# "What Consumers Tell about a Product in Word-of-Mouth Communication: The Effects of Valence of WOM, Tie Strength, and Presentation Format"

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## Abstract

This paper investigates what type of information is likely to be transmitted in word-of-mouth communication(WOM) flows as a function of three factors: (1) valence of WOM (positive vs. negative WOM), (2) type of social relationship between the communicator and the recipient (strong vs. weak ties), and (3) presentation format of the information (an overall rating is included vs. excluded). Toward this end, information is classified according to (1) level of abstractness (*factual details - elaborations - abstractions - global evaluations*)

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and (2) consistency with the theme of WOM (*consistent* and *inconsistent*). Then, hypotheses are developed based upon previous research on rumor, dissatisfaction, negativity bias, the NUM effect, confirmation biases, and social networks. These hypotheses are tested in a 2x2x2 laboratory experiment using e-mail with one hundred and fifty-one subjects.

The results show that different types of information are transmitted in WOM as a function of the experimental factors. Several key findings emerge. First, more factual details and less global evaluations are transmitted in positive than negative WOM, and to strong than weak ties. Second, the study emphasizes the asymmetric impact of negative information on various dimensions of information transmission. For instance, negative-inconsistent information is less likely to be omitted than positive-inconsistent information. Third, the effect of valence of information is moderated by overall rating. In a number of instances, the confirmation biases induced by the overall rating reduce or reverse the differential impact of negative information. Fourth, consistent with the previous findings of social network research, subjects with strong and weak ties behave differently in WOM. That is, more inconsistent information is transmitted when the recipient is a strong tie than a weak tie. In addition, the different behavior across tie strength is moderated by the valence of WOM, indicating that, for instance, the difference between positive and negative WOM is greater for strong ties than weak ties.

## Ⅰ. INTRODUCTION

"Everyday" life is a series of interpersonal interactions. Everyday, individuals interact with one another at home, at work, at school, and in a variety of other social settings. Our daily interactions are usually shaped by conversations, whose content is often related to products or services. For example, think of the interactions you have during a typical day. In the morning when you arrive at work, you tell one of your co-workers about the quality of the new razor you

used while getting ready for work. Over lunch, you talk to your coworkers about how delicious the food was that you had in a new Korean restaurant last night. Later in the afternoon, you listen to one of your friends complaining about how much trouble she is having with her new vacuum cleaner. On your way back home, you run into one of your neighbors who suffers from a toothache, and give her the name of your dentist. These are just a few of the examples of how we transmit word-of-mouth communication about products or services in our daily interactions.

Although word-of-mouth communication (hereafter WOM) is prevalent in everyday conversations, it has also attracted a great deal of attention from scholars in several disciplines. In marketing, few research topics have received such continuous and diverse research attention as WOM. Consequently, progress has been made in understanding many aspects of the WOM phenomenon within the field of marketing (e.g., Reingen and Kernan 1986; Richins 1983).

Despite the long tradition of marketing scholarship in WOM, there have been surprisingly few systematic attempts to specifically examine what consumers actually tell one another (i.e., content of WOM) in product-related conversations. In 1967, Arndt suggested that future research ought to investigate the types of information transmitted in WOM (Arndt 1967a). Although several authors have demonstrated the possibility that various kinds of information and influence flow in WOM (e.g., Higie, Feick, and Price 1987; Summers 1971), most of these studies reported anecdotal findings, rather than making a systematic effort to examine the content of information transmission in WOM. Thus, the primary objective of the paper is to address Arndt's challenge to marketing scholars to investigate what consumers tell one another about products.

Studying the content of information transmission in WOM is important because different responses will be elicited from consumers depending upon what type of information is transmitted to them. Consider a consumer who has

information about a brand. When she tells someone about the brand, she may give only favorable comments to friend A, but may mention negative aspects in a discounted form to friend B. To friend C, negative aspects may be transmitted with emphasis. Although all three friends heard about the brand from the same communicator, each might make different brand evaluations due to the different contents of WOM provided by the communicator.

However, marketing scholars have not paid much attention to the issue of the content of information transmission in WOM. Rather they have tended to simply examine whether WOM took place or not (e.g., Blodgett, Granbois, and Walters 1993). Thus, it is acknowledged in this paper that a substantial amount of and various kinds of information about a product or service are exchanged between two or more consumers via any media (e.g., face-to-face, telephone, e-mail) in WOM. Understanding the processes involved in consumers' transmission of product information through WOM should also offer managerial implications for the development of marketing messages and the design of product attributes to facilitate a positive WOM in the marketplace.

Among the various factors that may affect what a consumer tells another consumer about a product, this paper investigates three primary factors: (1) valence of WOM (positive vs. negative WOM), (2) type of social relationship between the communicator and the recipient (strong vs. weak ties), and (3) presentation format of the information (an overall rating is included vs. excluded).

The first factor concerns whether any systematic differences exist between the content of positive WOM and that of negative WOM. Although many aspects of positive and negative WOM have been studied, no attempt has yet been made to compare types of information communicated in positive and negative WOM. In their extensive review of the diffusion literature, Gatignon and Robertson (1985) note that studies typically do not consider the distinction between the processes operating for positive and negative transfer of information.

The existing literature in WOM and psychology provides a logic for speculating

that consumers behave differently in positive and negative WOM, and possibly convey different kinds of messages. The WOM literature has repeatedly shown the asymmetric impact of negative WOM on purchase decision making and the incidence of WOM (e.g., Arndt 1967b; Technical Assistance Research Programs 1979). Secondly, it is well established in psychology that positive and negative events have different effects on individuals' physiological arousal, affect, attention, judgment, attribution, and cognitive and social activity (see Taylor 1991, for a comprehensive review). Finally, research on the communication of personal news has shown that individuals are reluctant to transmit information to another person when this information will have a negative impact on the recipient (see Tesser and Rosen 1975, for a review of the MUM effect). These findings suggest that consumers will show different communication patterns in positive and negative WOM.

The second factor, types of social relationship, considers how the characteristics of the audience will affect what consumers tell one another about a product. Several researchers have demonstrated that communicators modify their messages according to the characteristics of the audience. For example, Higgins and Rholes (1978) found that communicators adjust their message about a target person to match the listeners' attitude toward the target. Among several characteristics of the audience, this study examines the effect of social relations, particularly tie strength. Because WOM is a social phenomenon, the social structural context (e.g., social relations) within which interaction occurs should be recognized (Reingen and Kernan 1986).

Several authors have already found interesting behavior differences between strong ties and weak ties. For example, sociologists demonstrated that weak ties play an important role in bridging different groups of strong ties by bringing new information from one group to another (e.g., Granovetter 1973; Weimann 1983). Moreover, in a recent study, Frenzen and Nakamoto (1993) show that consumers are reluctant to transmit information with high value or high opportunity cost to weak ties, whereas they tend to share information

with strong ties regardless of its value or cost. These findings, and other differences between strong ties and weak ties (e.g., motivations, frequency of contact, accountability, etc.) lead to the expectation that consumers transmit different information depending on which type of social ties the listener shares with them.

The third factor examines the effects of prior expectation on the information transmission in WOM. In life, consumers have many opportunities to receive some preliminary information through various sources such as advertising, WOM, news, etc., which can lead them to form a kind of expectation before reaching a more firm evaluation of the product. Having an expectation may lead to a confirmation bias in information transmission (Deighton 1984; Hoch and Ha 1986). It may also help to justify or support what consumers say, thereby raising their confidence in what they tell others.

The material is organized as follows. In the following section, my conceptual framework and the hypotheses are developed based on the theories from several disciplines. Section 3, research methodology, discusses an experiment designed to answer research questions and to test the hypotheses. The results of hypotheses testing are presented in Section 4, followed by a discussion of the implications of the results, the limitations of the current study, and suggestions for future research.

## Ⅱ. THEORY AND HYPOTHESES DEVELOPMENT

Although several methods have been suggested in the consumer behavior literature for classifying consumers' memory retrieval or cognitive responses, few attempts have been made to develop a framework for studying the contents of information transmission in WOM. This is mainly due to the fact that although considerable research has concentrated on consumers information processing up to memory and judgment, the transmission of information to other consumers (i.e., WOM) has been largely ignored. In addition, scholars

who are interested in the subject have treated WOM as a rather simple phenomenon, measuring whether it happens or not, without paying much attention to the possibility that a substantial amount of information can flow in WOM. Therefore, one of the objectives of this paper is to develop a framework in which to examine the contents of WOM. The verbal components (i.e., message) of WOM are primarily considered here, although it is possible that nonverbal information (e.g., gestures, facial expressions) can also be conveyed in the communication.

## 1. Typology of Information

This study proposes two ways to classify the information transmitted in WOM. The first method is to categorize information according to its level of abstractness. Previous research on memory has successfully employed this approach in examining consumers' cognitive responses to marketing stimuli, and documented that each level of information shows different effects on various aspects of consumers behavior (e.g., Chattopadhyay and Alba 1988). The second method reflects the consistency of information with the overall theme of WOM. Because inconsistent information, when transmitted, is expected to have a differential impact on a receiver's product evaluation, it is important to consider this dimension in order to have a better understanding of information transmission in WOM.

### 1.1. Level of Abstractness

When consumers are engaging in WOM, they are likely to rely upon memories of their direct or/and indirect experiences. Several authors have proposed ways to classify cognitive responses, but the method developed by Chattopadhyay and Alba (1988) seems to have the most useful implications for WOM. These authors categorized consumers' thoughts toward a product according to the level of abstractness, ranging from factual details, to single-fact interpretations, to abstractions, and to global evaluations. It was assumed that each category of

information had a differential impact on its stability in memory and on product evaluations. Chattopadhyay and Alba confirmed the validity of their approach by showing that each type of information was recalled disproportionately and that the relationship between recall and judgment differed across various situations. Others (Edell and Staelin 1983) also found that factual message (i.e., the lowest level in the hierarchy of abstractness content) had more influence on affect than did evaluative content (i.e., the next higher level).

Not surprisingly, most types of WOM identified in the literature reflect one or more categories based on the level of abstractness. For example, informational WOM in Belk's (1971) typology was related to the lower level of abstractness. Both affective WOM (Belk 1971) and advice-giving WOM (Richins and Root-Shaffer 1988) deal with the highest level of abstractness, that is, global evaluations of a product.

In the current study, a slight modification of Chattopadhyay and Alba's classification is developed, considering the communication aspects of WOM. The four categories are described below and are defined in relation to the original information, assuming that subjects begin with original information based on direct or indirect experience in the context of WOM.

*Factual Details*: These represent information about a single attribute, feature, or consequence of the product. Factual details are similar to message-originated thoughts in Brucks, Armstrong, and Goldberg's (1988) classification. Transmission of factual information is important because consumers may be interested in product performance for specific attributes and thus prefer to deal with information that is more concrete and objectively verifiable (Holbrook 1978).

*Elaborations*: Like factual details, elaborations are also based upon a single attribute, feature, or consequence of the product. However, these represent an outcome derived from a deeper processing of an attribute, as opposed to a

restatement or paraphrase. Consumers may provide their subjective interpretations of or evaluative responses to original information (e.g., an original attribute of "comes with 12 AMP" becomes "powerful motor"). Or they may explicitly relate original information to a receiver's particular needs (e.g., "big dust emission" becomes "not desirable because you have allergies"). Communicators may also emphasize or de-emphasize original information, or give then affective reactions toward that information. The rumor literature suggests that plausible and consistent information is added for the purpose of embellishing a message (Allport and Postman 1947). Due to this elaboration process, rumors may grow longer and more complex in the process of being retold.

*Abstractions*: These refer to inferences or judgments that summarize multiple pieces of information (e.g., "several tools, long hose, and cleaning both carpets and hard floors" leads to an inference of "versatile").

*Global Evaluations*: These reflect general evaluative reactions to a product as a whole, and like abstractions, are not specific to a single piece of information. Global evaluations may be expressed in cognitive, affective, or behavioral terms.

1.2. Consistent and Inconsistent Information

The second criterion for classifying information concerns whether information confirms or contradicts the global evaluation of a product. It is assumed in this study that consumers are often exposed to a mixture of information about a product, given that most products or services available in the market have both positive and negative aspects. Thus, it is reasonable to expect that consumer's global evaluations are determined by which valence of a product's attributes or performance dominates, negative or positive (e.g., expectancy-value model). A relevant issue is how consumers deal with information about minor or dominated attributes when communicating their opinion about the

product to others, because the transmission of evidence (i.e., consistent and inconsistent information about product attributes) in addition to the conclusion (i.e., the global evaluation) will have a significant impact on how the receivers derive their own conclusions.

In fact, psychologists and consumer researchers have long been interested in the differential effects of schema-consistent and schema-inconsistent information in the process of encoding, memory retrieval, and judgment (e.g., Heckler and Childers 1992). Learning when people's memory favors consistent information and when it favors inconsistent information has been a major puzzle, although some principles have emerged (Fiske and Taylor 1991). For example, when people are first forming an impression of another person and they are introduced to a few initial personality traits followed by some sample behaviors, they focus on inconsistencies. In contrast, when impressions are well-established and judgments have been made, people focus on consistencies (Higgins and Bargh 1987).

In the context of communication, scholars have produced findings that support the idea that people tend to omit or distort inconsistent information in an attempt to develop a unified and coherent story for transmission. This tendency is reflected in the principle of leveling in rumors, where details that would negate the intended theme of the transmission tend to be dropped (e.g., Allport and Postman 1947; Rosnow 1980). These omissions are attributable to consumers intentional effort after meaning, as well as the unreliability of their memory (Richins 1984). In a similar vein, Higgins and Rholes (1978) demonstrated that communicators modify the details of stimulus information when constructing a message in order to be consistent with the implications of their message labels (e.g., global evaluation). The literature on cognitive tuning also shows that transmitters develop more unified and polarized representations of information than do receivers, even though subjects do not actually engage in transmission activities (e.g., Cohen 1961; Zajonc 1960).

This paper takes the findings of these studies a step further, and identifies

circumstances under which the transmission of inconsistent information is facilitated or hindered in the communication context. In this study, inconsistent (consistent) information is defined as information about inferior (superior) attributes in positive WOM, and information about superior (inferior) attributes in negative WOM, assuming that the global evaluation (positive or negative) about the target product serves as the theme of WOM

## 2. Factors Affecting the Content of Information Transmission in WOM

I have discussed up to this point two ways to analyze the content of information transmission in WOM. Next, I will move to a discussion on the factors that affect the content of WOM. It would be logical to expect that most of the factors researchers have examined in relation to WOM would influence the contents of WOM. These factors include consumers motivations' for engaging in WOM (e.g., Dichter 1966), the nature of their consumption experiences with the product (e.g., Richins 1983), characteristics of the audience (e.g., Frenzen and Nakamoto 1993), individual differences (e.g., opinion leader, market maven) and so on. The factors and biases affecting consumers memory and retrieval also may play an important role in shaping what consumers say about a product.

Among a variety of factors, this paper explores the effects of three variables: (1) valence of WOM (positive vs. negative WOM), (2) type of social relationship between the communicator and the recipient (strong vs. weak ties), and (3) presentation format of the product information (an overall rating is included vs. excluded). These factors were chosen primarily because they have received much attention from consumer researchers, and therefore have the potential to provide theoretical implications to the literature on consumer behavior. In the following section, I will discuss how each factor affects the content of information transmission in WOM, based on the analysis framework presented earlier, and develop hypotheses accordingly. Because it is uncertain how adequately existing theories address these phenomena, some of the proposed

effects are treated as exploratory, without formal hypotheses.

2.1. Negative vs. Positive WOM

The first factor concerns whether any systematic differences exist between the content of positive WOM and that of negative WOM. There are several reasons to predict that consumers may behave differently in their transmission of positive and negative WOM. Diverse literatures in psychology and consumer behavior have recognized the asymmetrical effects of positive and negative events on numerous outcomes such as physiological arousal, affect, attention, judgments, attribution, and cognitive and social activity (see Taylor (1991) for an excellent review). Some of these findings may provide insight into potential differences between the contents of positive and negative WOM.

*Level of Absractness.* Several studies suggest that people behave differently when they encounter positive and negative stimuli. In a study of causal reasoning, Bohner, Schwarz, and Strack (1988) found that subjects engaged in causal reasoning with greater intensity and came up with more reasons for an outcome after negative actions than after positive actions. Also, Peeters and Czapinski (1990) concluded in their review on negativity biases that negative stimuli lead in general to more cognitive work and more complex cognitive representations than do positive stimuli. These findings imply that consumers attempt to identify and as a consequence, transmit more reasons leading to the overall evaluation that they have made in negative WOM than in positive WOM condition. Since supporting reasons are primarily based on factual details, it is expected that more factual details will be transmitted in negative WOM conditions than in positive WOM conditions.

In another line of research, Klayman and Ha (1987) suggested that purchase decisions where living with an error (a false positive buy error) may be more painful than living without an error (a false negative no buy error). This implies that from a communicator's perspective, buying a bad product is worse

than not buying a good product. Thus, a consumer will try harder to persuade someone not to buy a bad brand (i.e., negative WOM) than to buy a good brand (i.e., positive WOM), which requires more evidence (e.g., factual details, especially, consistent ones) to support her opinion in negative than positive WOM.

H1: (a) More factual information and (b) less global evaluation information will be transmitted in negative WOM than in positive WOM.

*Inconsistent Information.* As discussed earlier, the retrieval of inconsistent information varies across different circumstances. I propose that the transmission of inconsistent information is influenced by the valence of information. First, research on information integration has repeatedly shown that an individual places more weight on negative information than on positive information while making personality and product judgments (see Wojciszke, Brycz, and Borkenau (1993), and Wolf and Latané (1983) for exceptions), although there is no consensus about the best explanation for these negativity biases. In the context of consumer research, for example, Lutz (1975) showed that negative information had a greater impact than positive information on consumers evaluations of detergents. More recently, Herr, Kardes, and Kim (1991) found that negative attributes were perceived as more diagnostic in evaluating personal computers than were positive ones.

Second, the asymmetrical effect of negative information has been also observed in the process of person memory, although the topic has received considerably less attention there than in the context of information integration. For instance, subjects in Carlston's (1980) study recalled negative episodes more accurately and confidently than positive episodes. Their recall data also showed that negative episodes stayed longer in subjects' memory than did positive episodes. These findings may be explained by Peeters and Czapinski's (1990) notion that negative stimuli have more complex cognitive representations

than do positive stimuli. A similar view was favored by Herr et al.(1991). Lastly, it has been reported that people paid more attention to negative information by looking at it longer than at positive or neutral information, even after controlling for the unexpectedness of the information (Fiske 1980).

These asymmetrical effects of negative information in different contexts suggest that negative-inconsistent information in positive WOM may be more resistant to leveling than positive-inconsistent information in negative WOM. The same prediction can be derived by considering the differential costs of errors in purchase decisions described earlier. It was assumed that consumers are more motivated not to buy a bad product (i.e., one of the goals in negative WOM) than they are to buy a good product (i.e., one of the goals in positive WOM).

H2: Inconsistent information is less likely to be omitted in positive WOM than in negative WOM.

2.2. Overall Rating Included vs. Excluded

The second factor examines the effects of prior expectation on information transmission in WOM. In reality, consumers have many opportunities to receive preliminary information through advertising, WOM, news, etc., which may lead them to form a kind of expectation before reaching a firmer evaluation of the product. In the experiment, the prior expectation was induced by presenting an overall rating about the product to subjects before they received information about product attributes and benefits. The stimuli for the overall rating-included conditions were constructed in a manner that subjects would perceive the overall rating to be congruent with evaluation based on product attributes and benefits information, so that subjects' product evaluation would not differ significantly between the overall rating-included and excluded conditions, which will complicate clear understanding of transmission behavior. The disparity between the values of two inputs may cause subjects to become suspicious and

derogate the source credibility of product information, which may become a potential confounding factor.

*Level of Abstractness.* Cognitive psychologists have demonstrated that the quantity and accuracy of people's memory is superior whenever people are given an appropriate organizing theme (e.g., Bransford and Johnson 1972). If an overall rating serves as an organizing theme, then it is predicted that subjects in an overall rating-included condition will recall more factual information than those in an excluded condition. However, the systematic- heuristic model suggests a different prediction (Eagly and Chaiken 1993). In an overall rating-included condition, subjects' systematic processing will confirm that their initial, overall-rating based evaluations are sufficient, leading them to reduce their efforts to engage in further systematic processing of the specific information. Subjects in an overall rating-excluded condition, however, should maintain their systematic-processing efforts until the end, in order to attain sufficient confidence. Therefore, more factual information should be recalled when an overall rating is included than when excluded.

Independent of these information processes, if subjects found their own evaluation consistent with opinion provided by a credible source (like *Consumer Reports*), they might feel more confident when they are relaying their evaluations of the product. Due to this higher degree of confidence, subjects in the overall rating-included conditions may find less need to present specific evidence for their views, and focus instead on global evaluation information. Thus, the following hypothesis is posited:

H3: (a) Less factual information and (b) more global evaluation information will be transmitted when an overall rating is included rather than excluded.

*Inconsistent Information.* Various literatures have shown that expectations induce a confirmation bias in inference and recall. That is, people with prior

expectations selectively attended more to evidence that is congruent with those expectations (Deighton 1984; Hoch and Ha 1986). The effect has been attributed to many information processing factors, including encoding in and retrieval from memory, strategies for analysis, and errors in analysis. In a similar vein, Tversky and Kahneman (1974) showed that different starting points yield different estimates that are biased toward initial values. Although both phenomena have been mainly established in the domain of information processing, they may also occur in other aspects of consumer behavior, such as information transmission. Thus, it is hypothesized that inconsistent information will be more susceptible to confirmation biases when the overall rating is given than when it is not.

In addition to the effects of overall rating on information processing, it is reasoned that the overall rating may affect subjects motivational aspects. Subjects who have their evaluation supported by *Consumer Reports* may feel more confident about ignoring or distorting any information inconsistent with the theme of the WOM (i.e., global evaluation) than are those who have to rely upon their own opinion only when they are engaging a WOM. These differential effects of overall rating will lead to the following predictions:

H4: Inconsistent information is more likely to be omitted when an overall rating is included rather than excluded.

However, the research tradition on negativity biases offers a theoretical basis for expecting the pattern of confirmation biases to vary across different valences of information. Perhaps negative inconsistent information is contrasted with the overall positive rating by serving as strongly disconfirmatory evidence, whereas positive inconsistent information is assimilated by serving as weakly disconfirmatory evidence (see Anderson 1973). This suggests that negativity biases will be more pronounced in the overall rating-included conditions. In contrast, stronger confirmation biases (expected to operate in the overall

rating-included conditions) may reduce the asymmetrical impact of negative information. Thus, only an interaction between the two factors is predicted, with the exact pattern of the interaction as yet unknown.

H5: The effect of overall rating on the transmission of inconsistent information is expected to be moderated by the valence of WOM.

2.3. Strong vs. Weak Ties

Several researchers have demonstrated that communicators modify their messages according to the characteristics of their audience. For example, Higgins and Rholes (1978) found that communicators adjust their message about the target person to match the listeners' attitudes toward the target. Children also talk differently depending on whether a listener is a neighbor or a stranger (Higgins 1977). Among several characteristics of the audience, this paper examines the effect of social relations. Because WOM is a social phenomenon, the social structural context (e.g., social relations) within which interaction occurs should be recognized (Reingen and Kernan 1986). It should be noted that the effects of social relations come into play primarily after consumers information processing is over in the context of WOM although the first two factors discussed in the earlier sections are assumed to affect both information processing and information transmission.

Early studies on WOM document that consumers engage in WOM with various types of others, such as family members, friends, neighbors, casual acquaintances, etc (e.g., Engel, Kegerreis, and Blackwell 1969; Summers 1971). Social network researchers make a distinction between strong ties (e.g., family members, close friends) and weak ties (e.g., casual acquaintances), and apply the notion of tie strength to the study of information flow. Several sociologists have demonstrated that weak ties play an important role in bridging different groups of strong ties by bringing new information from one group to another (e.g., Granovetter 1973; Weimann 1983). Moreover, Frenzen

and Nakamoto (1993) showed in a recent study that consumers are reluctant to transmit information with high value or high opportunity cost to weak ties, whereas they tend to share information with strong ties regardless of its value or cost. These findings, and other differences between strong ties and weak ties (e.g., accountability), lead to an expectation that consumers transmit different kinds of product information depending on what type of social ties the listener shares with them.

*Level of Abstractness.* Past research on WOM has identified two distinct types of motivations for using interpersonal sources of information (e.g., WOM): normative social influence and informational social influence (Cohen and Golden 1972; Park and Lessig 1977). Based on this distinction, several authors found that weak ties are more conducive to the flow of informational influence, whereas strong ties are more crucial to the flow of normative influence (Brown and Reingen 1987; Weimann 1983). Although these studies have produced consistent findings, they did not investigate the underlying reasons for the phenomenon. One reason may be that consumers convey different types of information to strong ties and weak ties in WOM, which leads to different types of influence. I suggest that factual information will play an important role in exerting informational influence, whereas global evaluation information will be crucial for normative influence.

There are several aspects that facilitate a consumer to focus on global evaluation information for transmission in WOM with strong ties. First, strong ties probably know much more about each other's needs and product preferences than do weak ties, because they frequently contact one another (Granovetter 1973), and keep track of each other's needs (Clark, Mills, and Powell 1986). In a study on the impact of informal groups on members' brand preferences, Reingen et al. (1984) found that members of the same group have more homogeneous preferences than do those who belong to a different group or those who do not belong to a group at all. Greater knowledge about a strong

tie's preferences is likely to enable the communicator to sort out unnecessary factual information about product attributes, and focus instead on evaluation information.

Second, consumers are likely to assume future interactions with strong ties, which will give them opportunities to clarify what has been said. Thus, consumers may not feel that they have to tell everything to strong ties in the beginning. They may concentrate instead on overall information and be prepared to provide specific information if requested in future interactions. Other evidence consistent with these claims is provided in Festinger's (1954) social comparison theory. Festinger argued that people constantly attempt to check reality by exchanging views with their reference groups (e.g., strong ties). A consumer who receives some input from her reference group, in return, is likely to provide her own input to other members of that reference group, perhaps, by sharing her evaluation of a product.

In contrast, weak ties are less likely to know about each other's needs and preferences, so it may be difficult for them to figure out what factual information is relevant to transmit. As a result, they tend to throw out as much factual information as they can. In addition, individuals are usually more concerned with managing their impression with weak ties (Tice et al. 1995). One way to create a positive impression is to attempt to appear knowledgeable, which often leads communicators to talk about features, attributes, and usage, instead of discussing intangible feelings about the product (cf., Schneider 1981). This reasoning is consistent with the finding that self-presentational techniques differ as a function of whether an interaction partner is a friend or a stranger (Tice et al. 1995). Lastly, consumers may need to establish credibility with weak ties by providing factual information before they can offer more evaluative comments to them.

H6: (a) Less factual information and (b) more global evaluation information will be transmitted to strong ties than to weak ties.

*Inconsistent Information.* It has been also proposed that consumers show different orientations or motivations toward strong ties and weak ties (Frenzen and Nakamoto 1993). Frenzen and Nakamoto found that individuals usually have a communal relationship (in which they are concerned about the welfare of the partner) with strong ties, and consequently, are more motivated to share the pleasure that they have received from using a product with strong ties. In other words, they possess a high degree of 'other-involvement' (Dichter 1966) or responsibility in their strong tie relationships. In general, when people are accountable or responsible, they have a tendency to behave in more a careful and complex manner. More specifically, they become more receptive to the full range of information they are receiving, think in a more balanced and varied fashion; consider a variety of alternatives, and tolerate more inconsistency. A caring nature and sense of responsibility would thus encourage subjects to transmit and emphasize inconsistent information when they are communicating with strong ties.

H7: Inconsistent information is less likely to be omitted when the recipient is a strong tie than a weak tie.

However, this effect of tie strength on the transmission of inconsistent information may interact with the valence of that information. Negativity biases may be even stronger with strong ties than with weak ties, because individuals are more concerned about the detrimental effects of negative outcomes on strong ties (similar to loss aversion), leading them to feel more accountable for not transmitting negative inconsistent information to strong ties than to weak ties. In fact, Blumberg (1972) found that negative information was more likely to be communicated to closer friends than to strangers.

H8: The effect of tie strength on the transmission of inconsistent information is expected to be moderated by the valence of WOM.

# Ⅲ. METHODOLOGY

## 1. Design

The proposed hypotheses were examined in an experiment. The design was a 2x2x2 between-subjects factorial, varying valence of WOM (positive and negative WOM), type of social relationship between the listener to the communicator (strong and weak ties), and inclusion of overall rating (included and excluded). The valence of WOM was manipulated by presenting subjects with one of the two versions of a *Consumer Reports* review on the product. The type of social relationship was manipulated by asking subjects to identify either one of their closest friends (for strong ties) or one of their casual acquaintances (for weak ties). Lastly, the *Consumer Reports* review contained both an overall rating and attribute- specific evaluation about the product in the overall rating-included condition, whereas only an attribute-specific evaluation was included in the overall rating-excluded condition.

## 2. Subjects

All subjects were undergraduate business students from the University of Southern California. A total of one hundred and fifty-one students participated to fulfill a course requirement in the experiment. Twenty-one subjects who did not compose an e-mail message or wrote only irrelevant messages in the e-mail (e.g., personal matters) were dropped from the analyses. The failure rates did not differ significantly across experimental conditions.

## 3. Stimuli

Based on informal interviews with a group of students, an upright vacuum cleaner was selected as the target product. Upright vacuum cleaners have a variety of attributes and display a wide range of performance. Also, student subjects were likely to be familiar with this product. Past research demonstrated

that WOM is applicable to such functional products as electronic equipment (Price and Feick 1984).

### 4. Procedure

Each session was run in a laboratory equipped with personal computers. Subjects were run in groups of five to ten. Each group was told that the purpose of the study was to see how consumers respond to various product and advertisements. Subjects then received the first booklet, which began with a brief introduction of *Consumer Reports* and its product test procedures, and a scenario explaining that the test result they received was taken from *Consumer Reports* and dealt with a particular brand of upright vacuum cleaner. Then, the subjects read one of the four reviews (positive - overall rating included, positive - overall rating excluded, negative - overall rating included, and negative - overall rating excluded) and answered questions about the vacuum cleaner and the review.

When every subject finished the first task, he or she next watched twelve commercials about various brands and ranked three favorites as a distracter for short-term memory effects. None of the commercials was about vacuum cleaners. Afterwards, subjects were asked to specify either one of their closest friends (strong ties), or one of their casual acquaintances (weak ties), and send an e-mail to the person regarding the vacuum cleaner that they read about earlier, assuming that she/he is in the market for an upright vacuum cleaner. Because the study was concerned with verbal communication, e-mail served to minimize any nonverbal interactions. Subjects were led to believe that their e-mail message would be delivered to the receiver. After sending the e-mail, subjects answered questions regarding tie strengths, product knowledge, and communication anxiety. When they finished, the subjects were thanked, debriefed, and dismissed.

## 5. Measures

Subjects' evaluation of the target product was measured by asking them to rate the product on three 19-point semantic differential scales (*dislike a lot-like a lot, extremely bad-extremely good, and extremely unfavorable-extremely favorable*) with endpoints labeled - 9 to + 9. The responses on these scales were highly correlated and subjects ratings were averaged to form one index of product evaluation (coefficient alpha = .98). This evaluation measure was used to test the success of the experimental manipulation for valence of product evaluation.

The principal dependent measures for the experiment were developed from the e-mail messages that subjects composed. The e-mail messages were coded and analyzed in various ways to examine what subjects talked about the product in a WOM. The measures proposed earlier include level of abstractness (*factual details, elaborations, abstractions, global evaluations*) and consistency of information (*consistent* and *inconsistent information*).

Three control variables were included in the study. First, because product knowledge has been shown to influence various aspects of consumer behavior (e.g., Brucks 1985), subjects' knowledge of the product category was measured by using three-item subjective knowledge scale (Park, Mothersbaugh, and Feick 1994) modified for vacuum cleaners. Second, subjects were asked to answer the short form of the PRCA (Personal Report of Communication Apprehension) scale developed by McCroskey (1978), because previous research suggests that communication apprehension and anxiety are associated with a variety of communication-related perceptions and behaviors (e.g., Stafford and Daly 1984). McCroskey reported that the internal reliability estimates of the ten-item instrument ranged between 0.87 and .90. Third, the subjects' gender information was collected ($N_{female}$ = 58, $N_{male}$ = 72), because previous research reported gender differences in various aspects of consumer behavior (e.g., information processing; Meyers-Levy and Maheswaran 1991). The research on

MUM effects also documented some gender differences. For example, female subjects felt more obliged to communicate both good and bad news than did male subjects (Tesser, Rosen, and Batchelor 1972)

The tie strength between the transmitter and the receiver (either strong ties or weak ties) identified in the experiment was assessed using a modified version of the scale developed by Frenzen (Frenzen and Davis 1990; Frenzen and Nakamoto 1993). In this scale, tie strength was operationalized as a linear combination of four indicators: an individual's reported willingness to share personal intimacies and free time, to lend support, and to be emotionally close to some other person. The composite tie strength measure was created by averaging the four ratings (coefficient alpha = .89).

# Ⅳ. RESULTS

## 1. Manipulation Check

### 1.1. Tie Strength

In order to assess the manipulation of tie strength, a 2x2x2 ANOVA was performed on the composite index of tie strength ratings. The analysis produced a significant main effect for tie strength ($F(1, 122) = 60.38$, $p < 0.001$) and no other significant effects. As expected, the mean rating for closest friends ($\overline{X}_{strong} = 0.87$, sd = .136) was higher than that for casual acquaintances ($\overline{X}_{weak} = 0.62$ on the 0 to 1 scale, sd = .220). However, a closer examination of the tie strength ratings revealed two further findings. First, the variance of the tie strength score in the weak tie condition was very high. This suggests that subjects interpreted the concept of casual acquaintances in different ways, which led to a wide range of tie strengths (0.04 - 0.96). Second, the mean tie strength score for weak ties (i.e., casual acquaintances) was relatively high (0.62, or 62 percent of the maximum, versus 0.87 for strong ties).

Similar phenomena were already observed by other authors (Frenzen and

Nakamoto 1993) whose method of manipulating the tie strengths was modified and adopted in this study. The authors argued that if subjects were asked to generate casual acquaintances, they would be more likely to sample names from the stronger end of the tie strength distribution. This is because stronger ties may be more salient than weaker ties in the memory. Nonetheless, if any significant results were obtained with the smaller difference in tie strengths, they could be interpreted as more powerful ones. In order to address the issue of the wide range in tie strength in the weak tie condition, two new groups were created for the analyses based upon the tie strength manipulation check. However, it should be noted that using manipulation check often creates some problems. First, it violates the orthogonality between independent variables. However, none of the correlations between the new tie strength and other independent variables in this study was significant. Second, it tends to suppress within-group variances.

Subjects whose rating was above the median were assigned to the strong tie condition, whereas those below the median to the weak tie condition. As expected, an ANOVA with the new groups yielded a significant main effect for tie strength ($F(1, 122) = 181.36$, $p < 0.0001$) and no other significant effects. The mean rating for strong ties was .93 ($sd$ = .055), whereas the mean rating for weak ties was 0.58 ($sd$ = .188). The main analyses were done with the new groups. A similar approach was also employed by Frenzen and Nakamoto (1993).

1.2. Communicators' Product Evaluation

The product evaluation manipulation was designed to convey an overall positive and a negative evaluation of the vacuum cleaner with a similar magnitude, so that those evaluations would differ only in terms of valence. A 2 x 2 x 2 ANOVA was conducted to examine how subjects evaluated the products as a function of three experimental factors (valence, overall rating, and tie strength). The analysis yielded a significant main effect for valence and no

other significant effects (F(1, 119) = 563.5, p 〈 .0001). As expected, subjects in the positive valence condition rated the superior vacuum cleaner favorably in the positive end of the-9 to +9 scale, whereas subjects in the negative condition rated the inferior vacuum cleaner unfavorably in the negative end ( $\overline{X}_{positive} = +4.61$, $\overline{X}_{negative} = -4.90$). In order to assess whether the absolute magnitude of ratings differed between the positive and negative condition, ratings in the negative conditions were multiplied by (-1) in order to make them compatible with ratings in the positive conditions. In the ANOVA on the transformed ratings, the effect of valence was not significant ( $|\overline{X}|_{positive} = 4.58$, $|\overline{X}|_{negative} = 4.90$; $F(1, 119) = .59$, $p > .40$).

## 2. Control Variables

To examine the effects of the control variables, a four-way ANCOVA, which included the three experimental factors (valence, tie strength, and overall rating) as well as gender, with two covariates, was performed on each of the dependent variables, as long as the cell size permitted. All significant effects of control variables are reported in the corresponding section.

## 3. Content of Information Transmission in WOM

The primary objective of this study concerns what types of information consumers convey about a product when they engage in WOM, and how the content of WOM differed as a function of the experimental factors. Toward this end, the e-mail messages that subjects wrote were analyzed in two ways. First, the email transmission data were coded according to the level of abstractness, and the frequency of each category was examined to assess which type of information was more likely to be transmitted across experimental conditions. Second, the transmission of inconsistent and consistent information was investigated.

3.1. Coding Procedure

The coding of the e-mail transmission data was accomplished in several steps by two judges who were blind to the experimental objectives. First, the e-mail messages were broken into idea units (see Stafford and Daly 1984). Idea units were defined as the smallest units of meaning that had distinct informational value. The value of information can be characterized by any combination of cognitive, affective, and behavioral dimensions. Because of differences in verbalization, the actual length of units varied across and within subjects: multiple units might be included in one sentence, or multiple sentences might be required to express one thought. Thus, two judges and the author screened out irrelevant units for further classification. Then, the relevant idea units were classified according to the coding schemes discussed earlier. Because of the two coding schemes, each transmission unit received as many codes as appropriate. The reliabilities for the coding were established by measuring the percentage agreement between two judges. The specific agreement percentages were: level of abstractness (93.7%) and consistency of information (96.8%). Any disagreements were resolved by discussion between the judges and the author.

3.2. Total Amount of Information Transmission

The 130 subjects transmitted 1089 pieces of relevant information, or about 8.5 pieces per subject. Although subjects were initially presented with specific product information about the attributes and benefits of the vacuum cleaner, along with an overall rating by *Consumer Reports* for the overall rating-included conditions, other types of information that subjects inferred or generated, based upon the original information were also communicated in the e-mail transmission.

An ANCOVA was conducted to investigate the effects of the experimental factors and control variables on the total number of pieces of information transmitted. The analysis produced two significant main effects and one marginally significant main effect. First, female subjects transmitted more

information than did male subjects ($F(1, 110) = 4.03$, $p < .05$; $\bar{X}_{female} = 9.21$, $\bar{X}_{male} = 7.94$). Second, subjects who showed a higher level of communication anxiety conveyed less information than did those who showed a lower level of anxiety ($F(1, 110) = 3.03$, $p < .10$; coefficient B = -.07). Third, more information was communicated to strong ties than to weak ties ($F(1, 110) = 9.42$, $p < .005$; $\bar{X}_{strong} = 9.77$, $\bar{X}_{weak} = 7.40$). This finding was expected because people care more and feel more responsible for strong ties than for weak ties (Frenzen and Nakamoto 1993). For the following analyses, the proportion of information was used in order to adjust for different amount of information transmitted by individual subjects..

### 3.3. Level of Abstractness

The proportions of factual details, elaborations, abstractions, and global evaluations to the total number of transmitted information were computed and analyzed with separate ANCOVAs with three experimental factors and three control variables.

#### 3.3.1. Factual Details

It was hypothesized that more factual details would be transmitted during negative than positive WOM (Hypothesis 1a). There was a significant main effect for valence of WOM ($F(1, 110) = 4.92$, $p < .05$), although the effect was opposite to my prediction ($\bar{p}_{positive} = 47.3\%$, $\bar{p}_{negative} = 37.2\%$). To further investigate this unexpected result, separate analyses were performed after factual details were divided into those consistent and inconsistent with the theme of the WOM. The analysis of consistent factual details produced a marginally significant valence by gender interaction ($F(1, 110) = 2.97$, $p < .10$), showing that female subjects conveyed more consistent factual details in negative (38.0%) than in positive WOM (32.0%), whereas male subjects showed the opposite behavior ($\bar{p}_{male-positive} = 36.0\%$, $\bar{p}_{male\ negative} = 29.0\%$). The analysis of

inconsistent factual details yielded a significant main effect for valence of WOM ($F(1, 110) = 22.90$, $p < .001$). More inconsistent factual details were transmitted during positive (11.6%) than negative WOM (3.7%). It appears that this asymmetric effect of the proposed negativity biases on the transmission of a greater amount of inconsistent factual details (i.e., negative) in positive WOM contributed to the transmission of more factual details in general in positive WOM.

It was expected in Hypothesis 3a that fewer factual details would be transmitted when an overall rating was included than when it was excluded. The effect of overall rating was marginally significant, but opposite to the prediction ($F(1, 110) = 2.98$, $p < .10$). Subjects who received both the overall rating and attribute-specific information included more factual details (45.8%) than did those who received only attribute-specific product information (39.1%). The same pattern was observed in the follow-up analysis of consistent factual details. These results are consistent with the findings of memory research, which show that people recall more information when given an appropriate organizing theme like the overall rating in the current study (e.g., Bransford and Johnson 1972). Perhaps the superior effects of the overall rating on memory were carried over to the transmission of information.

Hypothesis 6a predicted the transmission of fewer factual details to strong ties than to weak ties. The main effect of tie strength was marginally significant, but opposite to the prediction ($F(1, 110) = 2.92$, $p < .10$). More factual details were given when the recipient was a strong tie (47.0%) than a weak tie (38.3%). Additional analyses of inconsistent factual details revealed that more inconsistent facts were transmitted to strong ties than to weak ties, whereas the effect of tie strength was not significant on the transmission of consistent facts. These findings suggest that a higher degree of responsibility for strong ties may have encouraged subjects to give more factual details, so as to prevent any potential errors caused by omitting information, especially inconsistent information. Moreover, subjects' moderate knowledge of the product

category may have also contributed to the transmission of more factual information (mean product knowledge: $\bar{X} = 4.28$ on the 1 - 9 scale). In other words, subjects may have wanted to give as much product information as possible, and then let the recipient choose relevant information, because they did not perceive themselves as experts about vacuum cleaners.

### 3.3.2. Elaborations and Abstractions

Although no formal hypothesis was proposed about the transmission of elaborations, significant effects are discussed here. There was a significant valence of WOM by gender interaction ($F(1, 110) = 5.31$, $p < .05$). For male subjects, more elaborations were conveyed in negative (28.1%) than in positive WOM (21.2%: $F(1, 61) = 3.94$, $p < .05$), whereas the main effect of valence of WOM was not significant for female subjects ($F(1, 47) = 1.74$, $p > .15$; $\bar{p}_{female-positive} = 25.6\%$, $\bar{p}_{female-negative} = 18.9\%$).

The valence of WOM and overall rating approached significance ($F(1, 110) = 2.14$, $p < .15$). More elaborations were included in the negative WOM when the overall rating was not present (27.9%) than when it was present (19.6%), whereas equal numbers of elaborations were included in positive WOM, regardless of the presence of an overall rating ( $\bar{p}_{positive-included} = 23.1\%$, $\bar{p}_{positive-excluded} = 23.2\%$).

In the analysis of abstractions, the valence of WOM by tie strength interaction was only marginally significant ($F(1, 110) = 2.77$, $p < .10$). For strong ties, similar numbers of abstractions were communicated in positive (9.3%) and negative WOM (9.9%). For weak ties, however, more abstractions were transmitted in positive (11.8%) than in negative WOM (7.3%).

### 3.3.3. Global Evaluations

Hypothesis 1b posited the transmission of fewer global evaluations in negative WOM than in positive WOM. There was a significant main effect for valence of WOM ($F(1, 110) = 9.82$, $p < .005$) that was again the opposite of my prediction. More global evaluations were included in negative (30.3%) than in positive

WOM (19.0%). One explanation for this finding involves the asymmetric impact of false positive buy errors over false negative no buy errors (Klayman and Ha 1987). That is, subjects may have attempted to be more persuasive in negative WOM by expressing more global evaluations than in positive WOM because the target of negative WOM could have made a false positive buy error.

The presence of an overall rating was hypothesized to increase the number of global evaluations in WOM (Hypothesis 3b). However, the main effect of overall was not significant ($F(1, 110) = .10$, $p > .70$). Moreover, there were no significant interactions involving overall rating.

It was postulated in Hypothesis 6b that more global evaluations would be transmitted to strong ties than weak ties. The main effect of tie strength was significant, but in the opposite direction ($F(1, 110) = 7.80$, $p = .05$). Subjects included more global evaluations when the recipient was a weak tie (29.2%) than a strong tie (19.3%). This effect seems to be driven by the fact that although the actual number of global evaluations contained in WOM did not differ significantly across tie strength ($\overline{X}_{strong} = 1.52$, $\overline{X}_{weak} = 1.72$), more factual details were transmitted in the strong tie conditions ($\overline{X}_{strong} = 5.13$) than in the weak tie conditions ($\overline{X}_{weak} = 3.24$; $F(1, 110) = 7.69$, $p < .01$). Therefore, the proportion of global evaluations was significantly lower in the strong conditions. The effect of tie strength was qualified by a tie strength by gender interaction ($F(1, 110) = 3.20$, $p < .10$) - the effect of tie strength was significant only for female subjects.

### 3.4. Transmission of Inconsistent over Consistent Information

The ratio of transmitted inconsistent information over the sum of transmitted consistent and inconsistent information was computed and subjected to an ANCOVA. As expected from Hypothesis 2, the main effect of valence of WOM was significant ($F(1, 105) = 19.20$, $p < .0001$). More inconsistent information was included in positive WOM (21.8%) than in negative WOM (7.9%). Unexpectedly, the proposed effect of overall rating (Hypothesis 4) was not

significant ($F(1, 105) = .21$, $p > .60$). As predicted in H7, the main effect of tie strength was significant ($F(1, 105) = 4.80$, $p < .05$), showing that more inconsistent information was included in WOM with strong ties (19.2%) than with weak ties (11.1%).

The proposed valence of WOM by overall rating interaction was marginally significant ($F(1, 105) = 3.53$, $p < .10$; Hypothesis 5). The difference in ratios of inconsistent information between positive and negative WOM was greater when the overall rating was not present ( $\bar{p}_{positive-excluded} = 26.5\%$, $\bar{p}_{negative-excluded} = 5.7\%$) than when it was present ( $\bar{p}_{positive-included} = 17.2\%$, $\bar{p}_{negative-included} = 10.5\%$). Hypothesis 8 predicted that the effect of valence of WOM would be moderated by tie strength. The interaction was not significant ($F(1, 105) = .78$, $p > .35$) although the trend was suggestive ( $\bar{p}_{strong-positive} = 27.1\%$, $\bar{p}_{weak-positive} = 16.6\%$; $\bar{p}_{strong-negative} = 10.5\%$, $\bar{p}_{weak-negative} = 5.7\%$).

# V. CONCLUSION

## 1. Discussion

Despite the long tradition of research on WOM, the content of information transmission has received little attention from consumer researchers. This paper attempts to fill that gap by examining the type of information that is more likely to be transmitted. Toward this end, information was classified according to (1) level of abstractness (i.e., *factual details, elaborations, abstractions, and global evaluations*) and (2) consistency with the theme of WOM (i.e., *consistent* and *inconsistent*).

The paper identified three primary factors that might influence the pattern of information transmission, drawing upon research on rumor transmission, negativity and confirmation biases, the NUM effect, and social networks. These variables were (1) valence of WOM (positive vs. negative WOM), (2) type of social relationship between the consumer and the listener (strong vs. weak ties), and (3) presentation format of the information (an overall rating is

included vs. excluded).

The experiment demonstrated that different types of information were transmitted in WOM transmission as a function of the three experimental factors. Among the various findings, those that bear theoretical implications are discussed.

First, the valence of information played a crucial role in shaping the pattern of information transmission in WOM. In particular, the study emphasized the asymmetric impact of negative information in information transmission. That is, more factual details and fewer global evaluations were transmitted in positive than negative WOM. The results also show that negative-inconsistent information was more likely to be transmitted than was positive-inconsistent information.

Second, although the presence of an overall rating was expected to induce a confirmation bias, the effects of rating on the content of WOM mostly interacted with the valence of WOM. In many cases, the confirmation biases induced by the overall rating reduced or reversed the asymmetric impact of negative information on various aspects of information transmission. The interaction between negativity biases and confirmation biases should be studied more by consumer researchers, not only in the context of information transmission, but also in information processing.

Third, consistent with the previous findings, subjects in the current study behaved differently toward strong ties and weak ties during WOM. I found that communicators modified the content of WOM by considering the tie strength that they shared with the recipient. More specifically, subjects conveyed more factual details and fewer global evaluations when the recipient was a strong tie rather than a weak tie. Also, subjects transmitted more inconsistent information when the recipient was a strong rather than a weak tie. In addition, the differential transmission of information to strong versus weak ties was moderated by valence of WOM. For instance, the difference between positive and negative WOM was greater for strong ties than for weak ties.

Thus, the findings of this current study, which examined the effects of tie strength at the individual consumer level, will complement the findings from macro-level analyses by social network researchers.

## 2. Limitations and Directions for Future Research

Because this paper is one of the first attempts to explore the content of information transmission in the context of product-related WOM, it has several limitations that may provide possible avenues for future research in this area.

First, consumers may get involved in WOM during two distinct situations. Consumers may initiate WOM on a voluntary basis, or they may be requested to give product information by the recipient. This study focuses on voluntary WOM, although the solicited WOM may be as prevalent. It is conceivable that the content of information transmission is influenced by which situation the communicator is in. In the solicited WOM, the recipient may take an active role by seeking information that she needs. Besides, from the communicators' perspective, she may feel more accountable about what is being said because she is well aware of the possibility that the recipient will make a purchase in the near future and that her decision will be influenced by WOM. However, when the communicator is talking about her experience, without knowing for sure whether and when the recipient will make a purchase, she may feel less responsible for others' decisions and be driven by self-related motivations.

Even in voluntary WOM, it is possible that the recipient will have opportunities to ask questions or verify things that were talked about, which may lead to different patterns of information transmission from the results obtained in this study. Thus, allowing interaction between the subjects will serve as another variable of interest for future research. A related research opportunity is to investigate the pattern of information seeking by the recipient in WOM, and then compare it with the pattern of information transmission.

Second, there may be other factors that affect the content of information transmission during WOM in addition to the ones identified in the study. Some

examples included different types of motivations that consumers possess for engaging in WOM, needs and existing attitudes of the recipients and other individual difference variables (e.g., preference for consistency [Cialdini, Trost, and Newsom 1995]). Although motivational factors were indirectly accounted for in the current study, methods to measure or manipulate various motivations of WOM should be developed in future research.

Third, the current study used e-mail as a means to convey product-related information. However, the use of different modalities for WOM transmission may affect the pattern of information transmission. Research suggests that there are differences between the production of written and oral materials (Stafford and Daly 1984). Writing is a more formal activity than speaking. It introduces structures that potentially limit the free flow of ideas, and may impose a number of rules that could affect the pattern of transmission. In fact, when subjects recalled in writing, a higher proportion of their recall was reproductions than when they reported orally. In contrast, oral reporting may be more free-flowing, almost a verbal stream of consciousness. In the oral mode, subjects produced significantly larger proportions of redundant reproductions and elaborations than they did when writing. Besides, it would be easier for the consumer to communicate a variety of non-verbal messages via an oral medium.

Lastly, because a single product category was utilized in the experiment, we should be cautious about attempts to generalize the findings to other product categories. Although it is unclear whether any systematic differences exist in the pattern of information transmission across different product categories (e.g., preference-homogeneous vs. -heterogeneous product [Feick and Higie 1992]), such differences would be a relevant topic for future research. Also, in the current study, product information about a single brand was given to subjects. However, it would be interesting to extend this to a different context in which information about multiple brands was accessible to consumers.

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