ASCI Journal of Management 39(2): 44–67

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Internet and Information Circulation: Motivations for Passing On the Message Online

Introduction

Internet technology is redefining people's daily environment by enabling new configurations that allow information to be sourced, managed and disseminated (Flanagin and Metzger, 2001). In a day, millions of messages are sent and received via e-mails, in chat rooms, on weblogs and over mobile phones. The interactive quality of the Internet is changing the ways in which senders and receivers select and add information through hyperlinks and send feedback, thereby forming chains of relationships (Rainie and Packel, 2001; Rafaeli and Sudweeks, 1998; Spink, Bateman and Jansen, 1999). As usage grows exponentially, the Internet will exercise far-reaching influence as a medium for accessing, organizing and communicating information, along with enabling the gratifications sought. It has become the source for news, shopping, gaming and entertainment. Moreover, access to the World Wide Web (the Web) provides vast communicative spaces in which to chat, travel, visit and participate, and be part of *Listerv* mailing lists (based on software that allow people to create, manage and control electronic mailing lists). Through countless such forums, information on the Internet has become a hot spot for rumour, gossip, spam and crime (Charney and Greenberg, 2001; Ebersole, 2000; James, Wotring and Forrest, 1995; Karan, 2004; Maignan and Lukas, 1997; Shepherd, Duffy, Watters and Gugle, 2001).

What are the factors that motivate people to send messages? What are the types of messages disseminated? And what are the social and cultural factors that motivate people to pass on messages? Sending messages also goes

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beyond the primary purpose of simply passing on messages; sometimes, it even generates public opinion, now common with weblogs. Singapore is among the highly networked countries in Asia and the world. It has one of the highest Internet penetrations rates, with a majority of its over three million users connected to the Net (http://www.internetworldstats.com/top25.htmITU, 2007). A study by Kuo, Mahizhnan, Lee and Choi (2002) showed the increasing impact of the Internet in Singapore with people accessing it for various personal and professional uses. Most government-related information is on websites, easing the process of access and interaction. The present study examines Internet users' online information seeking and disseminating behaviour in the "informsphere" or the information environment (Kadushin, 2002; Kaye, 1998). A pilot study helped to classify the types of information sought and the motivations for passing on the messages online.

Literature Review and Analytical Framework

One of the earliest approaches to the study of audience use and impact of the media was the Uses and Gratifications Theory (Blumler and Katz, 1974; McQuail and Windahl, 1981; Rosengren, Wenner and Palmgreen, 1985). The theory proposes that media audiences are not merely a group of passive consumers; rather, they play an active role in purposively selecting different media to meet their needs or desires (Lazarsfeld and Stanton, 1944; Lowery and De Fleur, 1983; Infante, Rancer and Womack, 1997; Papacharissi and Rubin, 2000). Recent scholarship has adopted the uses and gratifications approach for studying the Internet as a communication medium and its impact on society. A majority of these studies focus on garnering a broad understanding of the usage and effects of this new medium; some also reflect the differences in use between men and women (Catledge and Pitkow, 1995; December, 1996; Kaye, 1998; Huberman et al., 1998; Lawrence and Giles, 1999; Song et al., 2004; Li, 2007; Urista, Dong and Day, 2009; Roy, 2009).

More recently, Web 2.0 has become a buzzword, and Web 2.0-related technologies are fast emerging. Compared with the one-way Web 1.0 technologies, Web 2.0 refers to various web-hosted services, software that facilitate user-generated web content, and the technologies these software are based on, including social bookmarking, social writing platform, and other Internet tools that facilitate searching and saving of information (podcasting, online multi-player games, text messaging and so on) (Skiba, 2006). In the more user-centered, two-way communication web environment,

Internet users play a more active role in information exchange (Cheung and Lee, 2009).

December (1996) identified communication, interaction and information as the three broad purposes for which people use the Internet. Karan (2004) found that the purpose of Internet use in Asia ranged from the simple pleasures of exchanging greetings and humorous material to seeking wide-ranging information links, resulting in personal and professional benefits. Newhagen and Rafaeli (1996) suggested that the Uses and Gratifications Theory may be especially applicable to Internet studies because of the "mutability" or "chameleon-like character" of the Web. As such, the Internet presents unique gratification opportunities and provides a rich source for information gathering purposes (James, Wotring and Forrest, 1995; Maignan and Lukas, 1997). Kassaye (1997) argued that the potential for interactivity was the user's ability to dynamically select, manipulate, integrate, and format the information to suit particular and changing needs; and that was the greatest point of contrast between traditional media and the Internet. This potential is not subject to any regulatory and societal scrutiny. As a result of this interactivity, the social life of online information often does not end at the point where it is first accessed. In addition, the hypertext structure of most Internet content, and the [http] links provided, allow for very extensive "interspatiality"—the capacity to move freely between different communicative spaces (Castells, 2000). In fact, Internet usage predominantly requires users to explicitly look for information.

Critics of the theory argue that the findings of uses and gratifications scholarship vary greatly, thus making it difficult to generalize the motives underlying this behaviour. Nevertheless, researchers Newhagen and Rafaeli (1996) and Rubin (1996) contend that uses and gratifications is potentially useful as an exploratory paradigm for explaining how people are using the Internet for communication and, in conjunction with other forms of communication behaviour, for explaining the specific links between attitudes, motives and behaviour.

A few studies have focused on the motivational terrain of the Internet user. Athaus and Tewksbury (2000) and Rainie and Packel (2001) examined the motivations for accessing specific online content. Earlier studies have attempted to document online information-seeking behaviour and processes (Marchionini, 1995). A study of college students' usage of the Web resulted

in "six motivational categories: entertainment, social interaction, passing the time, escape, information, and Web site preference (Kaye, 1998)." Urista, Dong and Day (2009) found that visitors to social networking sites mostly use them as means of connecting with other people and to seek their approval and support. Roy (2009) identified six *gratifications* for *Internet* use in the Indian context: self-development, wide exposure, user friendly, relaxation, career opportunities and global exchange. He also found differences in the gratification factors between male and female users, and between light and heavy users. Using the classification of motivational categories for Internet usage developed by Kaye (1998) and by Athaus and Tewksbury (2000), and to further understand the motivations for passing on messages, the authors of this study evolved a set of motivations from a pilot study. The pilot study entailed a short survey of a few focus groups. The findings were tested over a larger sample through a survey as further explained.

Classification of Motivations for Online Information Dissemination

A pilot study of 30 respondents from a target group of young executives, professionals and graduate students was conducted to develop a classification for the types of information sources and motivations that drive people to send online messages. Based on the respondents' open-ended answers to the short survey questions (on forwarding or sending information), and the answers of those in the two focus groups (with six members each), a list of seven possible reasons why people disseminate information was adopted for the present study. The categories were finalized based on the similarities in the responses elicited from the short survey and the two focus groups. An additional option of 'Others' was also included in case the survey respondent's opinion was not among those that were listed. These responses were again classified into the seven categories of information sought and the seven motivational factors that drive persons to send online messages.

Categories of Information Sought

The major types of information sought were classified into the following categories:

1. *Information from official sources:* This includes seeking information for school and professional work from news and corporate websites.
2. *Entertainment news:* This includes seeking stories, pictures, videos, humour/jokes for personal interest, leisure, fun or just passing time.

3. *Forum discussions on specific topics/issues of interest:* These sources of information are different from the above two categories as they are inherently interactive by design. They are generally bi-directional and allow visitors to express their own opinions and survey public sentiments—needs that may not be met by the traditional media.
4. *Shopping and promotions:* This includes online purchases, auctions, online competitions, freebies, discount coupons.
5. *Opinions or commentaries from experts:* Information sought from experts or senior people for personal or professional reasons. This includes information on work-related issues, health, new products and services, etc.
6. *Opinions or commentaries from members of the public***:** Unlike the opinions of experts, this includes the opinions of people, product reviews, information on travel, social issues, etc.
7. *Others:* Any information that did not fall in any of the above categories, including religious information, software downloads, etc.

Categories of Motivations for Sending Online Messages

The reasons given for sending messages were classified as follows:

1. I think friends and acquaintances will find the information useful/ interesting.
2. It is a good way to keep in touch with friends/acquaintances.
3. I like to share opinions or good bargains/promotions with others.
4. Friends occasionally forward information to me, so I am returning the favour.
5. So that I can talk about the information/topic with friends when we meet face to face.
6. I want to increase my chances of winning online competitions or lucky draws.
7. I just do it as a matter of habit; as things come, I send them to others.
8. Others: includes statements that did not match any of the above.

Seven corresponding motivational factors can be inferred from the major reasons listed above for online information dissemination. The seventh, expressed by a few, was ritualistic or habitual behaviour as it had become a habit for some of the mailers to forward any message that they came across. Some of the respondents who chose the ‘Others’ category also stated that they wanted to encourage, inspire or motivate others via the messages e-

mailed to them. Based on the above responses, the seven corresponding motivations were classified (see Box 1).

Box 1: **Motivations for Sending Online Messages**

Motivational Responses for Sending Messages	*Motivational Factors for E-mailing Information*
1. I think friends and acquaintances will find the information useful/ interesting.	***Altruism:*** Unselfish concern for the welfare of others. In this study, the motive of information dissemination is deemed altruistic when information is passed on for the benefit of the recipients—whether it is for general knowledge, inspiration and motivation, or simply for entertainment.
2. I like to share opinions or good bargains/promotions with others.	***Relationship maintenance:*** Sustaining affinity/ contact with individuals that one is acquainted with in life.
3. It is a good way to keep in touch with friends/ acquaintances.	***Opinion expression and/or opinion leadership:*** The communication of one's beliefs or views as an act in itself, and/or with the intention of informing or influencing others.
4. Friends occasionally forward information to me, so I am returning the favour.	***Reciprocity and exchange:*** The process of mutual action and response that is characteristic of a reciprocal relationship.
5. So that I can talk about the information/topic with friends when we meet face to face.	***Agenda-setting for face-to-face interaction:*** The creation of awareness and concern/interest for certain topics/issues within one's social circle for the purpose of discussion when meeting personal contacts.
6. I want to increase my chances of winning online competitions or lucky draws.	***Self-interest:*** Personal advantage or interest.
7. I just do it as a matter of habit; as things come, I send them to others.	***Ritualistic or habitual behaviour:*** I send things as soon as I receive them from others.
8. Others: includes statements that did not match any of the above.	***Others:*** Issues and sentiments that did not match any of the above categories.

Social Network Theory

The Internet is becoming the medium for maintaining social networks. So to whom are people sending messages? Cross, Parker and Borgatti (2002)

explain that the Internet is a classic example of how social network structures affect the flow of information. There are two structural archetypes—densely knit groups and ramified networks. In densely knit groups, most members know each other and are in frequent contact; such groups are characterized by strong ties. Information will be disseminated quickly in a densely knit social network because every member has frequent contact with the other members. In contrast, ramified networks comprise members who are not only in touch with each other, but also frequently interact with outsiders. The outsiders within these groups are generally those with weak ties, who are often connected to more than one ramified group. The world is a combination of both densely knit groups and ramified networks. People often belong to densely knit groups, while at the same time maintain ramified ties (Kadushin, 2002).

Homophily explains why information will spread even more quickly through densely knit groups than via ramified networks (McPherson and Smith-Lovin, 1987; McPherson, Smith-Lovin and Cook, 2001). Homophily is the degree to which individuals are congruent or similar on certain attributes, such as socio-demographic variables (age, education and occupational prestige), tastes, beliefs and values (Erickson, 1997; Feld, 1981; Touhey, 1974). According to McPherson, Smith-Lovin and Cook (2001), members of densely knit groups can have considerable influence over each other's decision processes. Men and women differ in the kind of messages they send and the motivations for sending or forwarding messages (Blau, 1977; Cross, Parker and Borgatti, 2002). Research on people's online information networks can thus further network theory and analysis by developing ways of describing and identifying these groups or networks.

The theories and concepts discussed provide a conceptual framework for identifying and understanding the factors that affect the social life of online information. The literature indicates a considerable gap in knowledge on the phenomena of online information circulation, Internet users' motivations for information dissemination/sharing, and how online social networks and interpersonal relationships influence the dynamics of online information circulation. The present study addresses questions relating to the use of, and the motivation for, online information circulation among Singaporeans.

Research Questions

- What are the types of online information that people are seeking? What is the frequency with which they are disseminating information?

- What are the various sources that Internet users rely on for forwarding messages?
- What are the motivations that drive people towards disseminating information?
- To/from whom in their social networks do individuals forward/receive information?
- What are some of the gender differences in the motivations to pass on the messages online?

Methodology

Population and Sample

Singapore is a highly wired country in terms of telephone users, and a majority of them access the Internet. Most of the information put out by the government is available online at the websites of various ministries, which have facilities for online transactions. Since online information seeking and disseminating behaviour is more apparent in college students and working professionals, as indicated by earlier studies, this study aimed to select individuals who are familiar with Internet technologies. And given that education is a criterion, only those above 18 years of age and with tertiary education were selected as respondents. The random sampling technique (Wimmer and Dominick, 2003) of identifying 250 respondents spread across the country provided the required data for the study. The snowball technique of sampling was used, which offers greater flexibility in reaching the desired number of respondents from the membership bases. The respondents were recruited by online posting of the questionnaire and by making it available in the following ways:

- E-mail invitations were sent through a list of Singaporean weblog owners who were nominated for the Asia Weblog Awards 2003 and to members of the Singapore Blog registry.
- Posting on local forums: The questionnaire link was posted as a request for survey participants on the politics/current affairs board at a local discussion forum, SG Forums.com. This forum has a large membership base, and members regularly quoted content from different online sources for discussion with others.

Questionnaire Design

A structured questionnaire with close-ended and partially open-ended questions was used to collect the data. Respondents were asked to list:

- The types of information they usually forwarded and sent
- The reasons for forwarding or sending information to people in their social networks

The questionnaire was divided into four categories: online information seeking, frequency of circulation and sharing of information, motivations for circulation and sharing of information, and general demographic questions. The responses elicited by the open-ended questions from the pilot study were developed for measuring the perceptions and motivations of the final study. A review of the respondents' answers from the pilot study suggested that they were not exhaustive. Hence, the 'Others' option was provided in the final questionnaire, should the respondent's opinions differ from the ones available. Respondents who skipped any questions were prompted to complete them before they could access the next section. The survey was administered through the Web for a period of two weeks. Once the target total of about 250 respondents was reached, the results were downloaded on a spreadsheet for the analysis. The advantage of web surveys is that they enhance the validity of the responses. Self-administration eliminates the problem of social compliance, where respondents may not answer questions truthfully because of the presence of the interviewer.

Findings and Analysis

The findings of the survey reveal that the respondents' access of the Internet and their management of online information is purposive and driven by diverse needs and desires. The types of information accessed, and the frequency of information disseminated, can be related to the respondents' motivations for undertaking these activities. The study provides a perspective on the uses of the Internet and on online behaviour in terms of sourcing and sending information.

Profile of Respondents and Use of Internet

Of the 250 respondents surveyed, 45.2 per cent were males and 54.8 per cent were females (see Table 1). A third (33.6 per cent) were in the 18–24 age group, while more than half (51.2 per cent) the respondents were in the 25–34 age group. Overall, a majority (84 per cent) of them were between 18 and 34 years. Sixty per cent of them were university educated, while just over a quarter (26 per cent) had completed their 'A' levels. Well over half the respondents, 57 per cent, were working as professionals, managers and executives; 6 per cent were self-employed; and 27.2 per cent were students.

Table 1: **Socio-economic Profile of Respondents**

		Number of Respondents per Category (N=250)	*Percentage of Respondents*
Gender	Male	113	45.2
	Female	137	54.8
Age	18–24	84	33.6
	25–34	128	51.2
	35–44	28	11.2
	45–54	10	4.0
	55 & above	–	–
Education Level	GCE 'A' levels	65	26.0
	Polytechnic diploma	33	13.2
	University degree	126	50.4
	Post-Graduate degree	26	10.4
Occupation	Professional	56	22.4
	Executive/Manager	87	34.8
	Self-Employed	15	6.0
	Clerical/Service	16	6.4
	Student	68	27.2
	Retiree	–	–
	Other	8	3.2

A majority of the respondents (60.4 per cent) surfed the Internet everyday (See Table 2A). More than half (53.6 per cent) spent more than 10 hours a week on online activities. Those who spent more time were in the 18–24 age group. Over a quarter (26.8 per cent) spent more than 20 hours a week online (See Table 2B). There was a high level of dependency on the Internet for meeting many of their information and communication needs as stated by 80.4 per cent of the respondents. Since the data was collected, the percentage of users and the frequency of use may have increased as the number of online users is increasing at a very rapid pace worldwide. In terms of gratification sought from the information obtained, 84 per cent of them were satisfied or very satisfied, 14.4 per cent were neutral, and a negligible 1.6 per cent of the respondents were not satisfied.

Types of Information Sought and Information Management

A majority of the respondents (83.2 per cent) sourced information from official and corporate websites (See Table 3). Almost 75 per cent turned to entertainment websites, which included stories, pictures, videos, jokes and

humourous content. More than half the respondents (56.4 per cent) accessed forum discussions on specific topics of interest. Websites related to shopping and promotions were sought by 47.6 per cent of the respondents. These were followed by opinions, commentaries, etc. Clearly, the Internet is being used both for information and entertainment purposes.

Table 2A: **Frequency of Information Seeking**

Frequency of Information Seeking	*Number of Respondents*	*Percentage*
Less than once a week	11	4.4
1–2 days/week	12	4.8
3–4 days/week	34	13.6
5–6 days/week	42	16.8
Everyday	152	60.4
Others	–	–
Total	250	100.0

Table 2B: **Duration of Information Seeking**

Duration of Information Seeking	*Number of Respondents*	*Percentage*
1 hour/week and less	9	3.6
1–5 hours/week	47	18.8
6–10 hours/week	60	24.0
11–15 hours/week	41	16.4
16–20 hours/week	26	10.4
Over 20 hours/week	67	26.8
	250	100.0

Table 2C: **Satisfaction Levels with Information Obtained from Online Sources**

Level of Satisfaction	*Number of Respondents*	*Percentage*
Very satisfied	26	10.4
Satisfied	184	73.6
Neutral	36	14.4
Unsatisfied	4	1.6
Very unsatisfied	–	–
Total	250	100.0

Table 3: **Types and Sources of Information Sought Online**

Type and Source of Information	*Frequency (N=250)*	*Percentage*
Information from official news and corporate websites	203	83.2
Entertainment (includes stories, pictures, videos, humour/jokes)	186	74.4
Forum discussions on specific topics/issues of interest	141	56.4
Information from alternative (non-official) sources not available on official websites	124	49.6
Shopping and promotions (includes auctions, online competitions, freebies, discount coupons)	119	47.6
Opinions or commentaries from experts on a particular industry/topic	118	47.2
Opinions or commentaries from members of the public (includes product reviews)	92	38.8
Others (religious information, software downloads)	12	4.8

Respondents' Information Management Habits

There were multiple ways in which the respondents sorted and stored information (See Table 4). Under three-fourths (72 per cent) bookmarked the web page address (URL), 59.6 per cent saved the copy, almost half (49 per cent) printed a hard copy and about 37.2 per cent forwarded it to others. (These were multiple answers.) About a fifth (under 20 per cent) stated that they did not do anything with the information. Interestingly, 16 per cent published it on their personal web page, while 9.6 per cent posted them on their web or bulletin boards. These responses show that the Internet tends to be used first as a personal medium and then as a shared medium when the information is passed on to others.

E-mailing Habits: Frequency and Content of Messages Passed On

Apart from personal use, online information seekers also actively share and forward information. In most cases, the information is sorted and efforts are made to select groups of people to whom the messages are sent. A majority (54 per cent) of the respondents e-mailed the information that they sourced and also information that has been forwarded by others (See Table 5A). The frequency of sending varied: a third (33.7 per cent) sent messages whenever they came across anything interesting; 30.4 per cent of the respondents forwarded mails once a week or less. Over a quarter of them (26.4 per cent) did not forward any information at all. More than half, 55.4 per cent, were

likely or very likely to add some comments or opinions along with the information sent.

Table 4: **Respondents' Information Management Habits**

Information Management	*Frequency of Responses per Category (N=250)*	*Percentage*
Bookmark it for future reference	180	72.0
Save it for future reference/use	149	59.6
Print as a hard copy	124	49.6
Forward it to others via e-mail	93	37.2
I do not do anything with it	48	19.2
Publish the information or web page URL on personal website/weblogs	40	16.0
Post the information on a web forum or bulletin board	24	9.6
Others (use it immediately for work or studies)	19	7.6

Table 5A: **Respondents' E-mailing Habits**

E-mailing Habit	*Number of Respondents*	*Percentage*
I only send information that I've myself found while surfing the Internet	21	8.4
I only forward information that is sent/forwarded to me by others	28	11.2
I send both the information that I've found myself and that which is sent/forwarded to me by others	135	54.0
I do not send or forward any information at all	66	26.4
Total	250	100.0

Table 5B: **Frequency of Disseminating Information via E-mail**

Frequency of Dissemination	*Number of Respondents*	*Percentage*
Less that 1 e-mail/week	56	30.4
1–3 e-mails/week	49	26.6
4–6 e-mails/week	13	7.1
7 or more e-mails/week	4	2.2
Whenever I come across something interesting	62	33.7
Total	250	100.0

Table 5C: **Networks for Disseminating Information via E-mail**

Network of People	*Number of Respondents*	*Percentage*
Same group of people who know each other	36	19.6
Same group of people who do not know each other	30	16.3
Different groups of people, depending on the type of information	118	64.1
Total	184	100.0

Table 6: **Respondents' Online Information Dissemination Networks**

Social Network	*Number*	*Percentage*
Close friends	182	98.9
Family members	97	52.9
Colleagues/Acquaintances	125	67.9
Newsgroup members/Listerv	16	8.7
Others/classmates	28	15.2
Others: Businessmen, contacts, etc.	4	2.2
N=184		

Respondents sent out messages first to personal or regular contacts and with those whom they interacted with in their daily lives (See Table 6). An overwhelming majority, 98.9 per cent, disseminated information to close friends, while 67.9 per cent e-mailed information to their colleagues. While close friends and classmates may not be mutually exclusive categories, 15.2 per cent of the respondents indicated in the 'Others' column that they e-mailed information to classmates. If the general demographic profile of the respondents is taken into consideration, 71.8 per cent of all working respondents and 41.2 per cent of student respondents disseminated information to their colleagues and classmates, respectively. The number of persons to whom the mails were forwarded at a given time was generally less than 10. While 31 per cent e-mailed to less than 5 people, 42 per cent sent mails to 5–10 persons, and over a fifth (22.8 per cent) disseminated to more than 10 persons at any time. This indicates that the respondents are part of densely knit groups as well as ramified networks. The messages are generally passed on to groups of people within the sender's social network.

Gatekeeping of content is important in sharing and sending information to select groups (See Table 5C). About 64 per cent of respondents e-mailed

information to groups of people within their social networks, depending on their relevance to the recipients. However, almost a fifth (19.6 per cent) sent the same information to different groups of people (fixed groups of e-mails) regardless of their need or relevance. Interestingly, about 16.3 per cent of the respondents also sent information to groups of people who did not know each other. This suggests that as and when messages are received, they are group mailed to persons from mailing lists of friends or relatives. Market-related or socially important information is also passed on.

Close friends were topmost in the list of recipients to whom messages were forwarded, with 98.9 per cent of the respondents forwarding messages to them. Forwarding messages to acquaintances ranked second (67.9 per cent) and to family third (52.9 per cent) (See Table 6). Therefore, it appears that the Internet is more a medium for maintaining relationships between friends and acquaintances than between family members and relatives. However, Stafford, Kline and Dimmick (1999) found that the Internet provided many opportunities for maintaining relationships among families. In terms of the persons to whom the messages were forwarded, most of the information was sent to densely knit groups, which included close friends, family and colleagues. In the present study, most of the respondents sent entertainment-related information to densely knit groups, and professional and other information to acquaintances, the newsgroups community through *Listerv* and to other communities that the respondents were connected with in their networks. Thus, a majority of the Internet users send e-mails to maintain social ties and increase social contacts. They generally see it as a way of keeping in touch with friends, colleagues and acquaintances, and their families.

Type of Information Most Frequently Disseminated

A vast majority of the respondents, about 80 per cent, forwarded jokes and humorous pieces. Interestingly, 59 per cent sent information from various official or corporate websites. This was followed by shopping and promotional messages, which were forwarded by more than half (55 per cent) the respondents. When this variable was correlated with gender, more women than men forwarded such messages. Though entertainment-related information was commonly forwarded and was the most frequently disseminated information, serious content, like information from official sources (59.8 per cent), forum discussions (21.7 per cent), and opinions and commentaries (16.8 per cent), was also forwarded among groups of people (See Table 7).

Table 7: **Types of Information Most Frequently Disseminated**

Type of Information	*Frequency Per Category (N=184)*	*Percentage*
Entertainment (includes stories, pictures, videos, humour/jokes)	148	80.4
Information from official news and corporate websites	110	59.8
Shopping and promotions (includes auctions, online competitions, freebies, discount coupons)	102	55.4
Information from alternative (non-official) sources not available on official websites	92	50.0
Opinions or commentaries from experts on a particular industry/topic	60	32.6
Forum discussions on specific topics/issues of interest	40	21.7
Opinions or commentaries from members of the public (includes product reviews)	31	16.8
Others (religious/spiritual information, inspirational stories)	6	3.3

Table 8: **Respondents' Motivations for E-mailing Information**

Motivational Factor	*Reason for Disseminating Information*	*Frequency N=184)*	*Percentage*
Altruism	I think friends/acquaintances will find the information useful/interesting.	174	94.6
	Others: I hope to encourage/inspire /motivate others.	6	3.3
Relationship	It is a good way to keep in touch with friends/acquaintances.	100	54.3
Opinion expression and/or opinion leadership	I like to share opinions or good bargains/ promotions with others.	78	42.4
Reciprocity and exchange	Friends occasionally forward information to me, so I am returning the favour.	46	25.0
Agenda setting for face-to-face interaction	So that I can talk about the information/ topic with friends when we meet face-to-face.	22	12.0
Self-interest	I want to increase my chances of winning an online competition or lucky draw; or I get some benefit.	19	10.3
Ritualistic/habitual behaviour	Others: It has become a habit for me.	4	2.2

Motivations for Passing On Information

The top three motivations for forwarding information (See Table 8) were altruism (94.6 per cent), relationship maintenance (54.3 per cent) and opinion leadership (42.4 per cent). Altruism reflects the Asian culture of collectivism, where people like to share information that may be useful to their friends and acquaintances and also for relationship maintenance. For a quarter of the respondents, passing on information was also a reciprocal act—they send and forward to return the favour from others. Passing on information can also be inferred as a means to initiate or set an agenda of discussion during face-to-face interactions (12 per cent). Most other times, respondents pass on information out of self-interest (10.3 per cent). Thus, there is a regular exchange of mail between the respondents and their social networks.

Though messages are sent on a regular basis, only 2.7 per cent of respondents stated that they often received feedback for the forwarded messages; 80.4 per cent said that they sometimes received feedback. Thus, a significant number of Internet users read and pay attention to information disseminated by people they know; but they rarely react to the messages by sending their feedback with comments or just an acknowledgement.

Gender Differences in Types of Information Sought and Passed On

The literature review generally indicated differences in the access to and use of the Internet between men and women. Similar differences were observed in this study (See Table 9). Entertainment news was the highest accessed information among men and women, the percentage being much higher among women. The top three major types of information that women accessed were: entertainment (86.5 per cent), shopping and promotions (66.7 per cent), and information from official or corporate websites (54 per cent). In comparison, entertainment news (71 per cent) was the highest sourced material for men, followed by information from official sources (68.5 per cent), alternative or non-official sources (61.6 per cent). While information from official/corporate websites and entertainment news was common to all respondents, more men (32.9 per cent) tended to search for forum discussions on specific topics or issues of interest compared to women (14.4 per cent).

Table 9: **Types of Information Sought by Gender**

Motivation	*Male (N=73)*		*Famale (N=111)*	
	No.	*Per Cent*	*No.*	*Per Cent*
Information from official news and corporate websites	50	68.5	60	54.1
Information from alternative (non-official) sources	45	61.6	47	42.3
Forum discussions on specific topics/ issues of interest	24	32.9	16	14.4
Opinions or commentaries from experts on specific industry/topic	30	41.1	40	36.0
Opinions or commentaries from members of the public	15	20.5	16	14.4
Shopping or promotions	28	38.4	74	66.7
Entertainment	52	71.2	96	86.5
Others	2	2.7	4	3.6

Sharing and Circulation of Information by Gender

The major motivation for disseminating information was largely altruism, among both men and women, as they believed that the information would be useful or interesting to the intended recipients. The top three motivations of both the genders paralleled each other (See Table 10); the proportion of females (64.9 per cent) who were motivated by relationship maintenance was significantly higher than males (39.4 per cent). Information dissemination was seen as a means of keeping in touch; this may be the reason why women send out more e-mail messages, compared to men, to maintain relationships among friends and family.

Compared to male respondents (37 per cent), more female respondents (45.9 per cent) were motivated by opinion exchange and/or leadership. While men were likely to send information to set the agenda for personal discussions, women used it for sharing news and entertainment. More men (20.5 per cent) sent out messages for continuing discussions compared to women (6.3 per cent). This is also correlated with the fact that most of the respondents were working executives and information of professional interest was being circulated, which may be used to set the agenda for personal interactions and discussions.

Table 10: **Motivations for E-mailing Information by Gender**

Motivation	*Male (N=73)*		*Famale (N=111)*	
	No.	*Per Cent*	*No.*	*Per Cent*
Altruism	70	95.9	110	99.0
Relationship maintenance	28	39.4	72	64.9
Opinion expression and/or opinion leadership	27	37.0	51	45.9
Reciprocity and exchange	22	30.1	24	21.6
Agenda setting for face-to-face interaction	15	20.5	7	6.3
Self-interest	4	5.5	15	13.5
Ritualistic/habitual behaviour	1	1.4	3	2.7

Discussion and Conclusions

Internet users exhibit consistent patterns of information access, management and dissemination, driven by certain prevailing social and psychological motivations. In the present study, the behaviour was highly structured and involved conscious efforts with respect to the types of content they chose to send or forward via e-mail, the number of intended recipients, and frequency of dissemination. The three most sought after information types were: information from official sources, entertainment and forum discussions. The top three most frequently disseminated information types were: entertainment, information from official sources, and shopping and promotions. The proportion of entertainment-related information (80.4 per cent) that was e-mailed far exceeded the information from official and other sources (59.8 per cent). The additional comments and opinions on the information forwarded or disseminated depended on the groups they networked with, whether it was friends, colleagues or family.

The seven motivational factors for disseminating online information find expression in a range of behaviours that lead to information circulation over the Internet. The three major motivational factors are: altruism, relationship maintenance, and opinion expression and/or opinion leadership. Since most respondents were motivated by altruistic reasons, they were predisposed to sending information with mass appeal and entertainment value, and related to promotions and shopping. There were some indications that the respondents e-mailed information to stimulate discussions with their personal contacts, with more men than women likely to send information for purposes of agenda setting during face-to-face interactions with friends or colleagues.

For respondents who were motivated by relationship maintenance to keep in contact, it can be assumed that e-mails were used to maintain social relationships when there were few opportunities to do so in person. The e-mail recipients may be friends who reside in another geographic location, an acquaintance or a networking contact. Here, the content is less relevant for communication, the purpose of which is to establish, signify or sustain social affinity. Overall, 84 per cent of the respondents expressed satisfaction with the Internet in meeting their information needs. This high level of satisfaction may also explain why a large proportion of users are now dependent on the Internet to meet those needs.

There are linkages between personal factors, social networks and media functions that direct Internet use. The findings of this study and past scholarship on Internet usage indicate that e-mail serves as a powerful and effective tool for meeting the Internet user's needs for one-to-one and one-to-many asynchronous communication; while intra-personal factors like personal motivation may determine the type, frequency and context of the information being disseminated through various networks. Social dynamics, such as Internet users' online networks (whether he or she maintains densely knitted groups or ramified social networks), influence the scope of information that is disseminated.

The rapid expansion of the Internet and new technologies will facilitate more efficient and effective transfer of information worldwide through the Web. The Internet is also likely to change over time, leading to greater diversities in abilities, skills and motivations among the users. The current generation of Net users will age over time. There will be an emerging segment of elderly users who will have competent skills and will be highly dependent on the Internet for their information and communication needs. Research needs to be continuous to be able to offer an accurate snapshot of specific Internet phenomena or trends at a particular period.

Human motivations will tend to remain stable over time, even when the ways to access, manage and disseminate information online may change. Technology is only a facilitator that can be used to satisfy an individual's needs. As this study has shown, the emergence of online information dissemination channels—such as e-mails and forums, and now web pages and weblogs—has provided Singaporean Internet users with new and unique means to satisfy their social and psychological needs. The seven motivational factors mapped out are likely to continue to have explanatory value in understanding why individuals pass on information over the Internet.

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