includes respondents whose daily usage is greater than 120 minutes, the medium usage group those whose daily usage is between 31 to 120 minutes, and the low usage group those whose usage is below 30 minutes. Results show that more than one third (38.4%) of the respondents belong to the heavy-usage group, which is also older and richer than the other groups. The heavy-usage group is elder and richer than other groups. The ANOVA results indicate that there exist significant differences between groups in terms of age, education, and monthly disposable income. We performed post hoc comparisons after obtaining a significant omnibus F. Then we look at all possible pairwise and otherwise comparisons. Using post hoc techniques, one has not planned to make specific comparisons, so we make all comparisons. The results of the Turkey test and the Neuman-Keuls method all indicate that the obtained group differences exceed the critical values for pairwise and otherwise comparisons, and that all comparisons are significant at the 1% level in age, education, and monthly disposable income.

The attributes of interactivity are extracted using principal component analysis with Varimax rotation. Four items that cross-loaded on two factors are removed. A Varimax rotation converges and factor loadings range between 0.625 and 0.848. The retained nine items explain 68% of the variance. A three-attribute solution results, and the results of the Scree plot also suggest that these three interactivity attributes be maintained: synchronicity, active control, and two-way communication.

RESULTS

NLOGIT 3.0 (Econometric Software, Inc.) is used to estimate the MNL choice models. NLOGIT uses maximum likelihood estimation to generate relative weights β for each attribute. These weights are

similar to ordinary least squares regression coefficients except that the odd-log of the dependent variable is the probability of choosing a certain alternative.

The effect of news content is controlled, in order to isolate the effects of the news format and interactivity on reader preference. This is because any observed differences between the five presentation formats likely are due to both the format and the content. Some types of news are more suitable for textual presentation, whereas others are more suitable for visual presentation. Hence, the content of instant news likely will be different from the content of a photo gallery.

The MNL model, which is used to analyze the effects of interactivity on presentation format, assumes Independence of Irrelevant Alternatives (IIA). Thus readers may choose from five independent and discrete news formats. For a specific piece of news, a reader can choose among instant news, special report, photo gallery, VOD, and TV News. This is the case in eNews; one often finds a single piece of news presented in each of these five formats. Indeed, the analysis results significantly do not reject the IIA assumption at the 0.01 level.

The MNL choice models developed for each of the three groups (high-, medium-, and low-usage) are presented in the sample choice set in the Appendix. The relative intercept values provide a general idea of how each group feels about each of the five online news presentation formats. For each group, the instant news appears to be most popular. All things being equal, readers are most likely to choose instant news followed by special report, TV news, VOD, and photo gallery. The photo gallery is the least popular format for all groups.

The results indicate that the β for all of the three interactivity attributes are statistically significant and positive; that is, these three interactivity attributes are positively related to the probability of the presentation format selection. Synchronicity (time to find and time to load) is important to readers: their preference for the presentation format increases as the synchronicity increases. The active control on “Special Report” for the light-usage group is not significant. One possible explanation is that the light-usage group may not require control for the special report, as this group spends less time on the news website.

The choice distribution for different usage groups shows as follows. “Instant News” appears to be the most favourable news presentation format (33.4%), following by “TV News” (19.7%), “Special Report” (19.5%), “VOD” (14.8%), and “Photo Gallery” (11.6%). We test if the different usage groups’ interactivity requirements are different. ANOVA results in Table 2 show that different usage groups significantly have different interactivity requirements. The results of the Chi-square test also show that the interactivity requirements significantly differ among usage groups. In the following section, the estimated preference value of each interactivity attribute for different usage groups will be presented.

Table 2: ANOVA for Readers’ Requirements for Interactivity

		Sum of Square	d.f.	Mean Square	F-value	sig.
Active Control	Between Groups	8.01	2	4.01	5.38	.005
	Within Groups	13199.99	17728	0.75		
	Total	13208.01	17730			
Synchronicity	Between Groups	23.36	2	11.68	18.88	.000
	Within Groups	10969.19	17728	0.62		
	Total	10992.55	17730			
Two-Way Communication	Between Groups	15.98	2	7.99	11.79	.000
	Within Groups	12010.07	17728	0.68		
	Total	12026.05	17730			

Preferences of Interactivity for Different Usage Groups

Figure 1 presents the estimated preference value of each attribute level (active control, synchronicity, and two-way communication) for different usage groups over a range of news presentation formats.

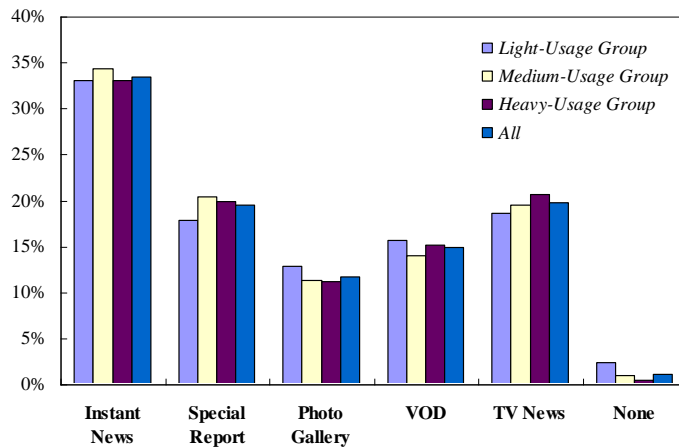


Figure 1: Distribution of Readers' Format Choices

Synchronicity is dominant among the three attributes of interactivity. VOD and TV news require higher degrees of synchronicity. The heavy-usage group requires a higher degree of synchronicity than the medium- and light-usage groups. The active control reflects the degree to which readers can control the content they view. The heavy-usage group requires the highest degree of active control and the light-usage group require the lowest. The requirements of two-way communication for “Instant News” are the lowest for all the three usage groups. This may be because instant news presents events which just happened, that is, events that readers are not familiar with. As a result, readers are trying to understand what happened and tend not to enter into discussion with other readers. Interestingly, “Special Report” does not require a high degree of two-way communication. This may be because “Special Report” usually concern events that happen over a period of time. It may be that readers have already discussed these events and are thus less likely to use two-way communication on “Special Report”.

MANAGERIAL IMPLICATIONS

The analysis shows that all of the three interactivity attributes have significantly positive impacts on a reader's choice probability of news presentation formats. Synchronicity, which has the highest impact, includes two aspects: time to load and time to find. To reach synergy, a news website should first consider how to improve synchronicity and then identify the best combination with the other two interactive functions.

“Instant News” appears to be the most favourable news presentation format. This suggests that breaking and instant news may migrate to the Web, leaving the hardcopy newspaper as a features-driven product. But it is hardly news that the World Wide Web presents newspapers with innumerable challenges to their traditional roles. Publishers and editors wrestle with issues of content, staffing, revenue

generation, and a host of related concerns. One persistently perplexing issue has been how to balance two of the Web's more striking attributes, which happen to present diametrically opposite alternatives for a news organization. A print newspaper is somewhere between a universal medium and a personal one. Just where it lies on that continuum depends on its mission, market, and resources. That compilation consists of a mix of information from both inside and outside the paper's local circulation area. Each day's print newspaper provides a concrete and finite world view that takes in both the proximate and the distant. It is a package that inherently recognizes that the place where one lives – the place inhabited by local readers – is part of a set of larger places that includes the state, the region, the nation and, ultimately, the entire planet. Though it serves a community primarily defined by geography, one of the print newspaper's key roles is to connect that geographic community to the rest of the world. The majority of an online newspaper's content, then, might be expected to simply replicate the print product. It suggests that although physical distribution of the paper's content has been freed from all geographic constraints, the online paper's world view is far more narrowly focused than that of its print counterpart. Although the online versions draw most of their material from the print products, they do not take everything. Accordingly, a news website should state the time articles are posted, and the front page may change more than once during the course of a day. Broadcasters can be used to dealing with news as a continuous stream, offering a rolling news service to readers, adding and modifying pages around the clock.

Different usage groups have similar but different preferences on interactivity. As readers who spend more time per week on a news website require a higher degree of interactivity, increasing the quality of interaction would increase reader loyalty. Creating highly sticky readers is the major marketing advantage of news websites. The operator of a news website may enhance the interactive functions to develop more potential visitors, to accumulate visitor visit frequencies, to encourage deep usage among visitors to prolong visit durations, and to increase the interactive opportunities to foster their loyalty and use habits. To generate revenues, a news website must deliver advertising to readers. It does this by packaging the ads in news. A news website that enhances interactivity captures audience share and, ultimately, advertisers. The larger its audience, the more value the news website will have as an ad-delivery vehicle. As that value grows, its publisher potentially gains more ad dollars.

The heavy-usage group requires a higher degree of interactivity than the medium- and light-usage groups. With respect to active control and two-way communication, synchronicity is found to be important across all news formats. This demonstrates that for news, “reading” is still the dominant mode, regardless of whether the news is online or offline.

Interactivity is often said to be a key feature of journalistic products published online. Venues for interpersonal communication, multimedia, and content that is hyperlinked, archived, updated frequently and available for personalized delivery are cited variously as hallmarks of the “ideal” interactive news website (Thottam, 1999; Khoo and Gopal, 1996). But in practice, online journalism typically is less than ideally interactive. Most of the previously studied news sites supplied e-mail access to their newsrooms or individual journalists. So “responsiveness or synchronicity,” or at least the potential for it, is a rather well developed dimension of interactive online journalism. The sites also were found to offer a fairly broad range of content topics, which is an attribute of “choice complexity” interactivity. Yet the choice for consumers tended to be limited to text-based news, sports and weather reports, photographs and advertisements. Thus, users of news websites are not fully experiencing the new channel’s potential for interactivity. But the deficit is not universal. These past works also show that interactivity varies by degrees between sites. As a general rule, the Asian practice of online journalism appears to be no more

or less interactive than US Web newswork (Elliott, 1999; Massey and Levy, 1998). Also, its interactivity similarly varies between Web sites. Types of “interactivity” may include bulletin boards hosting readers' message on various subjects, where messages can be replied to individually or to the board; reader to journalist, where the authors of particular articles of interest make themselves available to answer emailed communication, and reader or journalist to public figure, in a similar public discussion.

Exploitation of the potential of multimedia is currently minimal in online newspapers. This is hardly surprising – organizations traditionally geared towards producing text and pictures in paper format are unlikely to have the technical expertise or infrastructure to suddenly produce film journalism overnight. Also, there is the question of need or desire. It is probable that newspapers do not feel they are compelled to fight broadcasters – at least, not on broadcasters' own terms. Indeed, it is difficult to imagine even national newspapers competing with the national TV station to file video reports from overseas, or even accompanying the written word with sound files.

Searchable news-story archives, direct access to news wires, and technical features that let readers custom order the delivery of only the news they like – all describe a level of interactivity commonly expected of online journalism (Lieb, 1998). A common thread to these views is the notion that online journalism potentially empowers its audience; the act of content producers ceding to content consumers the power to control, to varying degrees, their interaction with the news (Dennis, 1996). Online journalism's contribution, therefore, is found in its capacity to free readers from the tyranny of linearity and the constraints of news space found in traditional media. On the other hand, some writers argue that the chief benefit of online journalism lies in its potential for interpersonal interactivity. The basic, asynchronous act of one-to-one messaging by e-mail and the complex accommodation by a Web site of all sender-receiver iterations are its end points. Between them lies the synchronous act of one-to-many interaction, followed up one step by those virtual rooms where a person can have a synchronous chat with one, a few, or many other people. Online journalism could be characterized by the level of interpersonal interaction it affords its audiences – by how interactively users of news websites can engage content producers or other users.

CONCLUSIONS

The concept of interactivity has not been well developed to be applied to news websites and to explain a reader's preferences for online news presentation formats. This paper

1. presents an approach for identifying the presentation format preferences of readers with different usage habits;
2. demonstrates how key differences between the presentation format preferences of different usage groups may be quantified;
3. demonstrates the influence of different interactivity attributes on the presentation format preferences of different usage groups.

The respondents are classified into low-, medium-, and heavy-usage groups. Cross-usage studies are valuable in online news environment settings because (1) usage differences exist, (2) these differences can be observed and tabulated, and (3) observed differences have significant bearing on both reader behaviour and the strategic decision-makers in news websites.

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