

News Use and Social Use of the Internet: Testing a Substitution Model in Three Levels

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Introduction

It is clear that interpersonal communication and content consumption are two important uses of Internet, if not the most important two. Through Internet, users are connected interpersonally as well as to massively produced and released media content online, Internet news as typical example. Scholars argued that the mass media function can be supplemented through real-time interpersonal exchanges facilitated by various online applications such as online chat rooms and news groups (e.g., Albright, Purohit, & Welsh, 2002; Ibanez, 2002). Moreover, the growing popularity of the Internet stems, to a large degree, from its ability to provide a mixture of interpersonal and mass media application (Atkin et al, 2005). However, the UCLA Center for Communication Policy (2001) study revealed that in US only 6.5% of new users and 1.6% of very experienced users (5 years or more) use chat rooms, and 3.4%, only 3.4% of new users and 6.1% of very experienced users visit newsgroups. The questions are raised here: does the predicted complementation between online news use and interpersonal communication really exist? Or otherwise, has prosperous Internet social appliance detracted audience from serious online news reading?

Theoretical Guideline

Traditional scholarship associating media news usage with interpersonal communication is embedded in mass media and civic engagement studies. Barber (1984; 1998) asserts that the looseness, open-endedness of everyday talk, going into and around of public issues, its creativity, potential for empathy and affective elements, are indispensable for the vitality of democratic politics. Empirical evidence supported that news media use is closely associated with daily

political conversation frequency, both in general and issue-specific (Kim J.; Wyatt R. O.; Katz E, 1999). These findings are framed within a classic four-stage model: sharing news information, talking about it, forming opinions, and participating, which is based on Katz's (1992) appropriation of Tarde's studies of public opinion.

Though a few researchers have integrated internet news into mass news source and connected it with users' interpersonal communications, yet those efforts are limited to an offline-participation approach. Since Internet has become a nascent yet overwhelming life setting as important as, if not more important than, offline life, we contend that it's important to view people's online activities as embedded in a holistic internet environment.

The integration of interpersonal communications and news reading activities that parallel in users' online life is blessed with a civic myth. As a hybrid media, Cyberspace facilitates a potentially closer bondage between users' online social activities and their touring among Internet news information. Moreover, benefit from limitless information and broader horizon, online interpersonal conversation may jump out of quotidian circles. Walther (1996) comments on Internet communication: "these heightened self-presentations and idealized perceptions magnify each other to a super ordinal level, as users reciprocate each other's partial and selective presentations".

As Wyatt, Katz and Kim (2000) state, the most private space has become the most frequent site of the public sphere; informal political conversation seems to be interwoven with the fabric of everyday talk. Extending conclusion to online settings, even issue bulletin boards, campaign sites, and civic communities serve formal public conversation; we still find interpersonal conversation through instant messengers, nonworking emails, and leisure forum conceptually interesting. Moreover, in nondemocratic settings, where formal and open platform for political

discussion and participation are far from established even online, if not totally missing, it is more important to look at the largely undefined everyday talk that happened in private sphere which has extended from offline to online settings.

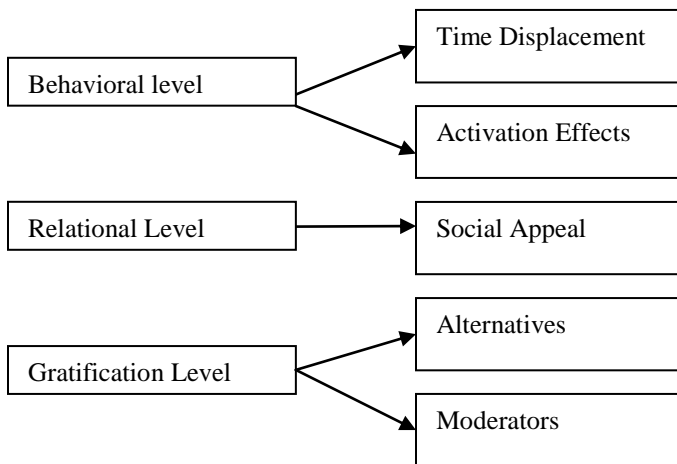
In the following part, empirical studies will be reviewed differentiating social use from non social use of Internet, with interpersonal communication online defined as social use, news reading online as typically non social. Based on this dichotomy, the latent conflicts are brought on, and hypotheses are established in three levels.

Conceptual Model

As the Internet evolves, it is time to perform "more differentiated analyses of the Internet" Wellman et al. (2001). Scholars find that the distinction of social and nonsocial purposes is useful when accounting for Internet usage (Kraut, Mukhopadhyay, Szczypula, Kiesler, &

Scherlis, 1999; Weiser, 2001). Nonsocial use of the Internet includes solitary online activities, information surfing, news browsing, and video watching. Such asocial activities would detract from users' social time. In contrast, social use of the Internet connects users with other people, e.g., the use of email, bulletin boards, and chat rooms. Paralleling

Figure 1 Conceptual model in three levels



occupying users' online time, the two types of activities are motivated by specific gratification, and may interact with each other. Based on this, several approaches from media usage studies shed light on the mutual relations between news use and interpersonal use of Internet. We establish our interaction model in three levels, and proceed with hypotheses at each level.

Behavioral level: Time displacement and Activation Effect

In a behavioral level, straightforwardly establishing a displacement effect, time displacement hypothesis indicate the competition between the two activities for users' online time. Originally dealing with the relations between Internet use and offline activities, this perspective emphasize that time on one activity cannot be spent on another activity. While being online, time and attention spent on one activity must be traded off against those spent on other activities.

Therefore, we suppose:

H1: Time for social Internet use is negatively correlated to time for news reading

Rosengren and Windahl (1989) conceptualized an activation effect that occurs when increased use of one medium increases other activities, which is described as *the more, the more* in media consumption (Atkin et al., 1976). For instance, as Heeter (1985) mentioned, the VCR made people active users of television. Activation effect is more salient among different activities within one media. Leung and Wei (2000) suggested, during an empty time period and in between voice calls, a user may use mobile media to access content delivered as SMS, play games, and surf the Internet, thus the amount of voice calling was found to be a significant correlate of news-seeking, Web surfing, and playing video games. Their finding suggests multitasking and task-alternation may cause activation effect between two or more usages that are closely connected in location, function, operations or cognitive pattern.

Featured with immediacy, interactivity and multiple functions, Internet technically facilitates a potential activation effect: certain types of social Internet use may increase online news reading, depending on information processing pattern, the degree of involvement, the successiveness of the activities. Our second hypothesis is more exploratory:

H2: Certain social internet use will be positively related to online news reading (with affinity in operation, content or hyperlink location).

Relational level: a social appealing\addiction approach

It is argued that Internet provide individuals a normless context in which they would be less constrained to exhibit such type of behavior and opinions that users may reluctant or frustrated to exhibit in offline settings (Dubrovsky, Kiesler, and Sethna, 1991; Sproull and Kiesler, 1991). Thus, online relationship can be extremely appealing. Some scholars argue that it is the social characteristics of electronic communication mediums that primarily generate the so-called Internet addictive behavior (Young, 1996; Suler 1996; King, 1998)ⁱ. Along this approach, Al Bellamy and Cheryl Hanewicz (2001) summarized several attributes that make online social relations distract users from other online and offline activitiesⁱⁱ.

Thus, we suppose the more one is into online social relations, in other words, become so called Cyber-relationship Addicted, the less one will engage in other Internet activities.

H3: Engagement into online social relations is negatively related to overall frequency of online news reading.

Gratification level: alternatives and moderators

Aside from competition for time and attention, the mutual displacement may happen in gratification level, which is complicated by alternatives of offline communications. The uses and gratifications approach to studying media assumes that audience members are active and make motivated choice based on previous exposure to the media. It also assumes that media use is only one way among others of satisfying needs that audience members experience in daily life. Ruggiero (2000, p14) argues “as new technologies present people with more and more media choices, motivation and satisfaction become even more crucial components of audiences

analysis''. Overlapping dimensions between users' gratification for the two suggest that users satisfied in one use have less drive to engage in other activities fulfilling similar needs.

Interpersonal communication/socialization is repeatedly identified as important aspect for online news use. Lin, Salwen, Abdulla (2005) generated the same four dimensions for both online and offline news gratifications—Entertainment, Information scanning, interpersonal communication and information skimming. Noticing the interactive features of online news service, LaRose and Robert (2006) suggest three forms of user motivations: information seeking/surveillance, socialization and entertainment.

Correspondingly, content-related gratifications may also motivate Internet social activities, with users turning online for information exchange and as an entertainment resource. Laura Price, et, al (2005) argued that the information exchange factor is the most salient motivation for Internet social activities, indicating that Internet users are attracted to social use of the Internet due to the opportunity to share, gather and exchange information with other users. Another shared gratification is indicated by Stafford et al. (2004) and suggests that Internet users are attracted to performing social Internet activities due to its ability to pass time and entertain users.

To summarize, interpersonal utility could motivate online news reading; informational dimension is also among most salient gratifications of social Internet use. When users are attracted to the Internet, they probably do not clearly separate motivations for different activities compiled in a hybrid media and well diverge with their choice, as long as their psychological or social demand get fulfilled.

Evidence supports that displacement between social and nonsocial activities can be measured from a gratification perspective. Analyzing Facebook users' activities, Adam N. Joinson (2008) found that an increased score on the content gratification scale was negatively related to the

number of 'friends' reported to be linked to one's profile. This perhaps suggests a sub-set of users gain gratification through the use of content and applications within Facebook, rather than through the accrual of 'friends'. On the other side, people who more engaged in online socialization may consume less content. Focusing on the dynamics of gratification, we develop last two hypotheses.

Given our assumption that users' activities hinge on satisfaction of motivations, we examined interpersonal communication satisfaction, which reflects interpersonal needs to be fulfilled through online interactions. V Pornsakulvanich, P Haridakis, AM Rubin (2008) conceptualized perceived satisfaction in relationships as a result of sharing similarities in personal characteristics, pleasant sentiments, behaviors, and symbolic expressions. Along gratification approach, we suppose that the fulfillment of communication gratification decrease news reading. Same as online communication satisfaction, we also suppose that subjective satisfaction/satisfaction of online news may serve as mediator in the relations between news reading and social Internet use and include it in discussion.

H4: Satisfaction of online interpersonal communication is negative predictor of online news reading

Rosengren and Windahl (1972) suggested that people differ in the degree of dependence on functional alternatives, depending on individual and environmental possibilities for need satisfaction. Individual possibilities reflect social-psychological variables such as extroversion, empathy, and socialization, whereas environmental possibilities include extra-individual variables such as friends and society.

Researchers found that individuals who have few close friends and face problems forming intimate relationships (Mesch, 2001; Caplan, 2003; Papacharissi and Rubin, 2000) or have

socially unacceptable personal identities (Bargh and McKenna, 2003) may use the Internet for its interpersonal utility or its ability “reinvent one’s . . . personality” (Papacharissi and Rubin, 2000, p.193). To the contrast, those individuals who have satisfying social relationships offline are more likely to use the Internet for asocial purposes, such as information seeking (Papacharissi and Rubin, 2000). Thus, we suppose:

H5: Satisfaction of offline interpersonal communication is positive predictor of online news reading

Interpersonal use of Internet News

News use for interpersonal communication greatly interests scholars studying public opinion in political information. Chaffee and McLeod (1973) illustrated how individuals are motivated by social utility (i.e., future involvement in interpersonal communication) and selectively expose themselves to election campaign information. Interpersonal communication is identified as significant gratification of news users. Weaver (1980) established that when interest and uncertainty in political information was high, newspaper use was more strongly related with interpersonal discussion of political information. We delineate this concept into behavior: sharing news with friends; and content: online conversation topics.

Sharing news online bridges online social behavior and information receiving from mass news source. There is a bunch of gratifications about news browsing and online social activities concerning information sharing. We include and compare the effect sharing news with online network and offline network.

Conversations are the ideal form of communication in some respects, since they allow people with different views on a topic to learn from each other. Most conversations can be divided into four categories according to their major subject content (Milton Wright, 1936)ii.

Emphasizing on the direction and content of interpersonal communication, we are interested in:

RQ1: What is the effect of interpersonal news sharing on the Internet news consumption?

RQ2: What is the influence of online conversation topics on the topic selection of online news?

Moderators

Rosengren and Windahl (1972) suggested that people differ in the degree of dependence on functional alternatives, depending on individual and environmental possibilities for need satisfaction. Individual possibilities reflect social-psychological variables such as extroversion, empathy, and socialization, whereas environmental possibilities include extra-individual variables such as friends and society. From this perspective, we establish the moderate effect of internet efficacy and offline sociability.

Internet self-efficacy, a concept built on social cognitive theory, moderates the relationship between Web information tasks and users' psychological responses. Researchers presented a discriminating measure of motivation and competency. Previous studies have employed Internet self-efficacy to predict Internet use, motivation as well as online outcomes. (Kalichman SC, Benotsch EG et.al 2003; Tao, Chen-Chao, 2006; M. Ybarra, M. Suman, 2006). The use of online information is featured with interactivity, which empowers the audience (Massey& Levy, 1999; Morris& Ogan, 1996), and motivates them to initiate two-way and group communication, and to become more involved with content (Kaye & Medoff, 1999).

Social efficacy is another moderator that has shown up repeatedly (e.g. Kaye & Johnson, 2002) in audience research and is commonly associated with news reading. Users with high social efficacy scores want to seek out information for the purpose of engaging with others. Social

efficacy should be associated with viewing a breadth of topics, rather than depth (Hoffman & Novak, 1996).

Methods

Data for this study was collected from 175 Internet users in a central province of China, during one week in March 2009. Gaining the help of a Chinese medicine company, the link of online questionnaire was sent to the email of their interviewees. They are mostly college students in their graduating year and assumed to be internet users because they can be contacted through an email address and were able to fill out the online survey. Table 1 summarizes the demographic structure of the study (See Table 1):

Measurement

Predictor: Online Interpersonal Communication

Consistent with our conceptual model, online interpersonal communication were measured in three levels: behavior, relationship, satisfaction.

Behavior

In behavioral level, time and frequency of usage are measured.

Firstly, respondents were asked to estimate the amount of time (minutes) they actively use following Internet appliances on average day: (1) social network site (2) personal blogs (3) Instant Messenger (since it is difficult to differentiate social use from institutional use of email, we exclude it in this measurement). Time spent on news reading was measured in similar way.

Secondly, respondents reported how often they (1) Chat with a friend through Instant Messenger (2) Browse and reply in internet forum (3) Participate discussion in a bulletin board (4) Surfing personal blogs (5) Surfing Social Network site (6) Sending and Receiving Email (7)

Calling someone through online phone (8) Online Video chat (9)Use Chat Room. The frequency of use was measured by 5 points likert scale, range from 5-“very often” to 1-“seldom”.

Relationship

For general online relations, we asked respondents 2 questions:

(1) Excluding working purpose, how many friends or acquaintances they contact at least once a week through internet?

(2) Excluding working purpose, how many friends or acquaintances they talk with at least once a week face to face or through phone?

To evaluate users' social reliance on online/offline communicating channels, we ask:

(1) How many friends are mainly contacted through online channels (e.g. MSN or Email)?

(2) How many friends are mainly contacted through offline channels (e.g. face to face or through phone)?

(3)How many friends you keep contact with both through offline and online channels?

Answers are categorized into 0-2, 3-4, 5-7, 7-10, more than 10; each of the categories was represented with numerical value ranging from 1-5 in ascendant order.

Intensity of interpersonal relations through instant messenger, personal spaces (blog and SNS), and online forum was respectively measured with the frequency of: adding new friends; receiving messages from friends, sending message to friends, checking statues of friends), evaluated with a 5-point likert scale.

Satisfaction

In satisfaction level, relying on the hyper-personal theories and the Internet social appeals summarized by Al Bellamy and Cheryl Hanewicz (2001), we develop a 5-point likert scale (1= completely disagree, 5= completely agree) to measure the satisfaction of online interpersonal

communication (See Appendix A for entire scale). Factor analysis (Principal Component Analysis, Rotation Method: Varimax with Kaiser Normalization) shows that all the 6 items loaded on one factor (Cronbach's Alpha=0.929).

Dependent Variables: Consumption and Satisfaction

Online News reading

Online news reading is measured for different topics. Based on previous scholarship, as well as the directory of Chinese popular news portals (i.e. Google News, Sohu, Sina, People. Net), we generate a list the common online news topics. The items were responded to on a 5-point scale for the frequency of the respondent browsed online (“1” represented never and “5” very often).

With exploratory factor analysis, we cluster news topics read online into 3 dimensions. After deleting 2 conceptually irrelevant items (sports and stock/securities news) which loaded together, no matter what type of factor analysis was used (principal components, principal axis analysis, or maximum likelihood factor analysis, two interpretable factors were extracted with similar loadings. We finally decided to use a principal component extraction method with varimax rotation (Results see table 2).

The first factor is about leisure and recreation, including entertainment (popular movies, music, stars), fashion, Interesting anecdotal, interest and hobby, culture and art, everyday life topic, (M=3.95, SD=0.826, Cronbach's Alpha=0.853); the second factor involves notable happenings and events with a broader horizon, consisting of domestic politics and economics, international politics and economics, focus social events, news in personal field or business, science and technology. (M=4.44, SD=0.606, Cronbach's Alpha=0.813)

Online News Satisfaction

People's satisfaction about online news was measured with interestingness and valuable dimensions. To avoid overgeneralization, online news satisfaction is firstly segmented into satisfaction about news content from different Internet news channels, and then analyzed with computed Means. We ask respondents to evaluate how interesting they found the news they read from following channels: General news portal (such as Sohu, Sina, PRC), Relevant specialized website (such as finance, sports, entertainment website), Internet forums, Search Engine News (Baidu, Google News), pop-up news in Instant messenger, News blog, using computed Mean for score of each respondent ($M=3.21$, $SD=0.529$). The valuable dimension is measured in similar way ($M=3.94$, $SD=0.617$).

Interpersonal News Use

Sharing Internet News Online\Offline

To explore the effect of sharing Internet news online on online news consumption and to contrast it with offline sharing, we measure it by asking: .how often do you share online news messages through those ways: Phoning, Short Messages, Instant Messenger, Email, Using .Forwarding to friends. link, Talk face to face. To contrast effect of the sharing behaviors with online and with offline contacts, we included computer mediated communication channels as well offline channels, supposing CMC channels connect user.s active social contacts online, while offline channels mainly concerns user.s active offline social contacts.

Factor analysis (Principal Component Analysis, Rotation Method: Varimax with Kaiser

Normalization) shows that as we supposed, online and offline channels loaded on two different dimensions. The reliability test is modestly robust (online contacts, Cronbach's Alpha=0.664, $M=2.48$, $SD=0.781$; offline contacts, $M=3.10$, $SD=0.604$, Cronbach's Alpha=0.613).

Topics of Online conversation

We develop a list of conversational topics and utilize a 4-point Likert-type scale (1=seldom, 4=very often) to measure the frequency they involve these topics during interpersonal conversation generally through Internet channels. An exploratory factor analysis (Principal Component Analysis, Rotation Method: Varimax with Kaiser Normalization) shows that items loaded on three components. Every item kept in this scale with a higher than 0.5 loading on one factor and lower than 0.4 loading on the other. The first factor, .personal life., includes topics of .study or work of each other., .private affair., .personal interest and hobby., and .useful life information. which corresponds to Milton.s categories of conversations about oneself (M=3.38, SD=0.638, Cronbach's Alpha=0.835) .The second factor serve a widely-held view, consist of international and domestic politics or economy, focus event in society as well as in their own industry or field (M=2.75, SD=0.801, Cronbach's Alpha=0.894), labeled as .notable topics.. Entertainment (popular movie, music, star), Fashion, Fun and anecdotal clustered in third factor tagged as .recreation and fun. (M=2.58, SD= 0.810)

Information interactive Efficacy

Based on previous Internet efficacy scales, a 5-point likert scale was developed and utilized to measure users' internet efficacy related to their information use online. An exploratory factor analysis (Principal Axis Factoring, Varimax with Kaiser Normalization) was employed. After deleting cross-loadingⁱⁱⁱ items (e.g. establish a site), we get three dimensions of information use:

(1) information sharing: launch an online poll, publish video or audio online, administer an online discussion forum, establish online discussion group, upload or share resources in your computer, provide information or answer others' questions online (M=3.07, SD=0.730, Cronbach's Alpha=0.875);

(2)Information Acquisition: find the hot topic or character online, learn new software, download resources online (M=3.54, SD=0.623, Cronbach's Alpha=0.848).

(3) Information Participation: register an account on website, comment to an article, post in BBS ($M=3.72$, $SD=0.448$, Cronbach's $\text{Alpha}=0.893$), this dimension is about human interactivity, and somehow away from news reading.

Social efficacy and Sociability

In this study, a 5-point likert scale (See Appendix B for entire scale) is utilized to measure people's social efficacy related to news use and interpersonal communication, exploratory factor analysis shows that all five items are loaded on one factor. ($M=3.42$, $SD=0.746$, Cronbach's $\text{Alpha}=0.894$).

Conceptually related to social efficacy, users' sociability was measured by a 5-item, Likert-type scale consisting of anchor points ranging from Agree to Disagree created by Hanewicz and Bellamy (1998). The alpha reliability for this scale is 0.938 ($M=3.93$, $SD= 0.811$). (See Appendix C for entire scale.)

Hypothesis test

Time displacement hypothesis

To test time displacement hypothesis, bivariate correlation and hierarchical multiple regression analyses were performed. The correlation between the using time of social functions and news services is a way to determine whether the two types of activities conflict with each other due to time displacement hypothesis. The result shows none of those online social activities significantly relate to online news in using time. To control the probable influence from general online time, we regressed (method: enter) news reading time on the using time of three Internet social appliance, average online time on workdays and weekends. The result indicates that average online time on workdays and weekends are respectively significant positive and negative

predictor of news reading time. However, the time spent on social activities still has no influence on time for news reading (See table 3) .Time displacement hypothesis is not supported.

Activation effect hypothesis

Initially, a bivariate correlation suggested that activation effect may exist between certain social Internet use and online news reading, measured with frequency (chatting through instant messenger-news reading: $r=.150$, $p<.05$; sending/receiving email-news reading: $r=.160$, $p<.05$). This suggests that social users may fill the time waiting for people's response with news surfing. Our exploratory hypothesis is generally supported, though we can not exclude alternative explanations such as gratifications.

Actually, positive correlations within different online social activities are much more common and salient. For instance, "chatting through instant messenger" is more correlated to "browsing and reply in online forums" ($r=.334$, $p<.001$) and surfing personal blogs ($r=.385$, $p<.001$). This suggests the probable activation effect is more likely to happen among similar activities.

According to regression model predicting news reading (which we will introduce next), after controlling demographic, psychological, and gratification variables, using online forum become significant positive predictor of notable news seeking (Beta=.420, $p<.001$). This finding indicates activation effect, though partly exists, and is contingent on demographic factors, social dynamics, as well as users' gratifications.

In the following section, we conducted hierarchical multiple regression to test hypotheses in relational level and gratification level. Four dependent variables (1) frequencies of browsing notable news, (2) frequencies of browsing recreation news, (3) interesting satisfaction of Internet news (4) valuable satisfaction of Internet news were alternately regressed on three blocks of

predictors: demographic variables (gender, education, urbanity of hometown) were entered into first block; personality variables (sociability, social efficacy, and three dimensions of internet efficacy) were entered into second block; frequencies of online social activities, social relations online and offline, online and offline interpersonal communication satisfactions were entered into the third block.

Relational hypothesis

Expansion of online relationship (*the numbers of friends who you contact online at least once a week*) has no influence on notable news seeking. However, there is significant negative correlations between recreation news consuming and social relations built in online forum, which is generally virtual relations, (Beta=-.181, $p<.05$). However, for the overall online relationship, its relation between recreation news seeking is found to be significant positive (Beta=.175, $p<.05$). In addition, offline relationship (*the numbers of friends who you face to face talk with at least once a week*) turns out to be salient positive predictor of notable new browsing (Beta=.276, $p<.01$).

The findings show that overall online social relations didn't repel news use of Internet, in contrary, is positive predictor of recreation news reading. However, the negative effect probably comes from pure virtual relations, which is more involving and occupies online time and attentions. And active offline relationship will predict more notable news seeking online. Overall, this is consistent with the interpersonal utility gratification of news (i.e. to talk about and share news in social situations, Papacharissi and Rubin, 2000). But, online relationship and offline relationship seem motivate users' interpersonal utility gratification for different news topics. (See table 4).

Gratification hypotheses

As we hypothesized, satisfaction of online interpersonal communication is negative predictor for notable news reading, even after controlling demographic factors and variables in behavioral and relational level (Beta=-.333, $p<.05$). While its effect for recreation news reading is not significant. This probably suggests some conflict between caring for notable news and online social activities, which, if put in an extreme way, may yield to two segmented user groups: sociable ignoramus and silent surfers.

To explore the relations between satisfaction for online interpersonal communication and that for online news reading, we regress interesting and valuable satisfactions for Internet news on variables from the above mentioned three blocks. For interesting dimension, we found satisfaction of online communication significantly positive predictor (Beta=-.282, $p<.001$), while satisfaction of offline communication is marginal negative predictor (Beta=-.154, $p<.1$). For valuable dimension, satisfaction of offline communication is significant negative predictor of perceived value of online news, (Beta=-.212, $p<.05$). And offline relationship (the numbers of friends who you face to face talk with at least once a week) is positive influencer. (Beta=.210, $p<.05$). The findings are meaningful considering that offline socially satisfied users is probably more information-oriented in online news seeking, the high expectation resulting from instrumental motivation may lower the satisfaction of online news, those who are less sociable offline tend to seek companionship and entertainment online, easygoing with their news diet, whatever if it's tasty.

Informational Internet Efficacy

Informational Internet efficacy is also identified as strong influencer of Internet news reading and satisfaction (See table 4, 5). Confidence in acquiring information online is most significant

predictor of notable news reading (Beta=.464, $p < .001$), while its power is slightly weaker on recreational news reading (Beta=.202, $p < .05$).

Interestingly, acquisition efficacy serves as very strong negative influencer of satisfaction of Internet news by users in both dimensions (Valuable: Beta=-.233, $p < .05$; Interesting: Beta=-.255, $p < .001$). This notable finding may be caused by the high expectation of experienced news users. This dynamic is yet to be explored by future study.

Providing efficacy is found to be positive predictor of news reading (Recreation: Beta=.285, $p < .01$; Notable: Beta=.214, $p < .05$) but has no influence on news satisfaction. Perhaps those involved with online information exchange may be more motivated by altruistic relations, they savvy social aspect rather than content aspect of the providing. Participate efficacy, which is more social focused; turn out to be non influencer of news reading.

Effect of interpersonal news use (sharing Internet news and online conversation topics)

In this part, we tested the effect of two groups of variables. Group A: (1) sharing Internet news through online channels (2) sharing Internet news through offline channels; Group B (1) online conversation -personal life (2) online conversation - notable topics (3) online conversation- recreation and fun. All the variables are measuring frequency.

Utilizing hierarchical regressions, we separately entered group A and group B as block 4 in addition to previous tested variables, notable news browsing, recreation news browsing, interesting evaluations of online news, and valuable evaluations of online news respectively as dependent variable. 8 hierarchical regressions are performed altogether. The results are summarized as follows (Table 6 inserted here):

As it shows, sharing news with online channels has significant positive influence on both recreation news (Beta=.386, $p < 0.001$) and notable news consumption (Beta=.195, $p < .05$), and its effect on consuming recreation news is stronger than on notable news. Refer to previous findings, this again suggest, the recreation news is better embedded in online communication environment, which is more relaxing and entertaining.

(Table 7 inserted here)

Sharing news with contacts is shown to increase the evaluation of internet news. And the instrumental evaluation (i.e. valuable dimension) is more influenced ($\Delta R^2 = 0.087$, offline: Beta=.234, $p < .01$; online: Beta=.201, $p < .05$), than interestingness evaluation ($\Delta R^2 = 0.050$, offline: Beta=.188, $p < .01$; online: Beta=.136, $p < .1$). Offline sharing tends to have a more significant and positive effect on online sharing. Considering subjective evaluation is one step away from users. gratifications, which may motivate future use, this may suggest offline interpersonal news use better motivate online news browsing, while online sharing perhaps is more habitual and less intentional, users savvy social aspect of sharing more than the content aspect. In other words, interpersonal utility theory (i.e. read news to participate in interpersonal conversation) is more meaningful offline than online (See Table 8).

(Table 8, 9 inserted here)

As table 9 shows, online conversation about personal issues, recreation and fun can increase the interesting evaluation; while those talking about notable topics in a broader horizon may find less fun in news they browsed. The content of online conversation is significant predictor of

consuming news of recreational topics. These findings again repeated our previous finding: online interpersonal communication is more closely connected with recreational information use.

Conclusions and Future studies

With a theoretical guideline developed from classical mass communication research, this study attempt to establish the relations between users' online social activities, delineated in terms of interpersonal communication variables, and their online news reading. Interactions in behavioral, relational and gratification level are hypothesized and tested. The effects of news topic types, online information efficacy, and demographic variables are controlled and discussed.

Firstly, findings suggest that the mutual displacement between social use and news use of the Internet may happen in a psychological level rather than in behavioral level. As we had worried about, people who are more satisfied with online interpersonal communication are found to read less notable event news, that is, "hard news". As for the recreation news reading, the negative correlation is absent. It's probably because relaxation and entertaining content is consistent with the atmosphere of and major gratification sought from Internet. Internet users' needs for recreation may have positive influence on both recreation news reading and online social activities, which partly offset the functional substitution between the two.

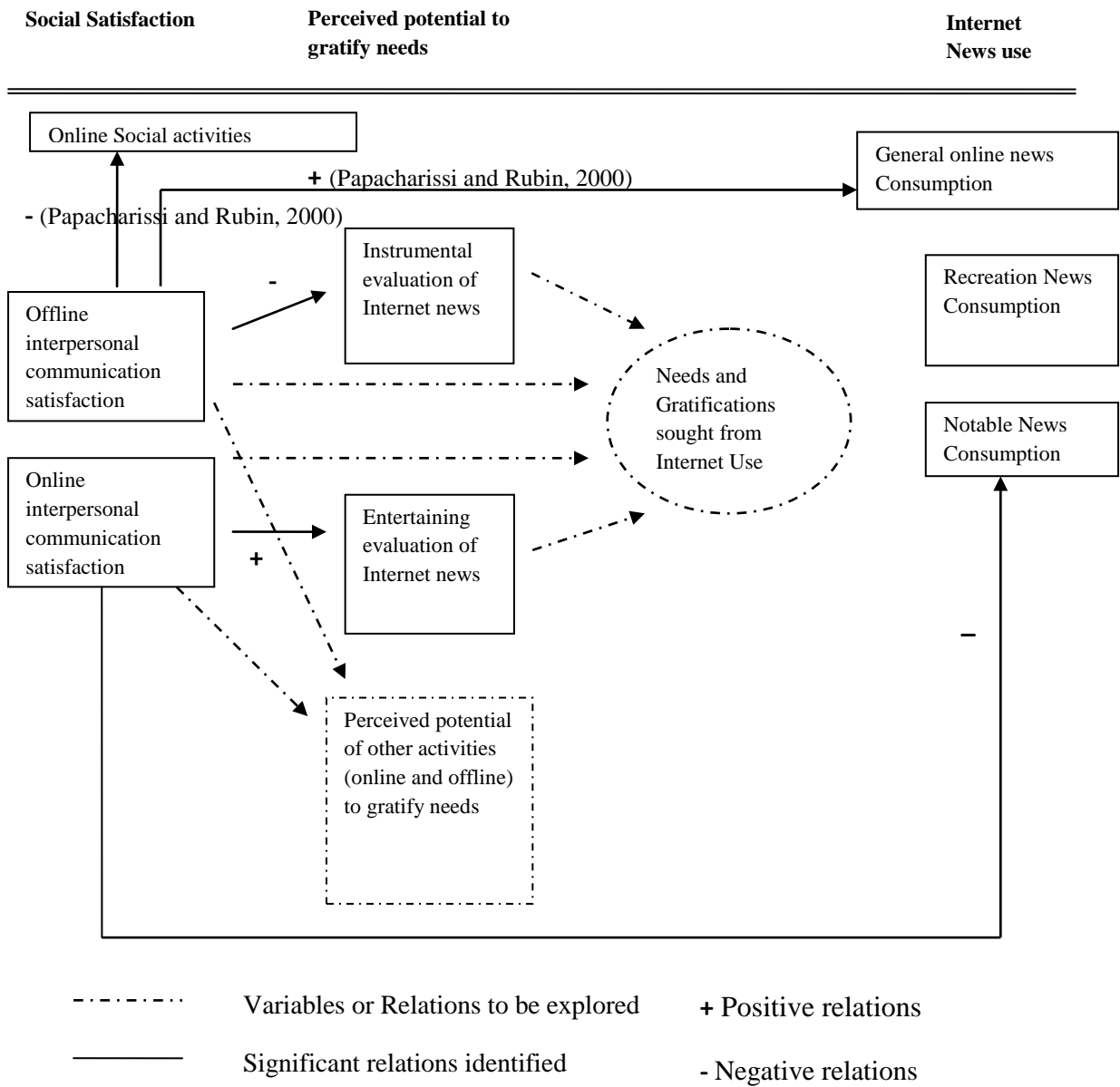
Secondly, our results confirms previous findings that offline social network is more instrumental; online social network is more entertainment-oriented (Papacharissi and Rubin, 2000; Al Bellamy and Cheryl Hanewicz ,2001). Notable news and instrumental satisfaction are more related to offline social relations and satisfactions, while recreational news and perceived interestingness are more integrated with online social settings.

The results also cast light on psychological dynamics between gratification and behavior. We conceptualize users' satisfaction about certain activities as the perceived potential to gratify their

needs through those activities. Satisfaction of online interpersonal communication is identified to be significant positive predictor of evaluated “interestingness” of online news. However, this judgment didn’t translate into news consuming motives, that is, didn’t motivate more online news reading. This indicates that though those who are more sociable online may find online news more interesting, social use of Internet is still more satisfying or more habitual, strengthened by their established online relationship.

Since offline socially satisfied users is probably more information-oriented in online news seeking, the high expectation resulting from instrumental motivation may lower the satisfaction of online news, while the users who don’t benefit from offline interpersonal communication may dive into the social aspect of the Internet or consume content for relaxation and entertainment that they didn’t gain from offline settings, thus, they are easygoing with their news diet, whatever if it’s tasty. In this case, the uses and gratifications dynamics embracing online and offline alternatives could be more complicated than previous conceptual models. The identified and to-be-explored connections are exhibited in Figure 2:

Figure 2 Online and offline social satisfaction and Internet News Consumption



Another contribution lies in the exploration of specific Internet efficacy related information use. Given the increasing diversion of users' online activities, it is important to identify the specific efficacy related to different appliance of the Internet, which has been recognized as influencer of gratification and choice. Moreover, we find that efficacy for one activity may also influence the uses and gratifications for its alternatives.

Limitations

Admittedly, this study also has its limitation in both methods and analysis.

Firstly, survey is probably not the best way to explore the displacement effect in two different Internet usages. The user-recalled data may accurately reflect people's natural behaviors; our measurement is likely to be skewed by respondents' misunderstanding. In this sense, observation and experiment would be methodologically complementary for testing and further exploring present findings.

Secondly, the conceptual ambiguity in satisfaction and gratification is yet to be clarified, thus a comprehensive model to interpret the psychological dynamics may be premature. More complete and reliable scales are needed to measure users' internal feelings and behavioral patterns for both social Internet use and online news reading.

In addition, emphasizing on online interpersonal settings and media use, the study didn't include those many-to-many online social relations and offline media usage. Future studies can elaborate on those unexplored topics.

Tables and Appendix

Table1. Demographic Structure of Study

Demographic Structure of Study					
Gender	Male	104	Age	Mean	24.78
	Female	71		SD	5.920
Hometown (Where you grew up)	Rural	61	Education (graduating from college=16 years)	Mean	16.06
	Town	28		SD	1.232
	City	86			

Table2. News topic factor analysis (Rotated Component Matrix)

	Component	
	Recreation	Notable News
entertainment (popular movie, music, star)	.851	.109
fashion	.840	.123
Interesting anecdotal	.757	.235
interest and hobby	.718	-.004
culture and art	.640	.382
instrumental life information	.560	.330
domestic politics and economics	.025	.915
international politics and economics	.030	.898
focus social events	.220	.819
news in your field or business	.294	.564
science and technology	.348	.561

Table 3 Regression Model for Online News reading Time

Predictors	Beta	Sig.
(Constant)		.000
BBS using time(Min)	.060	.497
SNS using time (Min)	.024	.759
Blog using time (Min)	.014	.877
Instant Messenger chatting time (Min)	-.123	.216
Online time on average Workday (hour)	.286	.009
Online time on holiday (hour)	-.203	.059

Table 4 Hierarchical Regressions Predicting Online News Consumption by users. (Enter)

		Recreative News		Notable event	
		Beta	p	Beta	p
Recreative: Total R ² = 0.499					
Notable: Total R ² = 0.460					
Block 1	(Constant)		.305		.025
Recreative: R ²	Gender (male=1, female=0)	-.274***	.000	-.051	.490
=.179	Education (year)	-.014	.840	-.010	.890
Notable: R ²	Hometown	.196**	.006	.005	.951
=.039	(rural=1, town=2, city=3)				
Block 2	Sociability	-.017	.846	.038	.678
Recreative: ΔR ²	Providing Efficacy	.285**	.003	.214	.028
=.159	Participate Efficacy	-.103	.334	-.170	.124
Notable: ΔR ²	Acquisition Efficacy	.202*	.014	.464***	.000
=.280	Social Efficacy	-.023	.789	.089	.314
Block 3	Chat with a friend through Instant Messenger	-.033	.682	-.037	.659

Final Version-- News Use and Social Use of the Internet

Recreative: ΔR^2	(frequency)				
=.161	Browse and Reply in internet forum (frequency)	.135	.128	.420***	.000
Notable: ΔR^2					
=.141	Discuss with a group of people (frequency)	-.031	.747	-.292	.004
	Surf personal blogs (frequency)	-.006	.947	.025	.789
	Surf Social Network site (frequency)	.113	.175	.000	.995
	Send and Receive Email (frequency)	.118	.117	.098	.208
	Online Phone (frequency)	-.040	.583	.007	.928
	Online Video chat (frequency)	.092	.205	.095	.207
	Use Chat Room (frequency)	.133	.075	.150	.052
	Write in my own online homepage (frequency)	.117	.210	.008	.934
	friends I communicate with offline at least once a week	-.097	.188	.143	.061
	friends I communicate with online at least once a week	.175*	.020	-.054	.487
	friends I keep contact with mainly online	.076	.454	.070	.510
	Friends I keep contact with mainly offline	-.043	.623	-.014	.877
	friends I keep contact with both online and offline	-.046	.607	-.064	.492
	Relations through online Forum	-.181*	.049	-.123	.198
	Relations through blog and SNS	.141	.161	.140	.180
	Relations through Instant Messenger	-.009	.915	-.074	.421
	Satisfaction of online interpersonal communication	.020	.815	-.183*	.045
	Satisfaction of offline interpersonal communication	.010	.909	-.056	.554

Note. * $p < .05$; ** $p < 0.01$; *** $p < .001$

Table 5 Hierarchical Regressions Predicting Satisfaction of Online News by users.

		Valuable Evaluation		Interesting Evaluation	
		Beta	Sig.	Beta	Sig.
Valuable Evaluation: Total R ² = 0.354					
Interesting Evaluation: Total R ² = 0.540					
Block 1	(Constant)		.000		.000
Interesting: R ²	Gender (male=1, female=0)	-.213*	.010	-.161*	.020
=.018	Education (year)	-.113	.163	-.099	.147
Valuable: R ²	Hometown	.053	.514	-.110	.108
=.056	(rural=1, town=2, city=3)				
Block 2	Sociability	.368***	.000	.421***	.000
Interesting: ΔR ²	Providing Efficacy	.030	.777	.069	.439
=.260	Participate Efficacy	.135	.263	.099	.331
Valuable: ΔR ²	Acquisition Efficacy	-.233*	.013	-.255**	.001
=.095	Social Efficacy	-.147	.130	.090	.274
Block 3	Chat with a friend through Instant Messenger (frequency)	.043	.634	.085	.269
Interesting: ΔR ²	Browse and Reply in internet forum (frequency)	.038	.707	.173*	.042
=.222	Discuss with a group of people (frequency)	.033	.763	-.056	.548
Valuable: ΔR ²	Surf personal blogs (frequency)	-.115	.269	.089	.308
=.203	Surf Social Network site (frequency)	.176	.063	.257**	.001
	Send and Receive Email (frequency)	.142	.095	.177*	.015
	Online Phone (frequency)	.039	.637	-.061	.385
	Online Video chat (frequency)	.065	.429	.079	.257

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Use Chat Room (frequency)	.064	.447	-.033	.641
Write in my own online homepage (frequency)	.159	.131	-.029	.745
friends I communicate with offline at least once a week	.210*	.013	.114	.105
friends or acquaintances I communicate with online at least once a week	-.059	.483	-.067	.347
friends I keep contact with mainly online	-.060	.607	-.013	.898
Friends I keep contact with mainly offline	-.101	.318	-.114	.180
friends I keep contact with both online and offline	-.025	.807	.029	.732
Relations through online Forum	.052	.534	-.224*	.012
Relations through blog and SNS	-.240*	.022	-.041	.672
Relations through Instant Messenger	.116	.312	.108	.203
Satisfaction of online interpersonal communication	.114	.257	.282***	.001
Satisfaction of offline interpersonal communication	.151	.128	-.154	.080

Note. *p<.05; **p<0.01; ***p<.001

Table 6 Sharing Internet news predict News consumption

Group A	Recreation News($\Delta R^2=0.173$)		Notable News ($\Delta R^2=0.023$)	
	Beta	P	Beta	P
Offline	-.033	.645	.021	.792
Online	.386	.000	.195	.035

Table 7 Sharing Internet news Vs. Subjective Evaluation of internet news

Group A	Valuable($\Delta R^2=0.087$)		Interesting($\Delta R^2=0.050$)	
	Beta	P	Beta	P
Offline	.234	.005	.188	.008
Online	.201	.036	.136	.098

Table 8 Online conversation topics predict News consumption

Group A	Recreation News($\Delta R^2=0.084$)		Notable News ($\Delta R^2=0.032$)	
	Beta	P	Beta	P
Online conversation-personal life	-.037	.665	.008	.933
Online conversation-notable topic	-.175	.042	.256	.007
Online conversation-recreation and fun	.422	.000	-.144	.103

Table 9 Online conversation topics predict News Evaluation

Group B	Valuable ($\Delta R^2=0.02$)		Interesting ($\Delta R^2=0.040$)	
	Beta	P	Beta	P
Online conversation-personal life	.156	.140	.195	.025
Online conversation-notable topic	-.101	.336	-.188	.029
Online conversation-recreation and fun	.114	.242	.191	.017

Appendix A

Online Communication Satisfaction Scale (5-point)

1. ___ Through the Internet, I can find a lot of persons who share common interest with me
2. ___ Compared to life, Internet provides more chance to meet with persons similar to me.
3. ___ I am able express myself well online
4. ___ With Internet, my opinion or personality can be better presented
5. ___ Online Interpersonal communication is more enjoyable to me than similar communication offline.
6. ___ I like communicate with people through Internet.

Social Efficacy scale (5-point)

1. ___ I can always comment on recent news events
2. ___ I can join a conversation if I want whatever the topic is
3. ___ I can always impress others with my opinions
4. ___ I can always provide topics with talking with friends
5. ___ I can express my points well.

Appendix C Sociability Items Developed by Hanewicz and Bellamy (1998)

1. ___ In my free time I like to interact with other people.
2. ___ I prefer classes where the students get to work in groups.
3. ___ I enjoy going to parties.
4. ___ I enjoy being by myself most of the time.
5. ___ I enjoy belonging to organizations (i.e., fraternity/sorority, church group, political group, etc.).
6. ___ I enjoy meeting new people.
7. ___ I am comfortable in new social situations.

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ⁱ Indeed, the Center for On-Line Addiction (1998) has included Cyber-relationship Addiction– online friendships made in chat rooms, MUUDS, or newsgroups that replace real-life friends and family, as one of five specific types of Internet addiction.

ⁱⁱ Several aspects of social appeal summarized by Al Bellamy and Cheryl Hanewicz (2001): (1)The Internet increases the range of potential social networks, and this diversity is appealing to many individuals (Wellman, 1996). (2) Individuals have almost total control of self-presentation. Individuals can create and maintain aspects of themselves that would be difficult to present in face-to-face (ftf) situations. It is what King (1998) states as the “hyperpersonal aspect” of Internet communications, a “way to be more selective about how one presents one’s self. This promotes a sense of group membership, one that is solely dependent on the perceptions of the receiver.” (3)The anonymous identity of individuals makes it possible for them to send and receive communications that they would be reluctant to transmit in conventional ftf situations. (4) The Internet allows individuals to leap over geographical boundaries and “..expand the ability of people with common interests to share ideas important to them” (King, 1999).

ⁱⁱⁱ In this paper, cross loading in factor analysis is defined as one item’s lowest loading on one factor is above 0.4 while the highest loading is lower than 0.6.