Online Word-of-Mouth (or Mouse): An Exploration of Its Antecedents and Consequences

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This study developed an integrated model to explore the antecedents and consequences of online word-of-mouth in the context of music-related communication. Based on survey data from college students, online word-of-mouth was measured with two components: online opinion leadership and online opinion seeking. The results identified innovativeness, Internet usage, and Internet social connection as significant predictors of online word-of-mouth, and online forwarding and online chatting as behavioral consequences of online word-of-mouth. Contrary to the original hypothesis, music involvement was found not to be significantly related to online word-of-mouth. Theoretical implications of the findings and future research directions are discussed.

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Introduction

Online word-of-mouth (WOM) has become a common topic of research in the area of computer-mediated communication, particularly in the context of consumer-to-consumer interactions. Powered by such tools as email, weblogs, bulletin boards, chat rooms, and instant messenger clients, online WOM communication has helped give rise to different types of online communities. In the process, online WOM has attracted researchers' attention as a convenient,

inexpensive, and less intrusive venue for sharing interests and ideas in online communities.

In 1999, Burson-Marsteller and Roper Starch Worldwide coined the term "e-fluentials" to describe those opinion leaders who spread information via the Internet. It was later found that e-fluentials represented about 11 million Americans, with each potentially influencing up to 14 people (Burson-Marsteller, 2001). Given a much greater Internet penetration, higher rate of computer literacy, and more user-friendly tools, e-fluentials likely involve a much larger portion of society today. The exponential growth of social networking environments such as MySpace is a pioneering example of the multiplier effect of online WOM. As a free website, MySpace approached 80 million members within three years of its 2003 launch, with a sign-up rate of two million per week (Bulik, 2006; Rosenbush, 2006). It has become one of the most popular places for teenagers and young adults to communicate, socialize, and express themselves by sharing profiles, photos, and music with friends or strangers.

Despite an unabating interest in online WOM, academic researchers have only recently started to examine this significant topic. Ha (2002) investigated the effects of WOM communication on consumers' pre-purchase risk perception in the context of e-commerce transactions. Phelps, Lewis, Mobilio, Perry, and Raman (2004) explored consumers' emotional responses to receiving pass-along emails and motivations for sending them. Xue and Phelps (2004) found that the persuasive effects of consumer-generated comments online are moderated by receivers' product involvement and offline WOM experience. While these studies provided useful information about factors related to online WOM communication, particularly in the marketing context, little work has been published on what accounts for individuals' engagement in online WOM activities and their resultant behavioral patterns in the context of computer-mediated consumer-to-consumer communication.

The present study has three specific objectives. First, drawing from the literature on the communication process of opinion leadership, this study seeks to identify multiple dimensions of online WOM. Second, applying the diffusion theory of innovations to online WOM communication, this study provides a profile of those who are engaged in online WOM and investigates their behavioral consequences. Last, the study develops and validates an integrated model illustrating the interrelationships among the antecedents and consequences of online WOM.

Documentation of these interrelationships can enrich our knowledge of the role online WOM plays in the diffusion process of computer-mediated communication. It can also enhance our understanding of those individuals who are prone to transmitting and seeking information in the online community. Music-related WOM communication was chosen as the context for our inquiry since the WOM of personal recommendations appears to be an important information source for choosing entertainment goods, including CDs, among young net surfers (Forrester Research, 2000).

Literature Review

Online Communication

The Internet is becoming a powerful and unintrusive medium to transmit WOM, which in turn is a significant and dynamic part of interpersonal online communication. Research has explored the distinctive characteristics of online communication, such as limited cues and potential for asynchronicity (e.g., Henderson & Gilding, 2004), that might set online WOM apart from its traditional counterpart. More generally, the Internet offers a flexible communicative space for different groups of people (Feenberg & Bakardjieva, 2004).

Online users form or join online communities for different reasons. Ridings and Gefen (2004) identified information exchange, friendship, social support, and recreation as reasons for joining online communities. They argued that the reasons differ depending on community type. This is evident in several related studies (e.g., Daugherty, Lee, Gangadharbatla, Kim, & Outhavong, 2005; Rodgers & Chen, 2005). Online communities are regarded as online social entities that are maintained by individuals to exchange shared interests or values with current and potential community members in an ongoing manner without physical interaction (Dennis, Pootheri, & Natarajan, 1998; Ridings & Gefen, 2004). Online WOM has been acknowledged as a critical tool for facilitating information diffusion throughout online communities.

Compared to face-to-face communicators, online communicators demonstrate fewer inhibitions, display less social anxiety, and exhibit less public self-awareness. Online communicators tend to be more willing to disclose personal information and to be more honest and forthcoming with their viewpoints (Roed, 2003). This self-disclosure tendency might be due to the greater anonymity offered by the Internet.

Traditional vs. Online WOM

As Bickart and Schindler (2001) argued, typical WOM communication consists of spoken words exchanged with one friend or relative in a face-to-face situation. By contrast, online WOM usually involves personal experiences and opinions transmitted through the written word. An advantage of the written word is that people can seek information at their own pace. Writing may also transmit the information in a more intact manner and make the information appear more formal. According to Marshall McLuhan (as cited in Griffin, 2003), written communication is also more logical than oral communication, as letter follows letter in an orderly line in writing, and logic is modeled on that step-by-step linear progression. New media technology has changed the form of classic interpersonal communication (sender—message—receiver) by introducing a new form of communicator, a forwarder or transmitter (Gumpert & Cathcart, 1986).

Compared to traditional WOM, online WOM is more influential due to its speed, convenience, one-to-many reach, and its absence of face-to-face human pressure (Phelps et al., 2004). Moreover, by using search engines one can seek out the opinions of strangers. This seldom happens in conventional interpersonal contexts

where opinion providers are embedded in social networks and well-known people may be more credible.

Dimensionality of Online WOM

A richer picture of WOM communication can be obtained by an exploration of the opinion leadership process. Opinion leadership is the process by which people (the opinion leaders) influence the attitudes or behaviors of others (the opinion seekers). Both opinion leadership and opinion seeking are integral to the construct of WOM (Flynn, Goldsmith, & Eastman, 1996; Reynolds & Darden, 1971). The Internet not only provides opinion leaders with efficient ways to disseminate information, but also greatly facilitates information searching for opinion seekers.

Opinion leaders are defined as individuals who transmit information about a topic to other people, in terms of the extent to which information is sought by those people (King & Summer, 1970). Frequently, this information is transmitted by opinion leaders through WOM communication. Many opinion leaders may also be opinion seekers because they desire more knowledge or expertise, partly due to their interest in a specific topic or product. However, information seekers are not necessarily opinion leaders (Arndt, 1967; Feick & Price, 1987; Lazarsfeld, Berelson, & Gaudet, 1984).

Opinion seekers look for information or advice from others when making an informed decision or taking action. When they perceive a risk in a certain situation, when they are not familiar with a topic or product, or when they find others' experience to be useful, they may actively seek out information or advice to inform their decision (Murray, 1991; Ohanian, 1990; Rodgers & Chen, 2005). Opinion seeking is an essential dimension of WOM communication because it facilitates information diffusion in the interpersonal communication process (Reynolds & Darden, 1971). Opinion leaders cannot exist without opinion seekers, and vice versa.

Online Word-of-Mouth and the Diffusion Model

Traditional WOM communication has received scholarly attention in the research areas of opinion leadership, interpersonal influence, and diffusion of innovation. WOM involves unpaid interpersonal communication between people connected through a communication channel (Godin, 2001; Reingen & Kernan, 1986). WOM has been found to play a pivotal role in shaping attitudes and behaviors, especially with regard to the diffusion of innovations (e.g., Brown & Reingen, 1987; Childers, 1986; Herr, Kardes, & Kim, 1991). Diffusion studies have provided useful information in identifying the role of communication channels, characteristics of potential adopters (e.g., innovators and early adopters), and major stages in the adoption process. Communication channels include both word-of-mouth communication and mass-mediated communication. Studies have found that WOM communication is more influential in a person's decision to adopt an innovation, while mass communication is more important in increasing people's awareness of innovations (Katz & Lazarsfeld, 1955; Rogers, 1995; Williams, Strover, & Grant, 1994).

One study found a greater incidence of WOM sequences among people who were informed by personal information sources than among those informed by impersonal sources (Sheth, 1971). A WOM sequence occurs when a person who has adopted an innovation influences someone else.

WOM communication is likely to be perceived as more persuasive because information from personal sources is considered more credible than information from mass media or marketing sources (Bickart & Schindler, 2001; Brooks, 1957). Information from personal sources is both custom-tailored and independent of the intention of an organization to sell something (Silverman, 2001). All of the above factors may contribute to the trustworthiness of WOM communication channels, although consumer comments posted on an independent online forum might not be more persuasive than those posted on a corporate website (Xue & Phelps, 2004). Some current database marketers can also create highly customized messages and deliver them to specific targets with the help of sophisticated database management technologies over the Internet. In the meantime, many consumer-generated online reviews are far removed from the personally-tailored messages sent by savvy marketers. Xue and Phelps (2004) suggested that responses to consumer comments are moderated by such receiver characteristics as product involvement and experience with offline WOM. It seems to follow that people might not be influenced by where and how the messages are placed as much as by their interactions with products and opinion leaders in the diffusion of innovation process. This points to the importance of understanding the characteristics of online opinion leaders and seekers.

Previous researchers have documented the characteristics and motivations of those who provide information (opinion leaders) and those who seek it out (opinion seekers). A generalized profile features innovativeness, social connection, or self-confidence, whereas a category-specific profile includes involvement, experiences, social status, or demographic characteristics (e.g., Foxall, 1988; Katz & Lazarsfeld, 1955; Richins & Root-Shaffer, 1988; Rogers, 1995). The present study has chosen four characteristics of opinion leaders and opinion seekers engaged in WOM communication and applied them to the online communication context. The generalized attributes include innovativeness and social connection, and the domain specific attributes are involvement and experiences. Due to the nature of our sample of college students, this study did not cover social status and demographic characteristics, under the assumption that college students have small variances in these attributes.

In addition to individual characteristics, diffusion researchers have also studied the major stages in the adoption process. Overall, the process of adopting an innovation has been described as follows: awareness, interest, evaluation, trial, and adoption (or rejection) (Rogers, 1995). Some researchers regard WOM as a driving force behind actions while others consider it to be an outcome of past experiences (Godes & Mayzlin, 2004). The present study adopts the former approach, which helps us hypothesize about the relationship between WOM and behavioral consequences. We look at how online WOM plays a role in the diffusion of information or

innovations within the online music community, with an emphasis on the computer-mediated interpersonal communication process, which includes actions such as forwarding and chatting.

This study uses the diffusion model as a theoretical framework to examine the information flow process through online WOM communication channels. It is presumed that characteristics of online WOM participants play a key part in differentiating opinion leaders and opinion seekers, which in turn can influence their behaviors in diffusing information to other members in their online community. Thus in this proposed model, online WOM communication is considered to mediate the relationship between characteristics of WOM participants and information diffusion behaviors on the Internet.

Hypothesis Development

To understand the antecedents and consequences of online WOM, the study started by examining those factors found to be related to traditional WOM. Be it online or offline, WOM only occurs when people begin to share information or ideas with others. Although the "others" tend to be real-world friends or acquaintances for traditional WOM, in the online WOM context they can include total strangers. Despite the differences between traditional WOM and online WOM, this study assumes that the correlates of online WOM might be similar to those factors that help predict traditional WOM.

The Antecedents of Online WOM

Innovativeness

Many studies of the diffusion process have established a positive relationship between innovativeness and opinion leadership (e.g., Flynn et al., 1996; Robertson & Myers, 1969; Summers, 1970). Summers (1970) found that people who tend to enjoy experimenting with new products are more likely to be opinion leaders. The scale of innovativeness was found to be positively related to the measurement of market mavens (the generic opinion leaders), especially in regard to consumer package goods (Feick & Price, 1987). Goldsmith and Desborde (1991) identified a significant correlation between innovativeness and the scale of opinion leadership. Rogers (1995) also documented a positive relationship between innovativeness and information seeking. It is expected that people who are experimental and open to new experiences are more likely to seek out information or new ideas. Thus, this study developed the following hypotheses:

H1a: Innovativeness will be positively related to online opinion leadership.
H1b: Innovativeness will be positively related to online opinion seeking.

Internet Usage

This variable measures individuals' experience with the Internet. It seems logical that those who actively use the Internet in a specific content area, such as music, movies,

or fashion, will be more likely to engage in online WOM. Unlike traditional WOM, online WOM is mediated through Internet technologies. Not everyone is familiar with and skilled in navigating the Internet and spreading WOM via email, blogs, chat rooms, or discussion forums. It seems that familiarity and experience with web content, resources, functions, and protocols are prerequisites for online opinion leaders and seekers. To make effective use of the Internet for spreading WOM, opinion leaders and/or seekers need to have sufficient levels of Internet literacy and usage. This study thus advanced the following hypotheses:

H2a: Individual Internet usage will be positively related to online opinion leadership.
H2b: Individual Internet usage will be positively related to online opinion seeking.

Music Involvement

Scholars have examined involvement as a key characteristic that has the potential to explain WOM. Flynn, Goldsmith, and Eastman (1994) showed that product involvement was positively correlated with opinion leadership. The knowledge and expertise of opinion leaders were acquired from product involvement (Venkatraman, 1989). On the other hand, the enduring involvement scale of Higie and Feick (1988) was found to be related not only to opinion leadership but also to information searching. Jain and Srinivasan (1990) found that their scale of product involvement explained 35% of the variance in information searching. In another study by McQuarrie and Munson (1986), their involvement scale accounted for 57% of the variance in information searching.

In the online WOM context, Ha (2002) found that information from WOM is more likely to influence individuals when they are in a high involvement purchase situation. Xue and Phelps (2004) discovered that consumer-generated comments on a product posted on an independent online forum were more persuasive than those posted on a commercial website, especially when individuals were less involved with the product. They found little impact of message placement on brand attitude under the high involvement state. When it comes to the topic of music, music involvement is expected to be a potential antecedent of online WOM communication. Thus, the following hypotheses were developed:

H3a: Music involvement will be positively related to online opinion leadership.
H3b: Music involvement will be positively related to online opinion seeking.

Internet Social Connection

Prior research indicates that social ties are positively related to opinion leadership across a variety of contexts (Katz & Lazarsfeld, 1955). Opinion leaders have been found to have more contacts with individuals and to participate in more informal social activities (Reynolds & Darden, 1971). Close social ties such as friendship play a role in the flow of information from person to person (Czepiel, 1974). Strong ties between people are perceived to be more influential than weak ties in shaping the WOM communication process (Brown & Reingen, 1987).

Strong ties refer to relationships with friends, family members, and partners with whom one can connect actively, whereas weak ties include relationships with acquaintances, ex-colleagues, and others with whom one may connect passively (Misner, 1994).

Strong ties would be more likely to be activated than weak ties for the flow of WOM referrals (Brown & Reingen, 1987). In a similar vein, it has been hypothesized that WOM spreads quickly within strong tie communities (Godes & Mayzlin, 2004). The desire to get connected and share ideas with others has been identified as the dominant motivation for sending pass-along emails (Phelps et al., 2004). Active information search behavior would be likely to occur among individuals with strong ties (Brown & Reingen, 1987). Thus social ties within an online community would be an important motive for individuals to transmit or seek ideas or opinions. Individuals who engage in online WOM communication would have a strong desire to fulfill social needs and experience a sense of virtual community (LaRose, Lai, Lange, Love, & Wu, 2005). Therefore this study has the following hypotheses:

H4a: Internet social connection will be positively related to online opinion leadership.
H4b: Internet social connection will be positively related to online opinion seeking.

The Behavioral Consequences of Online WOM

The present study attempts to examine behavioral consequences as an outcome of online WOM, with a focus on the flow of information such as forwarding and chatting. Opinion leaders are influential members of their social network and important information disseminators to less experienced members (Chaney, 2001). Individuals who are market mavens, a generic form of opinion leadership, were found to exhibit a positive relationship with the provision of information (Feick & Price, 1987). As techniques of information provision online, online forwarding and chatting are the natural behavioral consequences of opinion leaders (Phelps et al., 2004).

At the same time, online forwarding and chatting are also handy tools used by opinion seekers to exchange information with friends or other netizens. Because the Internet represents a highly interactive and anonymous forum, the traditional line between opinion leadership and opinion seeking is likely to become blurry. The lack of social pressure and constraint may make it possible for opinion seekers to become more assertive and confident online and to share information through forwarding and chatting. Within an online community in which similar interests converge, opinion seekers tend to seek needed information from others and to reciprocate by providing information to others. Ultimately online forwarding and chatting would facilitate the flow of information regarding the adoption of new music technologies, the decision of which music to listen to, and the choice of which music to purchase (Godes & Mayzlin, 2004). Thus the following hypotheses are proposed:

H5a: Online opinion leadership will be positively related to online forwarding.
H5b: Online opinion leadership will be positively related to online chatting.

H6a: Online opinion seeking will be positively related to online forwarding.
H6b: Online opinion seeking will be positively related to online chatting.

Methodology

Sample

The study was conducted in 2003 by surveying 250 undergraduate students from two colleges in the United States, one in a northeastern state and the other in a western state. Traditional college-aged students were considered appropriate for this study because they represent the first generation to grow up with the Internet (Howard, Rainie, & Jones, 2001). Respondents were recruited from two communication programs. Most respondents were between the ages of 18 and 25, and 71% of the respondents were female.

Measures

The survey instrument included a variety of measures that assess the following concepts: (1) innovativeness; (2) involvement with music; (3) Internet usage relating to music; (4) Internet social connection; (5) online WOM (opinion leadership and opinion seeking); (6) online forwarding; and (7) online chatting.

Innovativeness was adopted from the scale of domain-specific innovativeness developed by Goldsmith and Hofacker (1991). Their items were modified to reflect the online context. A total of eight items was measured with a 7-point Likert scale. To determine Internet usage relating to music, respondents were asked to indicate how often they use the Internet for music-related purposes. The questions were adapted from the 10th WWW user survey conducted by the Graphic, Visualization, & Usability Center of Georgia Institute of Technology in October 1998 (Graphic, Visualization, & Usability Center, 1998). In total, twelve items were measured with a five-point scale ranging from 1 = "never" to 5 = "always."

Involvement with music was examined using Zaichkowsky's (1985) Personal Involvement (PII) scale; 20 items were measured through a 7-point semantic differential scale. A measure of Internet social connection was constructed with four items. Each was assessed on a seven-point scale from 1 = "definitely disagree" to 7 = "definitely agree." These questions were also adapted from the 10th WWW user survey by the Graphic, Visualization, & Usability Center of Georgia Institute of Technology conducted in October 1998.

Online word-of-mouth (WOM) was measured with two constructs: opinion leadership and opinion seeking. In constructing the survey items specific to online WOM, this study reviewed the items developed by previous studies on social comparison (Bearden, Netemeyer, & Teel, 1989; Lennox & Wolfe, 1984), opinion leadership (Childers, 1986; Feick & Price, 1987; Goldsmith, Freiden, & Kilsheimer, 1993; King & Summer, 1970; Kleiser & Mantel, 1994), opinion seeking (Flynn et al., 1996; Reynolds & Darden, 1971), and reference group influence (Bearden & Etzel, 1982). To reflect the nature of the online environment, the study rephrased or modified some of the items

found in the previous studies. Online opinion leadership and online opinion seeking were measured with eight items each. The online WOM items were measured with a seven-point Likert scale, with 1 being "strongly disagree" and 7 "strongly agree."

To examine the consequences of online WOM, additional items measuring online WOM behaviors such as online forwarding and online chatting were developed. Like those items measuring online WOM, these items were assessed with a seven-point Likert scale. Online forwarding was assessed with six items and online chatting was measured with five items. All the constructs showed Cronbach's alphas ranging from .84 to .95, as shown in Table 1. Multiple items representing each construct were aggregated for further analyses. All the items for the measurement of each construct can be found in the Appendices.

Analysis and Results

Table 1 presents the relationships among online opinion leadership, opinion seeking, and their correlates. The correlations were sizable, significant, and appeared in the expected directions. One exception is the non-significant relationship between the music involvement factor and opinion seeking (r = .11, ns). As indicated in the Appendices, those items that measure each construct tend to contribute uniquely to each underlying concept and are distinct from items measuring the other construct.

To test the structural model concerning the relationships among the variables, path analysis was performed via LISREL 8 (Jöreskog & Sörbom, 1993). The model was appraised with the maximum likelihood method of parameter estimation and used the correlation matrix as the input. The overall fit indices for the model were acceptable, revealing a moderate fit of the model to the data ($\chi^2 = 36.73$, $df = 10$, $p <$ .001; GFI = .97; AGFI = .87; CFI = .97; IFI = .97; RFI = .89; RMSEA = .104) (Table 2).

Table 1 Correlation matrix

(n = 250)	IV	IU	IN	IC	OL	OS	OF	OC
IV: Innovativeness	1.00							
IU: Internet use	.56***	1.00						
IN: Involvement	.25***	.22***	1.00					
IC: Internet connection	.37***	.39***	.08	1.00				
OL: Opinion leadership	.71***	.69***	.21***	.37***	1.00			
OS: Opinion seeking	.52***	.59***	.11	.54***	.62***	1.00		
OF: Online forwarding	.40***	.49***	.10	.30***	.56***	.60***	1.00	
OC: Online chatting	.59***	.60***	.22***	.39***	.72***	.65***	.57***	1.00
No. of Items	8	12	20	4	8	8	6	5
Cronbach's Alpha	.86	.84	.95	.86	.94	.90	.89	.91
Mean	26.10	23.00	114.59	14.11	22.86	22.39	16.32	17.78
SD	13.13	7.48	20.55	6.81	12.44	10.99	8.37	8.70

* $p < .05$, ** $p < .01$, *** $p < .001$.

Table 2 Parameter estimates for causal paths: Original model

Hypotheses	Causal Paths	Standardized Parameter Estimates	Standard Error	*t*-value
H1a	Innovativeness → Opinion Leadership	0.464	0.049	9.555***
H1b	Innovativeness → Opinion Seeking	0.213	0.057	3.738***
H2a	Internet Use in Music → Opinion Leadership	0.416	0.049	8.572***
H2b	Internet Use in Music → Opinion Seeking	0.354	0.057	6.208***
H3a	Involvement → Opinion Leadership	0.000	0.040	0.010 (ns)
H3b	Involvement → Opinion Seeking	-0.047	0.047	0.996 (ns)
H4a	Internet Social Connection → Opinion Leadership	0.036	0.043	0.838 (ns)
H4b	Internet Social Connection → Opinion Seeking	0.327	0.051	6.471***
H5a	Opinion Leadership → Online Forwarding	0.305	0.057	5.401***
H5b	Opinion Leadership → Online Chatting	0.515	0.048	10.800***
H6a	Opinion Seeking → Online Forwarding	0.411	0.057	7.263***
H6b	Opinion Seeking → Online Chatting	0.331	0.048	6.937***

Goodness-of-fit statistics: $\chi 2$ (10) = 36.73, $p < .001$; GFI = .97; AGFI = .87; CFI = .97; IFI = .97; RFI = .89; RMSEA = .104.
* $p < .05$, ** $p < .01$, *** $p < .001$.

However, RMSEA is not satisfactory since it is higher than .08 (Browne & Cudeck, 1993). Thus the original model was rejected and the modification indices were examined as a way of improving the model fit (Anderson & Gerbing, 1988).

The modification indices showed that the model fit could be improved by adding a path from opinion leadership to opinion seeking. The overall model could also be better modified by adding a path from online forwarding to online chatting. Previous literature on WOM suggested that most opinion leaders tend to be opinion seekers because they need to seek information to become knowledgeable about a product or they have high interest in the product category (Arndt, 1967; Feick, Price, & Higie, 1986; Lazarsfeld et al., 1984). It is also highly likely that those who are message forwarders are also participants in online chat rooms. It is reasonable to posit that those who are skilled in online forwarding might naturally move to the next level, online chatting, which is more interactive and more cognitively and/or emotionally engaging. Therefore, these two additional paths are justifiable. After the model modification, the goodness of fit statistics demonstrated that the modified model provided a better fit ($\chi^2 = 11.76$, $df = 8$, p = ns; GFI = .99; AGFI = .95; CFI = .99; IFI = .99; RFI = .96; RMSEA = .044). Figure 1 shows the modified model and Table 3 reports the parameter estimates for paths.

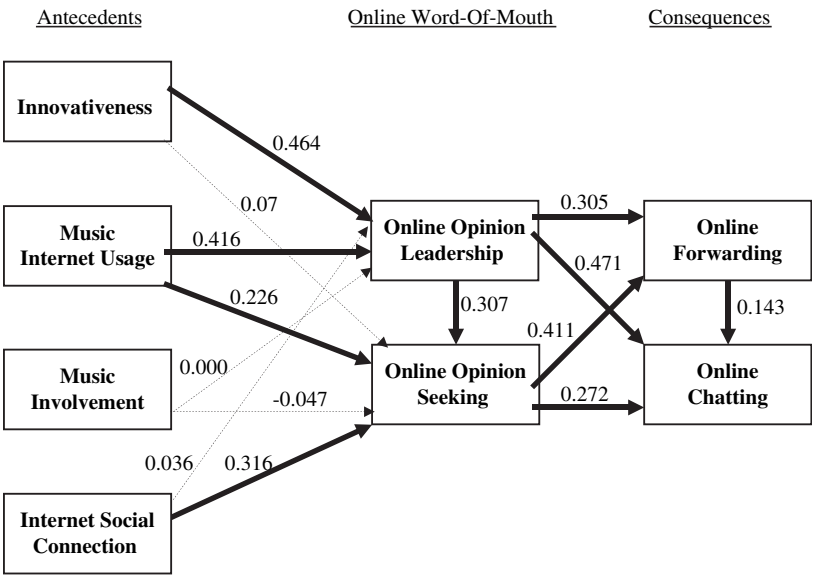

Figure 1 Path model of antecedents and consequences of online word-of-mouth: Modified model.

Goodness-of-fit statistics: $\chi 2$ (8) = 11.76, p = ns; GFI = .99; AGFI = .95; CFI = .99; IFI = .99; RFI = .96; RMSEA = .044.

Note: All the above paths represented by solid lines were statistically significant at least at $\rho < .01$. The paths represented by dotted lines were not significant.

Table 3 Parameter estimates for causal paths: modified model

Hypotheses	Causal Paths →	Standardized Parameter Estimates	Standard Error	*t*-value
H1a	Innovativeness → Opinion Leadership	0.464	0.049	9.555***
H1b	Innovativeness → Opinion Seeking	0.070	0.064	1.091 (ns)
H2a	Internet Use in Music → Opinion Leadership	0.416	0.049	8.572***
H2b	Internet Use in Music → Opinion Seeking	0.226	0.063	3.600***
H3a	Involvement → Opinion Leadership	0.000	0.040	0.010 (ns)
H3b	Involvement → Opinion Seeking	-0.047	0.046	1.029 (ns)
H4a	Internet Social Connection → Opinion Leadership	0.036	0.043	0.838 (ns)
H4b	Internet Social Connection → Opinion Seeking	0.316	0.049	6.468***
	Opinion Leadership → Opinion Seeking	0.307	0.072	4.251***
H5a	Opinion Leadership → Online Forwarding	0.305	0.062	4.914***
H5b	Opinion Leadership → Online Chatting	0.471	0.054	8.706***
H6a	Opinion Seeking → Online Forwarding	0.411	0.062	6.607***
H6b	Opinion Seeking → Online Chatting	0.272	0.056	4.853***
	Online Forwarding → Online Chatting	0.143	0.053	2.689**

Goodness-of-fit statistics: $\chi 2\ (8) = 11.76$, p = ns; GFI = .99; AGFI = .95; CFI = .99; IFI = .99; RFI = .96; RMSEA = .044.
* $p < .05$, ** $p < .01$, *** $p < .001$.

H1a through H4b stated that innovativeness, Internet use in music, music involvement, and Internet social connection would be related to online opinion leadership and opinion seeking. A t-value of greater than 2.0 for each coefficient implies that these estimates are statistically significant (Anderson & Gerbing, 1988). As expected, the results showed that Internet usage had significant relationships with both opinion leadership ($t = 8.572$, $p < .001$) and opinion seeking ($t = 3.600$, $p < .001$). Innovativeness had a significant effect on opinion leadership ($t = 9.555$, $p < .001$), but it was not found to be significantly related to opinion seeking ($t = 1.091$, ns). Internet social connection was found to have a significant relationship with opinion seeking ($t = 6.468$, $p < .001$), but not with opinion leadership ($t = 0.838$, ns). Contrary to the original hypotheses, music involvement did not have a significant impact on either opinion leadership ($t = 0.010$, ns) or opinion seeking ($t = 1.029$, ns). Thus the findings provided strong support for H2 and partial support for H1 and H4, while H3 was not supported by the data.

Next, H5a through H6b stated that online opinion leadership and opinion seeking would be positively associated with online forwarding and online chatting, respectively. The path coefficients for the relationships between opinion leadership and online forwarding ($t = 4.914$, $p < .001$) and between opinion leadership and online chatting ($t = 8.706$, $p < .001$) were significant. The path coefficients for the relationships between opinion seeking and online forwarding ($t = 6.607$, $p < .001$), and between opinion seeking and online chatting ($t = 4.853$, $p < .001$), were also significant. These results confirmed our speculation that the WOM trait leads to more active participation in spreading information and ideas within an online community. Thus the results supported H5a through H6b.

In the modified model, two additional paths were considered. The opinion leadership—opinion seeking path coefficient was 0.307 with a t-value of 4.251 ($p < .001$), which indicates that online music opinion leaders are also more likely to seek information about music. The path estimate from online forwarding to online chatting was 0.143 with a t-value of 2.689 ($p < .01$), implying that the more consumers disseminate information about music through forwarding, the more likely they are to talk about it in online chat rooms.

Discussion and Conclusion

This study investigated the role of WOM in the flow of information in the context of Internet-mediated consumer-to-consumer communication. Relating studies of the opinion leadership process and diffusion of innovations to the music online community, the study developed and tested a theoretical model accounting for the antecedents and consequences of online WOM. By measuring the underlying concept of online WOM with the two distinct dimensions of opinion leadership and opinion seeking, the study disentangled differential relationships among the antecedents, online WOM, and its resultant behaviors.

Regarding the dimensionality of online WOM, the two sub-constructs of opinion leadership and opinion seeking appeared to be essential dimensions underlying

online WOM. In the modified model, opinion leadership was found to be related to opinion seeking. This finding favors our speculation that online opinion leaders may also be opinion seekers because they desire to update information or have more knowledge. This finding also supports our argument that the traditional line between opinion leadership and opinion seeking is blurring in part due to the interactive and anonymous nature of the Internet.

Some findings in the model test replicated the existing literature on the characteristics of traditional WOM, while others did not. The results demonstrated that music Internet use appeared to be a determinant of both online opinion leadership and opinion seeking. Online WOM is facilitated through a variety of tools such as weblogs, bulletin boards, chat rooms, discussion forums, and instant messenging. Individuals should be comfortable with these communication tools in order to spread WOM or seek information. Thus, Internet usage for music appeared to play a central role in explaining both opinion leadership and opinion seeking. This finding highlights the critical role of Internet skills/proficiency in online WOM communication. People who are inexperienced or uncomfortable with these tools may be lagging behind the current trends, isolated from the online community in the information diffusion process.

This study identified a positive relationship between innovativeness and online opinion leadership, suggesting that the innovative personality trait is a reliable indicator of opinion leadership, online or offline. However, this study did not identify a significant relationship between innovativeness and online opinion seeking, failing to verify our expectation that those who are more experimental and open to new experiences will be more likely to search for new information or ideas online. This might be due partly to the nature of Internet communication, which makes it possible for every surfer to seek a myriad of information anytime, anywhere, with no interpersonal pressure or social constraints. Although not directly related, innovativeness and online opinion seeking seem to be linked through online opinion leadership, as indicated by the path model.

Internet social connection was found to have a positive relationship with online opinion seeking but not with opinion leadership. A strong social network with others who share similar interests or hobbies appeared to be more important for online opinion seekers than for opinion leaders in the diffusion of information process. It seems that people with strong social ties are more able and/or likely to seek information or ideas online, which may in turn reinforce community building among information seekers. It is likely that many opinion seekers go online with multiple goals in mind—information exchange, entertainment, and social connection. Feelings about getting connected to others online did not appear to account for online opinion leadership, which tends to be determined by two factors only in this study: the innovative personality trait and Internet usage in relation to music.

Surprisingly, this study failed to establish any impact of music involvement on either online opinion leadership or opinion seeking. There are three possible reasons for this finding. One is that the survey was conducted among a group of

homogeneous college students who tend to be universally attached to music. The small variance of student samples might have rendered the correlations non-significant, thus producing a ceiling effect. The second possible reason is that music involvement might not have a direct impact on online WOM. Instead, it might have an indirect effect through the mediation of music-related Internet use, which is positively correlated with music involvement (see Table 1). Another explanation might be that music involvement is no longer a precondition for opinion leadership or opinion seeking in the online milieu. Anyone can serve (or at least pose) as an opinion leader or opinion seeker on the Web. Online users visit the Web not only to search for specific information but also for pure entertainment. Information seeking can be an enjoyable experience, like online window-shopping, as a lot of items on the search list are hedonic products. It is possible that users' information search or opinion seeking is neither driven by music involvement nor motivated by their innovative tendency, but rather by a simple need to relax, kill time, or socialize with others by sharing ideas or information.

Online WOM was found to lead to online forwarding and online chatting as an outcome. This finding indicates that both online leaders and seekers make a contribution to the diffusion of music-related information within the online community. Online WOM may influence web users' preferences, attitudes, and choice of music or music device through forwarding and chatting. In addition, the study revealed that online forwarding had a positive impact on online chatting, which has the potential to reach a wider audience than forwarding.

Implications for Future Research

Some limitations of this study provide a basis for further investigation of online WOM. First of all, this study focused on the single product category of music, although it was found to be well-suited to the student group. It would be valuable to replicate the results in other areas of interest such as fashion or political candidates. This might help solve the problem of the small variance found in music involvement among college students.

Another limitation is the measurement of online WOM and the related consequences items. First, these items sometimes refer to "friends" as the party involved in the online WOM communication process. Future measurement should simply use "others" to refer to the online communicators, since online WOM is not limited to communication among friends. Second, some scale items appear similar to one another. For example, online opinion leadership and online chatting appear to be operationally redundant. Refinement of the items is needed to reduce any possible redundancies among related constructs.

Chat rooms are voluntary and spontaneous places where messages can be exchanged and views debated with a wide range of people identified only by their screen names. As indicated by our path model, chat rooms seem to be the ultimate destination for online opinion leaders, seekers, and/or forwarders. A study by

Wolfradt and Doll (2001) showed that visiting chat rooms was positively correlated with the interpersonal communication motive and negatively correlated with the information motive. This suggests that online chatting is a venue for relationship building in online communities. Future researchers should explore relationship building as an outcome of online WOM.

An exploration of the dynamic interactions in more synchronous online communication contexts should contribute to our understanding of online WOM. For example, researchers could investigate the impact of online WOM on individual and group identities. They could also look at how factors such as computer-mediated verbal and nonverbal cues, self-disclosure, perceived reciprocity, and domain names, affect community members' perception of the trustworthiness, expertise, authority, and empathy of opinion leaders in the virtual world, where reality is constantly co-constructed by those involved. Researchers from a social-cultural tradition need to work on how online WOM differs from offline WOM in terms of metaphors used, rituals performed, norms observed, and dominant senses involved (e.g., verbal vs. visual). More research is needed to explore how these two modalities complement and reinforce each other.

The diffusion process of information or knowledge could be examined in different topical contexts. Thus far, research on online WOM has mainly focused on how WOM influences individuals' learning, knowledge, attitudes, and behaviors in online communities that promote socially desirable interests and ideas. Future research might also explore the characteristics of opinion leaders and opinion seekers and their behavioral consequences in deviant and/or marginalized online communities (e.g., sex clubs, hate groups).

Finally, this study can provide useful information to communication strategists who utilize online WOM as a tool for creating and maintaining online communities. A profile of online WOM participants would help people to identify and reach those opinion leaders and seekers who are expected to have more influence on others' attitudes and behaviors in the process of information diffusion. Communication strategists should be interested in online WOM since it has the potential to mobilize community members' interests, choices, and actions through online forwarding and chatting (e.g., pass-along emails, sharing interests, buying or downloading music). To facilitate these uses of online WOM, communication strategists need to enhance trust in information and ideas that are shared among community members, under the assumption that WOM messages are perceived to have little manipulative bias.

References

Anderson, J. C., & Gerbing, D. W. (1988). Structural equation modeling in practice: A review and recommended two-step approach. *Psychological Bulletin*, **103**(3), 411–423.

Arndt, J. (1967). Role of product-related conversations in the diffusion of a new product. *Journal of Marketing Research*, **4**(3), 291–295.

Bearden, W. O., & Etzel, M. J. (1982). Reference group influence on product and brand purchase decisions. *Journal of Consumer Research*, **9**(2), 183–194.

Bearden, W. O., Netemeyer, R. G., & Teel, J. E. (1989). Measurement of consumer susceptibility to interpersonal influence. *Journal of Consumer Research*, **15**(4), 473–481.
Bickart, B., & Schindler, R. M. (2001). Internet forum as influential sources of consumer information. *Journal of Interactive Marketing*, **1**(3), 31–40.
Brooks, R. C., Jr. (1957). Word-of-mouth advertising in selling new products. *Journal of Marketing*, **22**(2), 154–161.
Brown, J. J., & Reingen, P. H. (1987). Social ties and word-of-mouth referral behavior. *Journal of Consumer Research*, **14**(3), 350–362.
Browne, M. W., & Cudeck, R. (1993). Alternative ways of assessing model fit. In K. A. Bollen & J. S. Long (Eds.), *Testing Structural Equation Model* (pp. 136–162). Newbury Park, CA: Sage Publications Inc.
Bulik, B. S. (2006). Q & A with MySpace's Gold … or marketing on online steroids. *Advertising Age*, **77**(23), S–4–S–5.
Burson-Marsteller. (2001). *Influential Internet Users Rely on Company Web Sites as They Spread Word of Brands, Products and Services*. Retrieved October 5, 2005 from http://www.efluentials.com/documents/PressRelease.pdf
Chaney, I. M. (2001). Opinion leadersas a segment for marketing communications. *Marketing Intelligence & Planning*, **19**(5), 302–308.
Childers, T. L. (1986). Assessment of the psychometric properties of an opinion leadership scale. *Journal of Marketing Research*, **23**(2), 184–188.
Czepiel, J. A. (1974). Word-of-mouth processes in the diffusion of a major technological innovation. *Journal of Marketing Research*, **11**(2), 172–180.
Daugherty, T., Lee, W., Gangadharbatla, H., Kim, K., & Outhavong, S. (2005). Organizational virtual communities: Exploring motivations behind online panel participation. *Journal of Computer-Mediated Communication*, **10**(4), Article 9. Retrieved September 29, 2005 from http://jcmc.indiana.edu/vol10/issue4/daugherty.html
Dennis, A. R., Pootheri, S. K., & Natarajan, V. L. (1998). Lesson from the early adopters of Web groupware. *Journal of Management Information System*, **14**(4), 65–86.
Feenberg, A., & Bakardjieva, M. (2004). Virtual community: No 'killer implication.' *New Media & Society*, **6**(1), 37–43.
Feick, L. F., & Price, L. L. (1987). The market maven: A diffuser of marketplace information. *Journal of Marketing*, **51**(1), 83–97.
Feick, L. F., Price, L. L., & Higie, R. A. (1986). People who use people: The other side of opinion leadership. *Advances in Consumer Research*, **13**, 301–305.
Flynn, L. R., Goldsmith, R. E., & Eastman, J. K. (1994). The King and Summers opinion leadership scale: Revision and refinement. *Journal of Business Research*, **31**(1), 55–64.
Flynn, L. R., Goldsmith, R. E., & Eastman, J. K. (1996). Opinion leaders and opinion seekers: Two new measurement scales. *Journal of the Academy of Marketing Science*, **24**(2), 137–147.
Forrester Research (2000). *Entertaining Young Net Surfers*. Forrester Research.
Foxall, G. R. (1988). Consumer innovativeness: Novelty-seeking, creativity, and cognitive style. *Research in Consumer Behavior*, **3**, 79–113.
Godes, D., & Mayzlin, D. (2004). Using online conversations to study word-of-mouth communication. *Marketing Science*, **23**(4), 545–560.
Godin, S. (2001). *Unleashing Ideavirus*. Dobbs Ferry, NY: Do You Zoom, Inc.
Goldsmith, R. E., & Desborde, R. (1991). A validity study of a measure of opinion leadership. *Journal of Business Research*, **22**(1), 11–19.

Goldsmith, R. E., Frieden, J. B., & Kilsheimer, J. C. (1993). Social values and female fashion leadership: A cross-cultural study. *Psychology & Marketing*, **10**(5), 399–412.
Goldsmith, R. E., & Hofacker, C. F. (1991). Measuring consumer innovativeness. *Journal of the Academy of Marketing Science*, **19**(3), 209–221.
Griffin, E. (2003). *A First Look at Communication Theory*. Boston, MA: McGraw Hill.
Gumpert, G., & Cathcart, R. (1986). *Inter/Media: Interpersonal Communication in a Media World*. New York: Oxford University Press.
Graphic, Visualization, & Usability Center. (1998). *The 10th WWW User Survey Conducted by the Graphic, Visualization, & Usability Center at Georgia Institute of Technology*. Retrieved March 26, 2006 from http://www.gvu.gatech.edu/user_surveys/survey-1998-10
Ha, H.-Y. (2002). The effects of consumer risk perception on pre-purchase information in online auctions: Brand, word-of-mouth, and customized information. *Journal of Computer-Mediated Communication*, **8**(1). Retrieved September 23, 2005 from http://jcmc.indiana.edu/vol8/issue1/ha.html
Henderson, S., & Gilding, M. (2004). 'I've never clicked this much with anyone in my life:' Trust and hyperpersonal communication in online friendships. *New Media & Society*, **6**(4), 487–506.
Herr, P. M., Kardes, F. R., & Kim, J. (1991). Effects of word-of-mouth and product-attribute information on persuasion: An accessibility-diagnosticity perspective. *Journal of Consumer Research*, **17**(4), 454–462.
Higie, R. A., & Feick, L. F. (1988). Enduring involvement: Conceptual and methodological issues. *Advances in Consumer Research*, **16**, 690–696.
Howard, P. E. N., Rainie, L., & Jones, S. (2001). Days and night on the Internet: The impact of a diffusing technology. *American Behavioral Scientist*, **45**(3), 383–404.
Jain, K., & Srinivasan, N. (1990). An empirical assessment of multiple operationalizations of involvement. *Advances in Consumer Research*, **17**, 594–602.
Jöreskog, K. G., & Sörbom, D. (1993). *LISREL 8: Structural Equation Modeling with the SIMPLIS Command Language*. Hillsdale, NJ: Lawrence Erlbaum Associates.
Katz, E., & Lazarsfeld, P. (1955). *Personal Influence*. New York: The Free Press.
King, C. W., & Summer, J. O. (1970). Overlap of opinion leadership across product categories. *Journal of Marketing Research*, **7**(1), 43–50.
Kleiser, S. B., & Mantel, S. P. (1994). The dimensions of consumer expertise: A scale development. In R. Achrol & A. Mitchell (Eds.), *AMA Summer Educators' Proceedings*, **5**, 20–26.
LaRose, R., Lai, Y., Lange, R., Love, B., & Wu, Y. (2005). Sharing or piracy? An exploration of downloading behavior. *Journal of Computer-Mediated Communication*, **11**(1), Article 1. Retrieved December 16, 2005 from http://jcmc.indiana.edu/vol11/issue1/larose.html
Lazarsfeld, P. F., Berelson, B. R., & Gaudet, H. (1984). *The People's Choice*. New York: Columbia University Press.
Lennox, R. D., & Wolfe, R. N. (1984). Revision of the self monitoring scale. *Journal of Personality and Social Psychology*, **46**(6), 1349–1364.
McQuarrie, E. F., & Munson, J. M. (1986). The Zaichkowsky personal involvement inventory: Modification and extension. *Advances in Consumer Research*, **14**, 36–40.
Misner, I. R. (1994). *The World's Best Known Marketing Secret*. Austin, TX: Bard & Stephen.
Murray, K. B. (1991). A test of services marketing theory: Consumer information acquisition activities. *Journal of Marketing*, **55**(1), 10–25.

Ohanian, R. (1990). Construction and validation of a scale to measure celebrity endorsers' perceived expertise, trustworthiness, and attractiveness. *Journal of Advertising*, **19**(3), 39–52.
Phelps, J. E., Lewis, R., Mobilio, L., Perry, D., & Raman, N. (2004). Viral marketing or electronic word-of-mouth advertising: Examining consumer responses and motivations to pass along email. *Journal of Advertising Research*, **45**(4), 333–348.
Reingen, P. H., & Kernan, J. B. (1986). Analysis of referral networks in marketing: Methods and illustration. *Journal of Marketing Research*, **23**(4), 370–378.
Reynolds, F. D., & Darden, W. R. (1971). Mutually adaptive effects of interpersonal communication. *Journal of Marketing Research*, **8**(4), 449–454.
Richins, M., & Root-Shaffer, T. (1988). The role of involvement and opinion leadership in consumer word-of-mouth: An implicit model made explicit. *Advances in Consumer Research*, **15**(1), 32–36.
Ridings, C. M., & Gefen, D. (2004). Virtual community attraction: Why people hang out online. *Journal of Computer-Mediated Communication*, **10**(1). Retrieved December 23, 2005 from http://jcmc.indiana.edu/vol10/issue1/ridings_gefen.html
Robertson, T. S., & Myers, J. H. (1969). Personality correlates of opinion leadership and innovative buying behavior. *Journal of Marketing Research*, **6**(2), 164–168.
Rodgers, S., & Chen, Q. (2005). Internet community group participation: Psychosocial benefits for women with breast cancer. *Journal of Computer-Mediated Communication*, **10** (4), Article 5. Retrieved December 15, 2005 from http://jcmc.indiana.edu/vol10/issue4/rodgers.html
Roed, J. (2003). Language learner behavior in a virtual environment. *Computer Assisted Language Learning*, **16**(2–3), 155–172.
Rogers, E. M. (1995). *Diffusions of Innovations* (4th ed.). New York: The Free Press.
Rosenbush, S. (2006, April 18). MySpace for the office: Venture giant Kleiner Perkins is backing Visible Path in its bid to take social networking corporate. *BusinessWeek Online*. Retrieved June 15, 2006 from http://www.businessweek.com/technology/content/apr2006/tc20060418_044277.htm
Sheth, J. N. (1971). Word-of-mouth in low risk innovations. *Journal of Advertising Research*, **11**(3), 15–18.
Silverman, G. (2001). *The Secrets of Word-of-Mouth Marketing*. New York: American Management Association.
Summers, J. O. (1970). The identity of women's clothing fashion opinion leaders. *Journal of Marketing Research*, **7**(2), 178–185.
Venkatraman, M. P. (1989). Opinion leaders, adopters, and communicative adopters: A role analysis. *Psychology & Marketing*, **6**(1), 51–68.
Williams, F., Strover, S., & Grant, A. E. (1994). Social aspects of new media technologies. In J. Bryant & D. Zillmann (Eds.), *Media Effects: Advances in Theory and Research* (pp. 463–482). Hillsdale: NJ: Lawrence Erlbaum Associates.
Wolfradt, U., & Doll, J. (2001). Motives of adolescents to use the Internet as a function of personality traits, personal and social factors. *Journal of Educational Computing Research*, **24**(1), 13–27.
Xue, F., & Phelps, J. E. (2004). Internet-facilitated consumer-to-consumer communication: The moderating role of receiver characteristics. *International Journal of Internet Marketing and Advertising* **1**(2), 121–136
Zaichkowsky, J. L. (1985). Measuring the involvement construct. *Journal of Consumer Research*, **12**(3), 341–352.

Appendix 1. Items for online WOM antecedents

Constructs	Items
Innovativeness	I am among the first in my circle of friends to download some new music when it appears.
8 items	If I heard that some new music were available online, I would be interested enough to obtain it.
1 strongly disagree ~ 7 strongly agree	Compared to my friends, I own a lot of downloaded music.
	I am the first in my circle of friends to know the titles of the latest music.
	I will obtain a new piece of music online if I haven't heard/ tried it yet.
	I like to obtain a new piece of music online before other people do.
	Compared to my friends, I own a lot of music downloading software.
	I am among the first in my circle of friends to own a new music player device (e.g., MP3 player) when it appears.
Internet Use in Music	To access online music-related newsgroup (s).
How often you	To access music-related news.
used the Internet…..	To access information about music products or services.
12 items 1 never ~	To purchase music online.
5 always	To create music-related web page (s).
	To customize a music-related web page for yourself (e.g., My Yahoo).
	To participate in a music-related chat or discussion (not email).
	To listen to music radio broadcast online.
	To chat about music through Internet phone.
	To sign on music-related newsletter (s).
	To stream audio over the Internet (e.g., Real Audio)
	To communicate with Web-based vendors about music products.
Music Involvement	Important vs. Unimportant (r)
20 items Semantic	Of no concern to me vs. Of concern to me
differential scale	Irrelevant vs. Relevant
	Means a lot to me vs. Means nothing to me (r)
	Useless vs. Useful
	Valuable vs. Worthless (r)
	Trivial vs. Fundamental
	Beneficial vs. Not beneficial (r)
	Matters to me vs. Does not matter (r)
	Uninterested vs. Interested
	Significant vs. Insignificant (r)
	Vital vs. Superfluous (r)
	Boring vs. Interesting
	Unexciting vs. Exciting
	Appealing vs. Unappealing (r)
	Mundane vs. Fascinating
	Essential vs. Nonessential (r)
	Undesirable vs. Desirable
	Wanted vs. Unwanted (r)
	Not needed vs. Needed

(continued)

Appendix 1. *Continued*

Constructs	Items
Internet Social Connection 4 items 1 strongly disagree ~ 7 strongly agree	Since getting on the Internet, I have become more connected to people like me. Since getting on the Internet, I have become more connected to people who share my hobbies/recreational activities through the Internet. I have become more connected to people in my family through the Internet. I have become more connected to people in similar life situations (e.g., self-help groups, support groups) through the Internet.

*r = reverse recoded.

Appendix 2. Items for online opinion leadership and online opinion seeking

Constructs	Items
Online Opinion Leadership 8 items 1 strongly disagree ~ 7 strongly agree	I am the first to try new music online; therefore, many people regard me as a leader in this area. My friends think of me as a good online source of information when it comes to obtaining new music. During the past six months, I have told my friends about music over the Internet. Compared with my circle of friends, I am more likely to be asked about music over the Internet. I have the feeling that my friends regard me as a good online source of advice about music. My friends tend to ask my advice about music online. Via emails, I like to influence the types of music my friends choose to listen to. Over the Internet, I tend to influence people's opinions about some music.
Online Opinion Seeking 8 items 1 strongly disagree ~ 7 strongly agree	I tend to seek out or search for others' opinions or comments online regarding what music to listen to. I tend to search for the latest online information on music before I buy or download it. Over the Internet, I tend to seek the advice of my friends regarding which music I should get. When I consider choosing music, I seek other people for advice via emails, chat rooms or web reviews. I feel more comfortable buying or downloading music when I have gotten other people's opinions on it over the Internet. I tend to consult other people over the Internet to help me choose the music I buy or download. I like to seek out negative reviews about some music on web sites before I make a decision. I like to seek out positive reviews about some music on web sites before I make a decision.

Appendix 3. Items for online WOM behavioral consequences

Constructs	Items
Online Forwarding	I tend to use the "Send this site to my friend" function in a web site when I find interesting music.
6 items	I like to forward my friends' emails containing information or opinions about the music that I like.
1 strongly disagree ~ 7 strongly agree	When I receive a forwarded email about a friend's favorite music, I will forward the email to her/him.
	I like forwarding interesting emails about music from one group of my friends to another.
	I tend to forward my friends positive reviews on music.
	I tend to forward my friends negative reviews on music.
Online Chatting	While chatting online, I like to share with others some interesting music that I have listened to.
5 items	While chatting online, I like to share with others my favorite musician (s) or band (s).
1 strongly disagree ~ 7 strongly agree	While chatting online, people tend to ask for my opinions about music.
	While chatting online, I tend to persuade others to buy the music that I like.
	While chatting online, I tend to persuade other to download the music that I like.

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