

# **Lifestyles, Reliance on Traditional News Media, and Online News Adoption**

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### **Abstract**

This study explores the predictive power of lifestyle orientations, reliance on traditional news media, attributes of online news, traditional mass media use, and demographics on online news adoption and likelihood to adopt. Data were gathered using a snowballing method from 453 information workers and university students, of which 52% were frequent online newsreaders and 48% non-users. Exploratory factor analysis identified six lifestyles types and found that, experiencers, a lifestyle savoring the new, the offbeat, and the risky, read more online international/China news. In the contrary, the survivors, who live narrowly focused lives, seldom do. Lifestyles were the strongest predictors for the enjoyment of interactive capability of online news. Specifically, interactivity can satisfy strivers' need for seeking fun, makers' desire for self-expression, and innovators' aspiration for new ideas. Convenience of accessing a wide range of updated information is very important to experiencers, who are enthusiastic about exploring new possibilities. Furthermore, as practical people who have constructive skills and value self-sufficiency, makers enjoy multimedia features for their functional purpose.

Key word: Lifestyles; VALS; Online newspaper adoption; News media reliance; Online news attributes

## Introduction

Hong Kong's well-developed telecommunications infrastructure provides an excellent environment for the study of new media, particularly as a source of news for the online community. This study looks at online news in Hong Kong as an important news medium and examined the lifestyle orientations of online newsreaders together with their adoption behaviour in regard to online news. It also investigates the link between this adoption behavior and reliance on traditional news media, attributes of online news, traditional mass media use, and demographic characteristics of online newsreaders.

There are currently 14 major printed dailies in Hong Kong, of which 12 are in Chinese and two are in English. Among the 14 dailies, 12 have online versions. *Sing Tao Daily* pioneered this trend with the launch of its online newspaper in September 1995, followed by *The Standard* and *Ming Pao Daily* in October of the same year. In addition to the daily newspapers, local radio and TV stations as well as Internet Service Providers also provide an online news service.

Despite the differences in the nature of these news providers, they all depend on research into their readers' lifestyles and adoption behaviour for a better understanding of their readers' needs.

## Lifestyles

Empirical studies show that one's lifestyle orientations greatly influence one's media usage and consumption (Becker & Connor, 1981; Donohew, Palmgreen, & Rayburn, 1987; Eastman, 1979; Tigert, 1974). Becker and Connor (1981) suggested that personal values, which are fundamental to both attitude and behaviour, influence one's media-usage behaviour. Research conducted by Donohew, Palmgreen and Rayburn (1987) identified four lifestyle types whose members differed significantly on their media consumption patterns.

As far as new media are concerned, past research has established a link between value orientations and Internet use (Zhu & He, 2002); lifestyles and online buying behaviour (Li, Cheng, & Martha, 1999); and lifestyles and adoption behaviour of new media technologies (Leung, 1998). Leung (1998) confirmed the usefulness of lifestyles as a new set of attitudinal variables to supplement demographics and suggests how consumers manipulated consumption object meanings to fit their social identity (p. 789). In sum, previous research demonstrates that lifestyle is useful in explaining media usage. This exploratory study will first identify lifestyles of newsreaders in Hong Kong and subsequently investigate the influence of their lifestyles on media use, with particular attention paid to online news.

As a construct for predicting consumption behavior, VALS (Values and Lifestyles Segmentation) — an instrument developed by SRI International in 1978 — has been extensively used in relation to tourism marketing (Shih, 1986); internet use (Fassett, 1995); and e-commerce service adoption (Lai, 2001). Based on personality traits, VALS defined eight consumer segments: Innovators, Thinkers, Achievers, Experiencers, Believers, Strivers, Makers, and Survivors. “Primary motivation” and “resources” are the main dimensions of the segmentation framework. The three primary motivations are ideals, achievement and self-expression. Consumers who are primarily motivated by ideals are guided by knowledge and principles. Consumers who are primarily motivated by achievement look for products and services that demonstrate success to their peers. Consumers who are primarily motivated by self-expression desire social or physical activity, variety, and risk (SRI Consulting Business Intelligence, 2003). Resources are determined by one’s key demographics, as well as energy, self-confidence, intellectualism, novelty seeking, innovativeness, impulsiveness, leadership, and vanity.

With an aim to extending the empirical knowledge made possible through VALS, this research will use the VALS tool to examine how lifestyles may influence the adoption of

online news in Hong Kong.

### **Reliance on traditional news media**

As the media control access to a variety of information, one will become dependent on the media if one wants to obtain information (DeFleur and Ball-Rokeach, 1989). Baldwin and Barret (1992) define media dependence, as a concept that demonstrates that people develop a reliance on certain channels to satisfy their communication needs. In their study on uses and values for news of cable television, they found that cable news dependent subscribers were more likely than broadcast news dependent subscribers to use cable news on a regular basis and tune to cable in a national crisis. Past research has also investigated the relationships between media reliance and knowledge acquisition (Culbertson & Stempel, 1986), knowledge gap (Miyo, 1983), and attitudes toward government and public officials (Becker & Whitney, 1980). Faber, Reese, & Steves, (1985) found that television is the typically favored source for national news while newspapers are heavily relied upon for local information. Similarly, radio is often a common source for local news, and magazines are favored for news at the national level (Gaziano, 1988).

Furthermore, previous research also indicate that people with a higher level of political knowledge depend more on news media (Price & Zaller, 1993), particularly information-rich news sources (Neuman, Just, & Crigler, 1992). In the past, this generally refers to newspaper and magazine. But today the Internet can provide the public a theoretically limitless news hole of up-to-date information available when the public wants it, much of it in raw form that has not been digested by journalists. Will the dependents of newspaper for news turn to the Internet to seek more information at greater length? Or will dependents of television for news turn to online news for in-depth analysis and detail reports because television news is usually brief and heavily filtered by reporters and anchors to serve

up the 22-minute segment.

Although previous studies suggest that television news still dominates as the preferred medium, Johnson and Kaye (2000) found that those who already harbor an interest in political affairs are surfing the Internet, rather than television, for political information because they are seeking more in-depth information than television can provide. The growing popularity of online news outlets raises profound questions about the future of traditional news media. However, Althaus and Tewksbury (2000) confirmed that use of online news sources is unlikely to diminish the substantial use of traditional news media. This study focuses on the question of whether reliance on traditional media for news will affect types of news read online and newsreaders' pattern of online news attributes use.

### **Attributes of online news**

Online news media distinguish themselves from traditional media in a number of ways: they are *interactive*; they offer *convenience*, which embodies easy access, searchable feature and capability of cross-referencing through hyperlinking; and they provide *multimedia* features. According to King (1998), interactivity is used to describe two essentially unrelated characteristics of online media. "In one sense, 'interactivity' is used to describe the process of empowering users with additional control over the sequence in which information is presented to them. This definition relates to increased interactivity with content. But the term also is used to describe an increase in the interaction news consumers can have with news producers, a definition relating to increased feedback" (p.26). Heeter (1989) identified six measurable characteristics of interactivity: complexity of choice available, effort users must exert, responsiveness to the user, monitoring information use, ease of adding information, and facilitation of interpersonal communication.

Online news is a convenient news medium. As an important feature of online

communication, the ability to search stories allows newspapers to become an information databank (Peng, Tham, & Hao, 1999). Hyperlinks, on the other hand, change the newspaper from a single source of information into a hub of information network which allows readers to go beyond daily news to other information sites and make newspaper reading non-linear (Lee & So, 1999). Unlike printed newspapers, online media can deliver breaking news and timely news updates around the clock.

Multimedia has always been touted as a key feature of the Internet. Presenting information with text, animated graphics, video, and sound, multimedia generally indicates a rich sensory interface between humans and computers or computer-like devices — an interface that in most cases gives the user control over the pace and sequence of the information (Flynn & Tetzlaff, 1998). Hoogeveen (1997) noted that multimedia is a property of a system or object wherein “multiple perceptual representation media, such as speech, music, text, graphic, still, animation and video, are used in an integrated manner”.

### **Use of traditional mass media**

The media displacement hypothesis suggests that existing media-use patterns will be “restructured” with the introduction of a new medium (Krugman, 1985). As the amount of time available for media use is limited, the introduction of a new media activity will result in a corresponding reduction in the time spent on other media activities. James, Wotring and Forrest (1995) confirmed that the amount of time spent on electronic bulletin boards significantly reduced time spent on other media activities. Kayany and Yelsma (2000) reaffirmed that the amount of time spent on watching television, talking on the telephone, and reading newspapers decreased as a result of using online media.

However, some research studies point to other possibilities beside the displacement model. Two such studies (Rosengren & Windahl, 1989; Stempel, Hargrove, & Bernt, 2000)

suggest that there is an alternative “supplement” or “activation” model. In a study conducted by Lin (2002), the author concludes that online media are a “functional supplement to traditional media instead of a complement or displacement mechanism” (p.3). Other studies show that the use of new media is unrelated to the use of other media (Bromley & Bowles, 1995; Jeffres & Atkin, 1996).

These contradictory findings give rise to diverse opinions about the future of new and old media. In some respects, it is difficult to draw any firm conclusions as the media environment is changing rapidly. Nevertheless, this study will attempt to shed new light on the questions surrounding this issue by exploring in greater depth the link between traditional mass media and the use of online news.

In sum, the purpose of this study is to explore the predictive power of lifestyle orientations, reliance on traditional news media, attributes of online news, traditional mass media use, and demographics on online news adoption and likelihood to adopt. The following research questions are proposed:

- RQ1: What lifestyle types similar to VALS can be identified in Hong Kong?
- RQ2: In what ways can lifestyles, reliance on traditional news media, attributes of online news, traditional mass media use, and demographics predict likelihood of online news adoption?
- RQ3: To what extent can lifestyles, reliance on traditional news media, attributes of online news, traditional mass media use, and demographics predict (a) online news usage and (b) types of online news story use?
- RQ4: To what extent can lifestyles, reliance on traditional news media, traditional mass media use, and demographics predict the level of online news attributes use?



## Method

### Sample and sampling procedure

Data for this exploratory study were gathered from a convenience sample of information workers and university students through a self-administrated questionnaire in February 2003. Questionnaires were sent, using a snowballing method, to e-mail accounts of colleagues and friends, who are Internet users, for responding and forwarding to their peers. Most of the respondents were managers, professionals, and associate professionals. A total of 453 questionnaires were completed. The composition of the sample was almost evenly distributed with 47% male, 52% frequent online newsreaders, and 48% non-online newsreaders. About 16% of the respondents were high school graduates or below, and the remaining 84% were university graduates, of which 32% held a Master or Doctoral Degree. About 17.2% of the respondents were in the range of 15-24 years old, 40.2% ranged from 25-34, 32.2% ranged from 35-44, and 10.4% were 45 or above.

### Measurements

*Lifestyles.* In this study, lifestyle was measured using a well-established instrument developed by SRI International -- VALS. To explain the relationship between personality traits and consumer behavior, VALS uses psychology to analyze the dynamics underlying consumer preferences and choices, and to predict purchase behavior (SRI Consulting Business Intelligence, 2003). To measure lifestyle orientations, this study used 35 items contained in the VALS questionnaire using a four-point Likert scale, where "1" means "mostly disagree" with the statement and "4" means "mostly agree". However, only 23 items were included for further analysis because some items were not applicable or not truly reflective of the local culture, value, or belief although Hong Kong shares a somewhat common culture with the West.

*Reliance on traditional news media.* Respondents were asked how much they rely on

three traditional news media, printed newspapers, TV, and radio to get news. A 5-point scale was used ranging from “1” meaning “heavily rely on” to “5” meaning “don’t rely at all.” The scale was reverse coded before analysis.

*Attributes of online newspaper.* Attributes of online newspapers were gathered based on the literature as well as from a focus group of 15 information workers. Ten attributes of online newspapers were derived after responses were categorized, modified, and combined to construct the questionnaire. As respondents could be “non-frequent online newsreaders or non-users” or “frequent online newsreaders”, they were asked to respond to different sets of questions. For *non-frequent online newsreaders or non-users*, this group was asked to indicate if they believed the ten attributes of online news were beneficial, using a 5-point Likert scale, ranging from “1” being “strongly disagree” to “5” being “strongly agree”. And for the *frequent online newsreaders*, they were asked to indicate how much they agreed that their frequent use of online newspapers were due to the ten attributes. A 5-point Likert scale, ranging from “1” = strongly disagree to “5” = strongly agree, was used.

For the group of non-frequent online newsreaders or non-users, principal components factor analysis yielded three factors with eigenvalues greater than 1.0, explaining 65.98% of the total variance. The results are shown in Table 1. The first factor, convenience, had an eigenvalue of 3.47 and explained 34.69% of variance ( $\alpha = .80$ ), reflects the convenience aspect of online news, which are available anytime and anywhere and can be accessed easily and quickly from home. Because of its non-mutually exclusive nature, however, the last item -- search news from archives -- was cross-loaded with interactivity. The second factor, interactivity (eigenvalue = 2.05, variance = 20.54%,  $\alpha = .78$ ), reveals the capability of online news to conduct opinion polls, allow e-mails to be sent to the editor, and facilitate readers to participate in news chat forums. The last factor was multimedia (eigenvalue = 1.08, variance = 10.75%,  $\alpha = .66$ ), which illustrated the option of reading news with graphics

and video/audio online, and the capability of searching news from archives. Similarly, for the group of frequent online newsreaders, factor analysis in Table 2 also yielded three factors: interactivity (eigenvalue = 3.34, variance = 33.39%,  $\alpha = .87$ ); convenience (eigenvalue = 2.65, variance = 26.47%,  $\alpha = .80$ ); and multimedia (eigenvalue = .99, variance = 9.86%,  $\alpha = .67$ ).

< Insert table 1 and 2 about here >

*Online newspaper adoption and likelihood to adopt.* In assessing adoption behavior, frequent online newsreaders were asked to report the number of days they read news online in a typical week and minutes spent each day. For non-frequent online newsreaders or non-users, they were asked if they think that online news is not an appropriate medium for them despite the benefits of online news. A 5-point Likert scale was used with “1” being “strongly disagree” and “5” being “strongly agree.” The scale was also reverse coded for analysis.

*Types of online news story read.* In addition to level of overall online news use, respondents were asked the frequency of reading “Local news”, “International/China news”, and “Business/Financial news” online. A 5-point scale, with the two anchors being “1” = very often and “5” = never, was used. The scale was subsequently reverse coded.

*Traditional mass media use.* Three traditional mass media variables were included in the analyses: printed newspaper reading, TV viewing, and radio listening. Respondents were asked to report the time spent on these media on a normal day. A 5-point scale was used with “1” meaning “none,” “2” = less than 30 minutes, “3” = 30 minutes to an hour, “4” = 1 to 2 hours, and “5” = more than 2 hours.

*Demographics.* The demographic characteristics of respondents, such as gender, age, levels of education, marital status, monthly household income, and occupation, were also requested in the questionnaire.

## Results

### *VALS in Hong Kong*

To identify the lifestyle types in Hong Kong, a principal components factor analysis was performed to determine the potential groupings of lifestyle items. Results are shown in Table 1. Six factors emerged with eigenvalues greater than 1.0, explaining 61.7% of the total variance. The first factor, “experiencers” (eigenvalue = 4.81, 20.9% of variance), consisted of 6 items, depicted respondents as young, enthusiastic, self-expressive, highly resourceful, and innovative. Looking for excitement and variety, experiencers use convenient means to seek new information from different sources. Cronbach’s alpha was at .77. The second factor, “strivers” (eigenvalue = 3.03, variance = 13.18%, alpha = .84), included 4 items, revealed qualified respondents as trendy and fashionable, having limited resources but a strong need for approval by others and tend to be less innovative. The third factor, “innovators” (eigenvalue = 2.06, variance = 8.95%, alpha = .78), comprised 5 items, is at the top of the spectrum with high resources and high innovation. Innovators are successful, sophisticated, take-charge people who are receptive to new ideas and challenges. “Makers” (eigenvalue = 1.88, variance = 8.18%, alpha = .73) is the fourth factor consisted of 4 items. This factor described the makers as practical people who have constructive skills and value self-sufficiency. Makers will only purchase for functional purposes. The fifth factor, “thinkers” (eigenvalue = 1.24, variance = 5.37%, alpha = .76), included 2 items, revealed that people of this group look for durability, functionality, and value in the products they buy. Thinkers are mature, conservative, and practical consumers. Finally, the sixth factor,

“survivors” (eigenvalue = 1.18, variance = 5.12, alpha = .72), comprised 2 items, is at the bottom of the spectrum with low resources and low innovation. Survivors are cautious consumers who live narrowly-focused lives.

As a whole, these six lifestyles were conceptually consistent with the theoretical expectations described by SRI (2003). In sum, this study found that there is a deeply held lifestyle system similar to the west in the Hong Kong culture, despite the dropping of 12 items from the original VALS inventory due to cultural differences.

< Insert Table 3 about here >

### ***Predicting Likelihood of online news adoption***

To examine what predicts the likelihood to adopt online news reading, regression analysis was run. Results in Table 4 indicate that convenience (beta = .33,  $p < .001$ ) and gender (beta = -.24,  $p < .01$ ) were the only two predictors for likelihood to adopt for non-online newsreaders. This suggests that males are more likely to adopt online news because online news can bring them easy access from home to diverse sources of news and to search news from archives. The regression equation explained 21% of the total variance.

< Insert Table 4 about here >

### ***Predicting Online News Usage***

To answer the third research question, multiple regression analyses were run using frequency of online news use in a typical week and minutes spend each day as dependent variables. Confirming previous research, results in Table 5 show that demographics were the strongest predictors for online news usage. Specifically, gender (beta = -.24,  $p < .01$ ), marital status (beta = .23,  $p < .01$ ), and multimedia (beta = .18,  $p < .05$ ) significantly predicted online news reading in days per week. This suggests that single males read news online most often,

especially those presented with graphics, audio, and video. In terms of minutes per day consuming online news, results show that heavy reader of traditional newspaper ( $\beta = .16$ ,  $p < .05$ ) also spent more time each day on online news reading because they feel online news are convenient ( $\beta = .17$ ,  $p < .05$ ) and the multimedia features are attractive ( $\beta = .35$ ,  $p < .01$ ). However, no lifestyle and reliance on traditional news media variables were significant predictors. The regression equation explained 21% - 22% of the total variance.

<Insert Table 5 about here >

### ***Predicting Types of Online News Read***

To predict types of online news story read, multiple regression analyses were conducted to assess how lifestyles, reliance on traditional news media, attributes of online news, traditional mass media use, and demographics can predict the frequency of reading local news, international/China news, and business/financial news online. Results in Table 6 show that two lifestyle groups were significant predictors. Specifically, experiencers ( $\beta = .14$ ,  $p < .05$ ), a lifestyle savoring the new, the offbeat, and the risky, read more online international/China news. In the contrary, the survivors (negative,  $\beta = -.17$ ,  $p < .05$ ), who live narrowly-focused lives, seldom read international/China news. This is probably due to the fact that these news types are outside the context of their life experience.

Furthermore, reliance on TV for news significantly predicted the frequency of reading local ( $\beta = .28$ ,  $p < .001$ ) and international news ( $\beta = .18$ ,  $p < .05$ ) online. This means that the more respondents rely on TV for news, the more they will read online local and international news. However, when someone relies on radio for news ( $\beta = -.19$ ,  $p < .05$ ), the less they have the need to get local news online. Interactivity was significant in predicting the frequency of reading local news (negative,  $\beta = -.19$ ,  $p < .01$ ) and international/China news (negative,  $\beta = -.13$ ,  $p < .05$ ). This suggests that online newsreaders seldom take advantage

of the interactivity capability when they read local and international news online. However, convenience ( $\beta = .17, p < .05$ ) was a strong predictor of frequency of reading business/financial news due to their immediate nature.

Finally, use of radio as a mass medium ( $\beta = .20, p < .01$ ) was also a strong predictor of the frequency of reading online local news. This finding supports previous research, which suggested that online media functionally supplement traditional media. A total of 22%, 19% and 14% of variance were accounted for respectively for the three regression equations. Although demographic variables have strong bi-variate relationships with the frequency of reading different types of news online, financial news in particular, they are weak in predicting the frequency of online news reading.

< Insert Table 6 about here >

### ***Predicting Online News Attributes Use***

Next, multiple regression analyses were conducted to explore the predictive power of lifestyles, reliance on traditional news media, traditional mass media use, and demographics on the level of enjoyment in the use of online news because of interactivity, convenience, and multimedia. As results in Table 7 show that lifestyles were the strongest predictors for the enjoyment of interactive capability of online news. Strivers ( $\beta = .22, p < .01$ ), makers ( $\beta = .17, p < .05$ ), as well as innovators ( $\beta = .14, p < .05$ ) enjoy the attribute of interactivity when reading online news. Interactivity can satisfy strivers' need for seeking fun, makers' desire for self-expression, and innovators' aspiration for new ideas. In explaining why convenience was a key factor in motivating online newsreaders to use online news, being an experiencer ( $\beta = .23, p < .01$ ) was the only predictor. This suggests that the convenience of accessing a wide range of updated information is very important to experiencers, who are enthusiastic about exploring new possibilities. Finally, as practical people who have

constructive skills and value self-sufficiency, makers ( $\beta = .21, p < .01$ ) enjoy multimedia feature for their functional purpose.

Moreover, the less reliance respondents have on radio for news ( $\beta = -.15, p < .05$ ), the more they would use interactivity of online news. This can be explained by the different modes of news delivery; radio allows audiences to be more passive in consuming news content while online news requires users to be more intentional and focused while receiving news information. Furthermore, the use of traditional radio as a medium also significantly predicted the use of interactivity and multimedia in online news. Although they might not rely on radio as a major source for news, the more they listen to radio for entertainment and information, the more they would interact with online news content and multimedia features.

Demographic characteristics such as household income also played an important role in explaining the use of interactivity ( $\beta = -.24, p < .05$ ). This suggests that the low-income groups enjoy the interactivity feature more than the high-income groups do. This can be due to the fact that most online news services are free of charge and low-income groups will be more likely to take advantage of free services.

In sum, these findings suggest that lifestyles contributed significantly in explaining the levels of enjoyment in the use of online news attributes. A total of 21%, 11%, and 14% of variance were accounted for respectively for the three regression equations.

< Insert Table 7 about here >

## Conclusions and Discussion

With the growing importance of online news as a source for news, the possible linkages between online news adoption and lifestyles, reliance on traditional news media, attributes of online news, use of traditional mass media, and demographics are worth investigating. Exploratory factor analysis successfully identified six lifestyle types within the cohort of Internet users, which by large confirm SRI's (2003) characterization of values and



lifestyles in the United States. Findings suggest that Internet users in Hong Kong can be categorized as experiencers, strivers, innovators, makers, thinkers, or survivors. There was strong support for our expectation that these lifestyle types would be associated with Internet users' online news reading behavior. Although lifestyles were not predictive of likelihood to adopt or overall level of online news use, they are important predictors for types of online news read and online news attributes used. In particular, being an experiencer had a significant impact on seeking international/China news on the Net, as well as enjoying the convenience nature of online news. This seems logical when we consider what experiencers enjoy: excitement, thrill, new things, challenges, varieties, spending a comparatively high proportion of their income on fashion, entertainment, and socializing. They would not simply rely on traditional sources for news. In addition to experiencers, being a striver, innovator, and maker are important predictors for their trendy, fashionable, and fun loving desire; their aspiration for innovative ideas and technologies; and their practical style in expressing and experiencing the world through the use of interactive and multimedia features available in online news reading. However, being a survivor, living in a limited and narrowly focused lives, their primary concern is safety and security, would have no interest in reading international/China news online. This finding supports previous research that as a new set of attitudinal variables, lifestyle complements demographics in predicting new media adoption (Becker and Connor, 1981; Donohew, Palmgreen, & Rayburn, 1987; Kamakura and Mazzon, 1991; Leung, 1998; Tigert, 1974; Wallings, 1985; Yew, 1997). Furthermore, this study also endorses that newsreaders with different lifestyles have distinctive online news adoption behavior, implying that customized news services are required to satisfy different needs of newsreaders with diverse lifestyle orientations. To provide services tailored to newsreaders' interests, online news publishers should consider offering personalized editions.

In addition to lifestyles, another important finding of this study is that reliance on TV

news significantly predicted the frequency of reading *local* and *international/China* news online. This demonstrates that online news is not replacing traditional news sources; it supplements traditional mass media as an expanded source for news instead. However, the lack of significance in the relationship between reliance of traditional news media and likelihood to adopt online news and the overall level of online news use could mean that regardless how dependent Internet users are on traditional media for news, it has no effect on their online news reading behavior overall. On the other hand, when online newsreaders regularly seek news information on TV, they tend to be frequent users of specific local and international/China news online as well. This could be due to the fact that television news is known for its brief and shallow (condensed) nature rather than news with depth and analysis like printed newspaper or online news. Moreover, news online usually provides hyperlinks to related stories if one wants to learn more. This is in line with the notion of the activation effect of the media that motivates audience to seek more of the same from another medium (Rosengren & Windahl, 1989). Furthermore, the negative relationships between the reliance on radio for news and the use of local news online and use of interactive attributes simply suggest that radio is a much passive medium when compared to seeking information online. When someone is accustomed to an active or interactive medium for news, they would be less likely to seek news in a passive medium such as the radio and vice versa.

In analyzing the effect of online news attributes on the use of online news, one contribution of this study is the finding that convenience is one of the few important factors influencing the likelihood of online news adoption, the level of online news use in minutes per day, as well as reading financial news online. This result simply reveals that the immediate nature of financial news requires a medium that can give the readers up-to-the-minute information. Furthermore, the quick, easy access from home of a diverse source of news and the ability to search for archival stories are certainly what attract the

frequent users to use more and the non-users to consider adopting the technology in the future. As an important factor predicting adoption and use, the implication of this finding is that convenience should form the integral part of any marketing campaign promoting online news adoption for both the users and the non-users of getting news online. In addition, the attraction of multimedia features is also significant predictor for the level of online news use. The more they appreciate the multimedia functions, the more they would spend time reading news online using these features both in days per week and in length of each session per day.

It is also interesting to note that use of mass media had significant effect on online news use. Heavy newspaper readers tend to spend longer time online reading news everyday. Radio listeners also enjoy reading local news online utilizing interactive and multimedia features. This finding, however, is inconsistent with previous research that heavy users of the Internet rarely listen to radio (Leung, 2002). One possible explanation is that programming on radio today may be very interactive involving the audience in different types of participation by inviting questions and opinions to be sent in via telephone, faxes, and e-mails. As call-in radio program format becomes more and more popular, radio listening may not be necessarily passive after all in receiving news, music, entertainment, or sports. Therefore, future study may need to ask the type of radio programs they frequently listen to.

As expected, with the exception that males are more likely to adopt, single males are heavier online news users, and families with low income are more interested in using interactive functions of online news, the effects of socio-economic variables were relatively weak in predicting online news adoption behavior. By large, these findings confirm previous research that the socioeconomic effects are increasingly leveling off in predicting new technology adoption (Atkin, 1993; Sparkes & Kang, 1986).

A few limitations of this study should be considered. First, respondents for this exploratory study were recruited through interpersonal contacts. This may result in greater

sampling errors. Additionally, the questionnaires were distributed mainly via e-mail, assuming that the respondents are information workers, and therefore, blue-collar workers, housewives, etc. are excluded in the sample. Thus, data collected for this study cannot be over-generalized. Second, a western lifestyle instrument was employed for this study to assess the lifestyle orientations of newsreaders in Hong Kong. We should therefore be mindful of the cultural differences between western society and Hong Kong, as the segmentation method may not perfectly fit the profiles of Hong Kong people. This perhaps explains why the predictive power of the lifestyle variables in this study on adoption and likelihood of adoption is relatively weak. Third, as this study is a cross-sectional rather than longitudinal analysis, there is no way of identifying the extent to which media substitution might occur among respondents over time. To enable researchers to measure both indirect and direct effects which one variable has upon another, it is suggested that a panel study be used to examine patterns of causation or change among sets of variables for future research in online news adoption.

With the rapid development of communications technologies, such as the 3G mobile phone, PDA, and wireless LAN, online news will not be confined to personal computers. As communication devices are becoming more portable, making content available to users ever more mobile, online news will become an increasingly significant news source in our everyday lives. How will this new technology be diffused and adopted by people with different lifestyles? It is too early to tell at this point, and additional research will likely be needed in the future. No matter what shape the new technology may take, however, there is no denying that it will have a profound impact on the way we access the news and the way we view society.

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**Table 1:**  
**Factor Analysis of Online News Attributes (for Non-Users)**

You think online news are beneficial because you can:	Mean	SD	Factors		
			1	2	3
<b><i>Convenience</i></b>					
access info quickly	4.20	.79	.88		
access info easily	4.17	.77	.81		
access info from home	4.13	.74	.76		
read diverse sources of news from different sites	4.07	.75	.68		
search news from archives	3.94	.80	.51	.46	
<b><i>Interactivity</i></b>					
participate in opinion polls	2.03	.88		.87	
send e-mail to the editor	3.11	.92		.77	
participate in a news chat forum	2.80	.87		.74	
<b><i>Multimedia</i></b>					
read news with graphics	3.38	.94			.90
read video/audio news	3.53	.93			.67
Eigenvalues			3.47	2.05	1.08
Variance explained (%)			34.69	20.54	10.75
Cronbach's Alpha			.80	.78	.66

Scale: 1=strongly disagree; 2=disagree; 3=no opinion; 4=agree; and 5=strongly agree. N=217

**Table 2:**  
**Factor Analysis of Online News Attributes (for Users)**

You often read news online because you can:	Mean	SD	Factors		
			1	2	3
<b><i>Interactivity</i></b>					
participate in a news chat forum	2.16	.92	.91		
participate in opinion polls	2.35	.96	.87		
send e-mail to the editor	2.27	1.02	.85		
<b><i>Convenience</i></b>					
access info easily	4.51	.66		.92	
access info quickly	4.51	.66		.89	
access info from home	4.24	.86		.73	
read diverse sources of news from different sites	4.22	.79		.54	.45
<b><i>Multimedia</i></b>					
read news with graphics online	3.40	1.06			.76
read video/audio news online	3.28	1.04	.45		.72
search news from archives online	3.74	.87			.65
Eigenvalues			3.34	2.65	.99
Variance explained (%)			33.39	26.47	9.86
Cronbach's Alpha			.87	.80	.67

Scale: 1=strongly disagree; 2=disagree; 3=no opinion; 4=agree; and 5=strongly agree. N=236

**Table 3:**  
**Factor Analysis of VALS**

	Mean	SD	Factors					
			1	2	3	4	5	6
<b><i>Experiencers</i></b>								
I like a lot of excitement in my life	2.87	.72	.73					
I like doing things that are new and different	2.96	.57	.72					
I like the challenge of doing something I have never done before	2.98	.58	.71					
I like trying new things	2.98	.63	.67					
I like a lot of variety in my life	3.23	.64	.61					
I would like to spend a year or more in a foreign country	3.13	.85	.57					
<b><i>Strivers</i></b>								
I like to dress in the latest fashions	2.12	.75		.85				
I want to be considered fashionable	2.46	.73		.80				
I dress more fashionably than most people	2.04	.72		.79				
I follow the latest trends and fashions	2.48	.70		.76				
<b><i>Innovators</i></b>								
I like to lead others	2.57	.72			.77			
I consider myself an intellectual	2.58	.78			.74			
I have more ability than most people	2.66	.63			.74			
I like being in charge of a group	2.64	.72			.69			
I must admit that I like to show off	2.15	1.59			.61			
<b><i>Makers</i></b>								
I like to make things with my hands	2.63	1.57				.80		
I would rather make something than buy it	2.13	.71				.79		
I love to make things I can use everyday	2.87	.77				.66		
I like making things of wood, metal or other such material	2.14	.81				.60	.46	
<b><i>Thinkers</i></b>								
I am very interested in how mechanical things work	2.37	.95					.80	
I like to look through hardware or automotive stores	2.27	.89					.79	
<b><i>Survivors</i></b>								
I am really interested only in a few things	2.39	.81						.82
I must admit that my interests are somewhat narrow and limited	2.44	.76						.80
Eigenvalues			4.81	3.03	2.06	1.88	1.24	1.18
Variance explained (%)			20.90	13.18	8.95	8.18	5.37	5.12
Cronbach's Alpha			.77	.84	.78	.73	.76	.72

Scale: 1=mostly disagree; 2=disagree; 3=agree; and 4=mostly agree. N=453

**Table 4:**  
**Regression of Lifestyles, Reliance on Traditional News Media, Online News Attributes,**  
**Mass Media Use, and Demographics on Likelihood of Online News Adoption**

Predictor variables	<i>r</i>	$\beta$
<b><i>Lifestyles</i></b>		
Experiencers	.06	.02
Strivers	.05	.01
Innovators	-.03	-.06
Makers	.02	.03
Thinkers	.16*	.05
Survivors	-.04	-.05
<b><i>Reliance on traditional news media</i></b>		
Printed newspapers	-.02	.07
TV	-.05	-.11
Radio	-.05	-.05
<b><i>Online news attributes</i></b>		
Convenience	.25**	.33***
Interactivity	.03	.01
Multimedia	.13	.07
<b><i>Mass media use</i></b>		
Printed newspapers	-.11	-.15#
TV	-.04	-.01
Radio	.03	.07
<b><i>Demographics</i></b>		
Gender (female = 1)	-.15*	-.24**
Age	-.02	.10
Education level	-.06	-.08
Marital status (single = 1)	.12	.17#
Household income	-.04	-.08
$R^2$		.21
Adjusted $R^2$		.11

Notes. Figures are standardized beta coefficients.

#p<.1; \*p<.05; \*\*p<.01; \*\*\*p<.001; N ranged from 197 – 217

**Table 5:**  
**Regression of Lifestyles, Reliance on Traditional News Media, Online News Attributes,**  
**Mass Media Use, and Demographics on Use of Online News**

<i>Predictor Variables</i>	Use of Online News			
	Days per week		Minutes per day	
	<i>r</i>	$\beta$	<i>r</i>	$\beta$
<b><i>Lifestyles</i></b>				
Experiencers	.03	<i>n.s.</i>	.07	<i>n.s.</i>
Strivers	-.06	<i>n.s.</i>	.03	<i>n.s.</i>
Innovators	.19**	<i>n.s.</i>	-.00	<i>n.s.</i>
Makers	-.04	<i>n.s.</i>	.13*	<i>n.s.</i>
Thinkers	-.06	<i>n.s.</i>	-.06	<i>n.s.</i>
Survivors	-.09	<i>n.s.</i>	-.03	<i>n.s.</i>
<b><i>Reliance on traditional news media</i></b>				
TV	.09	<i>n.s.</i>	-.06	<i>n.s.</i>
Newspaper	.13*	<i>n.s.</i>	-.07	<i>n.s.</i>
Radio	-.08	<i>n.s.</i>	.01	<i>n.s.</i>
<b><i>Online news attributes</i></b>				
Convenience	.12#	<i>n.s.</i>	.08	.17*
Interactivity	-.03	<i>n.s.</i>	.09	<i>n.s.</i>
Multimedia	.14*	.18*	.32***	.35***
<b><i>Mass media use</i></b>				
Newspaper reading	-.02	<i>n.s.</i>	.11	.16*
TV viewing	.04	<i>n.s.</i>	-.05	<i>n.s.</i>
Radio listening	.03	<i>n.s.</i>	.10	<i>n.s.</i>
<b><i>Demographics</i></b>				
Gender (female=1)	-.16*	-.24**	-.01	<i>n.s.</i>
Age	-.07	<i>n.s.</i>	-.18**	<i>n.s.</i>
Education	.15*	<i>n.s.</i>	-.05	<i>n.s.</i>
Household income	.07	<i>n.s.</i>	-.18**	<i>n.s.</i>
Marital status (single=1)	.18**	.23**	.12#	<i>n.s.</i>
$R^2$		.21		.22
Final adjusted $R^2$		.13		.14

Notes: Figures are standardized beta coefficients.

# $p \leq .1$ ; \* $p \leq .05$ ; \*\* $p \leq .01$ ; \*\*\* $p \leq .001$ ; N=236

**Table 6:**  
**Regression of Lifestyles, Reliance on Traditional News Media, Online News Attributes,**  
**Mass Media Use, and Demographics on Types of Online News Read**

<i>Predictor Variables</i>	Types of Online News Read					
	Local News		International/China News		Financial News	
	<i>r</i>	$\beta$	<i>r</i>	$\beta$	<i>r</i>	$\beta$
<b><i>Lifestyles</i></b>						
Experiencers	.06	<i>n.s.</i>	.13#	.14*	-.02	<i>n.s.</i>
Strivers	-.07	<i>n.s.</i>	-.19**	<i>n.s.</i>	-.07	<i>n.s.</i>
Innovators	.01	<i>n.s.</i>	.07	<i>n.s.</i>	.00	<i>n.s.</i>
Makers	-.06	<i>n.s.</i>	-.10	<i>n.s.</i>	.01	<i>n.s.</i>
Thinkers	.05	<i>n.s.</i>	.01	<i>n.s.</i>	.12#	<i>n.s.</i>
Survivors	.03	<i>n.s.</i>	-.17*	-.17*	-.16*	<i>n.s.</i>
<b><i>Reliance on traditional news media</i></b>						
TV	.30***	.28***	.14*	.18*	.03	<i>n.s.</i>
Newspaper	.22**	<i>n.s.</i>	.11	<i>n.s.</i>	.01	<i>n.s.</i>
Radio	-.07	-.19*	.07	<i>n.s.</i>	.03	<i>n.s.</i>
<b><i>Online news attributes</i></b>						
Interactivity	-.20**	-.19**	-.12#	-.13*	-.02	<i>n.s.</i>
Convenience	.10	<i>n.s.</i>	.21**	<i>n.s.</i>	.11	.17*
Multimedia	.01	<i>n.s.</i>	.03	<i>n.s.</i>	-.05	<i>n.s.</i>
<b><i>Mass media use</i></b>						
Newspaper reading	-.02	<i>n.s.</i>	-.09	<i>n.s.</i>	.01	<i>n.s.</i>
TV viewing	-.04	<i>n.s.</i>	-.06	<i>n.s.</i>	-.04	<i>n.s.</i>
Radio listening	.01	.20*	.02	<i>n.s.</i>	.00	<i>n.s.</i>
<b><i>Demographics</i></b>						
Gender (female=1)	.02	<i>n.s.</i>	-.17**	-.16#	-.10	<i>n.s.</i>
Age	.08	<i>n.s.</i>	.20**	<i>n.s.</i>	.25***	<i>n.s.</i>
Education	-.03	<i>n.s.</i>	.09	<i>n.s.</i>	.11	<i>n.s.</i>
Household income	.17*	<i>n.s.</i>	.13*	<i>n.s.</i>	.23***	<i>n.s.</i>
Marital status (single=1)	-.01	<i>n.s.</i>	-.09	<i>n.s.</i>	-.20**	<i>n.s.</i>
$R^2$		.22		.19		.14
Final adjusted $R^2$		.14		.11		.05

Notes: Figures are standardized beta coefficients from final regression equation with all blocks of variables included for the entire sample.

# $p \leq .1$ ; \* $p \leq .05$ ; \*\* $p \leq .01$ ; \*\*\* $p \leq .001$ ; N=236

**Table 7:**  
**Regression of Lifestyles, Reliance on Traditional News Media, Mass Media Use,**  
**and Demographics on Online News Attributes Use**

<i>Predictor Variables</i>	Use of Online News Attributes					
	Interactivity		Convenience		Multimedia	
	<i>r</i>	$\beta$	<i>r</i>	$\beta$	<i>r</i>	$\beta$
<b><i>Lifestyles</i></b>						
Experiencers	-.01	<i>n.s.</i>	.22**	.23**	.05	<i>n.s.</i>
Strivers	.17*	.22**	-.02	<i>n.s.</i>	.03	<i>n.s.</i>
Innovators	.11#	.14*	.06	<i>n.s.</i>	.03	<i>n.s.</i>
Makers	.28***	.17*	-.12#	<i>n.s.</i>	-.15**	.21**
Thinkers	.08	<i>n.s.</i>	.03	<i>n.s.</i>	-.01	<i>n.s.</i>
Survivors	-.05	<i>n.s.</i>	-.02	<i>n.s.</i>	-.01	<i>n.s.</i>
<b><i>Reliance on traditional news media</i></b>						
TV	-.06	<i>n.s.</i>	.02	<i>n.s.</i>	.06	<i>n.s.</i>
Newspaper	-.07	<i>n.s.</i>	.09	<i>n.s.</i>	-.00	<i>n.s.</i>
Radio	.01	-.15*	.02	<i>n.s.</i>	.06	<i>n.s.</i>
<b><i>Mass media use</i></b>						
Newspaper reading	-.02	<i>n.s.</i>	-.01	<i>n.s.</i>	.08	<i>n.s.</i>
TV viewing	-.05	<i>n.s.</i>	.00	<i>n.s.</i>	.16*	.14#
Radio listening	.15*	.15*	-.03	<i>n.s.</i>	.19**	.17*
<b><i>Demographics</i></b>						
Gender (female=1)	-.10	-.16#	-.09	<i>n.s.</i>	-.07	<i>n.s.</i>
Age	.03	.17#	-.00	<i>n.s.</i>	.10*	-.17#
Education	-.15*	<i>n.s.</i>	.12#	.14#	-.01	<i>n.s.</i>
Household income	-.15*	-.24*	-.00	<i>n.s.</i>	.10*	<i>n.s.</i>
Marital status (single=1)	-.06	<i>n.s.</i>	.07	<i>n.s.</i>	-.03	<i>n.s.</i>
$R^2$		.21		.11		.14
Final adjusted $R^2$		.14		.03		.07

Notes: Figures are standardized beta coefficients.

# $p \leq .1$ ; \* $p \leq .05$ ; \*\* $p \leq .01$ ; \*\*\* $p \leq .001$ ; N=236