THE INFLUENCE OF TRADITIONAL WORD-OF-MOUTH, ELECTRONIC WORD-OF-MOUTH, AND TIE STRENGTH ON PURCHASE DECISIONS

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Approval

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THE INFLUENCE OF TRADITIONAL WORD-OF-MOUTH, ELECTRONIC WORD-OF-MOUTH, AND TIE STRENGTH ON PURCHASE DECISIONS

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ABSTRACT

Word-of-mouth (WOM) is widely considered the most influential source of information for consumer purchase decisions, and the explosion of social media has stirred interest in the communication. This study used the strength of weak ties, social exchange theory, and attribution theory as a framework for examining how the level of influence (persuasiveness and purchase probability) varied across the type of WOM (traditional WOM and eWOM) and tie strength (strong, weak, or absent). An experiment with 201 individuals found no significant difference in the level of influence between traditional WOM and eWOM. Strong ties were significantly more influential than weak or absent ties, but there was no significant difference between weak and absent ties. Influence also varied significantly by product category, with WOM influencing movies more than mobile phones. Finally, the influence of WOM was significantly higher for persuasiveness than purchase probability. Overall, this study found that the influence of traditional WOM was not significantly different from the influence of eWOM.

Introduction

Word-of-mouth (WOM) marketing is a substantial force in the advertising

industry. In 2009, companies spent $1.7 billion on WOM campaigns, and are projected

to spend $3.0 billion annually by 2013 (McClellan, 2009). Even though WOM has a long

history in advertising, and research has examined how WOM affects purchase decisions,

research involving electronic word-of-mouth (eWOM) is still in its early stages.

Research on eWOM has begun to identify the key factors influencing purchase decisions;

however, findings are mixed. For example, factors such as tie strength, volume,

dispersion, and valence have been found to influence purchase decisions in some studies,

but have limited effects in other studies. One gap in the research is whether eWOM and

traditional WOM are interchangeable means of studying WOM, or whether these types of

WOM are unique in their influence of purchase decisions and must therefore be studied

independently. The purpose of this research is to directly compare the influence of

traditional WOM and eWOM across categories of tie strength to determine whether there

is any significant difference.

Purpose

This research examined the influence of traditional WOM, eWOM, and tie

strength on purchase decisions. There were two independent variables, WOM type

(traditional WOM and eWOM) and tie strength (strong, weak, absent). The method was

a 2 (WOM type) x 3 (tie strength) x 2 (product category) mixed factorial design

experiment. The independent variables of WOM type and tie strength were between-

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subjects, whereas the independent variable of product category was a within-subject

repetition factor. Further details are discussed in the method chapter.

WOM is broadly defined as informal communication shared between consumers

about the use or purchase of brands, products, or services (Okazaki, 2009). Traditional

WOM refers to offline, or in-person, communication and eWOM refers to online, or

electronic, communication. Hennig-Thurau, Gwinner, Walsh, and Gremler (2004)

defined eWOM as "any positive or negative statement made by potential, actual, or

former customers about a product or company, which is made available to a multitude of

people and institutions via the Internet" (p. 39). The second independent variable is tie

strength, which is defined by Granovetter (1973) as the closeness between two

individuals based on the time, intimacy, and reciprocity of the relationship. The

dependent variable is the influence on purchase decisions, which is defined as the

importance of the WOM in choosing a specific brand or product, as measured by

persuasiveness as well as purchase probability. Detailed definitions of the variables are

discussed in the next section. The research question does not presuppose whether a

particular tie strength is most important, but instead acknowledges influence may vary by

tie strength and type of WOM.

Definitions and Concept Explication

Before discussing previous studies on the issue, it is important to specify how this

thesis defines the independent and dependent variables. Where possible, definitions are

derived from the literature. However, some concepts have various accepted definitions

and must be revised to reflect this.

The first independent variable is the type of WOM, either traditional WOM or eWOM. Surprisingly, there is limited agreement in the literature on the definition of the WOM. Several studies omit a formal definition entirely while others include all interpersonal communication. For example, East, Hammond, and Lomax (2008) defined WOM as "informal advice passed between consumers" (p. 215). This definition is not marketing-specific and could include advice on anything from cars to child-rearing practices. For the purpose of this research study, the definition of WOM has been narrowed to advice about consumer goods or services in order to reflect WOM's value to the marketing field. Using terminology from the online space, WOM is a form of user or consumer-generated content that discusses brands or products (Wang & Rodgers, 2011). Thus, the most relevant definition for this study defines WOM as informal communication shared between consumers about the use or purchase of brands, products, or services (Okazaki, 2009). Traditionally, WOM is spread person-to-person or person-to-small group in social settings. However, the Internet has allowed for person-to-many communication through channels such as discussion forums, review sites, social networking sites, and email. Since online communication is often less personalized than offline communication, and may even occur between strangers, online or electronic word-of-mouth is differentiated from traditional WOM as eWOM. Even within eWOM, some researchers further distinguish between computer-based and mobile-based discussions (Okazaki, 2009). eWOM can also be classified based on feedback systems, such as review sites, or discussion systems, such as social networking sites (Wang &

Rodgers, 2011). For the purposes of this thesis, eWOM includes the broader definition of computer-based and mobile-based as well as both feedback and discussion systems.

The second independent variable is tie strength, which is defined by the level of closeness between individuals in a social network and includes strong ties, weak ties, and absent ties (Granovetter, 1973). This definition was developed by Granovetter and remains the most widely used definition of tie strength. Closeness is based on the amount of time, intimacy and reciprocity of the relationship. Examples of tie strength would include family and close friends (strong ties), coworkers and acquaintances (weak ties), and strangers or negligible encounters (absent ties). Granovetter distinguished absent ties from weak ties insomuch as an absent tie includes an encounter that holds little relevance to the individual, such as exchanging pleasantries with the cashier. Unfortunately, research on tie strength does not appear to study or reference absent ties beyond Granovetter's study. Instead, studies examine strong and weak ties only. Thus, research on absent ties must be inferred based on existing data, usually in the form of anonymous reviews posted to websites. Therefore, this thesis seeks to broaden research on tie strength by examining the effects of strong ties, weak ties, *and* absent ties.

The dependent variable is the influence over purchase decisions, which is best defined as the importance of communication in choosing a specific brand or product. Godes and Mayzlin (2004) described the role of WOM in purchase decisions as:

> Affect[ing] awareness in some cases, or preferences in others.
> Alternatively, WOM may simply serve as a leading indicator of a
> product's success. Whatever the specific mechanism, there is empirical
> evidence, as well as an intuitive justification, for the hypothesized link
> between WOM and consumer behavior. (p. 545).

Influence does not always mean changing one's opinion, but can also refer to the reinforcement of an opinion as supported by feedback from others. For example, if an individual buying a car is considering Honda, discussions with friends or online reviews may reassure the individual that he or she is making the right choice. This firming of beliefs would make it more difficult for another brand to usurp Honda's position. On an operational level, influence is defined using measures of persuasiveness and purchase probability. Although most advertising studies examine purchase intent, this study examines purchase probability based on the findings of a meta-analysis of these measures. Both persuasiveness and purchase probability will be elaborated in the literature review, and specific measurement tools will be discussed in the method chapter. To be clear, this thesis does not propose that WOM is the only factor influencing purchase decisions, but instead acknowledges WOM serves as a source of information that may be used in the purchase decision-making process.

This thesis begins with a literature review that examines relevant studies, identifies gaps in existing research, and discusses the theoretical framework guiding the research and hypothesis development. Next, the method describes the experiment used to collect the data and the statistical tests used for analysis. Finally, the thesis concludes with the results and a discussion of the findings, including how this study contributes to the body of research as well as limitations.

Literature Review

The objective of this thesis is to compare the influence of traditional WOM, eWOM, and tie strength on consumer purchase decisions. As discussed, influence on purchase decisions includes measures of persuasiveness and purchase probability. Theories and models have been developed to explain the influence of traditional WOM and eWOM, but seldom have these two types of WOM been directly compared for their ability to influence consumer purchase decisions. Similarly, there does not appear to be a single theory or model that addresses variations in influence across tie strength. Therefore, this thesis needed to blend theories that address each tie strength and examine how well the theories fit for traditional WOM and eWOM. The literature review begins with an historical perspective of WOM research to provide context for the overall research question. Next, previous studies and theories on the independent and dependent variables are examined, and six hypotheses are proposed for testing.

Historical Perspective

In the last 40 years, WOM's role as a source of credible information within a social network has been examined by researchers. WOM is a persuasive form of strategic communication because consumer-to-consumer information is perceived as more credible and relevant than marketer-to-consumer information, and has been shown to increase interest in the products discussed (Bickart & Schindler, 2001). The main trends in WOM research have been the development of variables for measurement. Tie strength, sender or receiver perspectives, and valence are among the most popular WOM

topics. In the last 10 years, studies focusing specifically on eWOM as a medium distinct from traditional WOM have created a new branch of WOM research.

Senders and receivers of WOM tend to evaluate the communication differently, so research on receivers' interpretations should not be transcribed to senders as well (Christiansen & Tax, 2000). WOM is most effective when the sender is perceived as credible, the sender has an associated expertise, or the receiver's risk of taking the advice is minimal (Sweeney, Soutar, & Mazzarol, 2008). A detailed discussion of sender/receiver motivations of WOM is beyond the scope of this thesis; however it should be noted that this research examined WOM from the receiver's perspective.

Common sense would suggest that positive WOM would help a brand while negative WOM would hurt a brand; however, few studies on eWOM valence have found it to be a significant factor in brand performance. Instead, sheer volume or dispersion is usually more significant than valence (Godes & Mayzlin, 2004; Chevalier & Mayzlin, 2006; Liu, 2006). One reason proposed for the lack of significance is that the majority of reviews posted online are positive (Chevalier & Mayzlin, 2006; Liu, 2006). These findings seem to support the public relations axiom that there is no such thing as bad publicity. Therefore, this study did not include valence as a variable for measurement.

Separating Traditional WOM from eWOM

Even though traditional WOM and eWOM are both consumer-driven, there are several differences between these types of WOM that may affect their ability to influence purchase decisions. One difference is tie strength in that eWOM has a much larger proportion of weak ties than traditional WOM. Furthermore, absent ties are often

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referenced for eWOM, and almost never for traditional WOM. Even strong ties may

differ in influence since traditional WOM is typically solicited by the receiver and

tailored to his or her needs, whereas eWOM is usually unsolicited (prompted by the

sender) and directed at all within the social network.

When Granovetter proposed his theory in 1973, he did not have to puzzle over

whether to distinguish between online and offline WOM. However, the Internet has

made sharing consumer-to-consumer information accessible to the masses. Likewise,

many researchers have begun to separate the study of eWOM from traditional WOM.

East, Hammond, and Lomax (2008) suggested:

> There may be little correspondence between the content of consumer-
> generated media and face-to-face advice. One is not necessarily typical of
> the other, and the large amount of face-to-face advice is likely to be the
> dominant influence. (p 216).

Others have attempted to propose how a model developed for one medium might work in

the other. De Bruyn and Lilien (2008) noted:

> In the context of our model, WOM communications from close ties will likely
> generate more awareness offline than online…The physical world has several
> properties that do not translate into the context of an electronic referral, such as
> repeated exposures…or joint consumption settings…These characteristics all
> predict a greater interpersonal influence offline than online. (p. 162).

Unfortunately, these claims were not empirically tested because the researchers

felt traditional WOM could not be gathered with the same precision of eWOM due to the

formers' reliance on recalled behavior.

It is worth noting that not all researchers studying eWOM distinguish it from

traditional WOM. Sometimes this lack of distinction is referenced within the limitations

of the study, but other times eWOM is simply considered a form of WOM that is more

easily tracked and can produce models interchangeable with traditional WOM. These researchers tend to view eWOM as a convenient, accessible form of WOM that benefits from not relying on participant recall. For example, it is only in their concluding remarks that Godes and Mayzlin (2004) ask "to what extent is online WOM similar to or different from offline WOM?" (p. 558). Similarly, Liu (2006) chose online reviews as the unit of measurement for WOM because they "provide[d] an opportunity for researchers to gather actual WOM information" (p. 74). Again, the question of eWOM's applicability to traditional WOM was only questioned in Liu's conclusion:

> Another issue involved with this growing literature is how similar the online information is to what occurs in the physical world…Further research examining the difference between online user data and that in the physical context appears to have potential. (p. 87).

On the other hand, when Smith, Coyle, Lightfoot, and Scott (2007) used online tracking to create a model of social network influence and WOM effectiveness, they supplemented their study of eWOM networks with qualitative interviews and surveys regarding traditional WOM. This allowed them to confirm their findings across both types of WOM. Overall, most research presupposes that traditional WOM and eWOM are either the same or markedly different. Rarely have researchers examined the two types of WOM for their differences of fit with each other. This leads to the research question:

RQ: How does the overall level of influence over consumer purchase decisions vary for traditional WOM and eWOM across all categories of tie strength?

   Traditional WOM. Social network analysis of traditional WOM has revealed the structure of relationships and how information is diffused. Within a social network,

people form relational dyads referred to as ties. Strong ties exist between individuals in close relationship such as family and good friends, whereas weak ties exist between individuals loosely connected such as coworkers and acquaintances. Brown and Reingen (1987) found that not all ties are activated in the flow of information. When both strong and weak ties are available as information sources, strong ties are more likely to be used for information, which may be in part due to the accessibility and frequency of interaction between strong ties. The nature of eWOM may reduce this likelihood if both strong and weak ties are similarly accessible. In addition to tie strength, individuals vary based on the number of connections they have within the network. Smith, Coyle, Lightfoot, and Scott (2007) found the moderately connected majority was as willing as the highly connected elite to share marketing messages, and therefore held the greatest potential for marketers. This contradicts popular ideas that WOM influence is best spread by market mavens or opinion leaders.

A number of factors have been studied for their impact on the effectiveness of traditional WOM. For example, traditional WOM has the most value and influence early in a campaign with diminishing power as time passes (Christiansen & Tax, 2000). Even so, traditional WOM still has lingering effects after marketing's power has waned. Notably, a similar pattern has been found for eWOM (Godes & Mayzlin, 2004). Traditional WOM is more valued when actively sought by the receiver (Sweeney, Soutar, & Mazzarol, 2008; East, Hammond, & Lomax, 2008). This poses a challenge for eWOM since it is often unsolicited. Ironically, the most commonly solicited form of eWOM is from absent ties when an individual visits a review site. The richness of the message and

non-verbal cues also increased WOM's effectiveness, which is a characteristic usually associated with traditional WOM.

eWOM. By separating the study of eWOM from traditional WOM, it is proposed that eWOM would also have a unique definition. While the simplest definition would be WOM transmitted over the Internet, some researchers have attempted to further separate the constructs. Vilpponen, Winter, & Sundqvist (2006) defined viral marketing based on integrating network effect theories with word-of-mouth communication and concluded that viral marketing was "word-of-mouth communication in situations where positive network effects prevail and where the role of the influencer is active due to positive network effects" (p. 66). They did not restrict viral marketing to computer mediated communication, and their study used viral marketing interchangeably with eWOM. Okazaki (2009) went a step further and proposed that eWOM should be further classified as computer-based WOM (pcWOM) and mobile WOM (mWOM). For the purposes of this thesis, all forms of electronic WOM, whether via computers, mobile, or other electronic devices, are considered eWOM.

One difficulty in defining eWOM lies in the variety of platforms that could be used, which research suggests people may evaluate differently. For example, Lee and Youn (2009) found participants were less likely to recommend an apartment based on reviews posted to a blog but more likely to recommend an apartment based on reviews posted to a brand or independent website. However, this difference was only seen for positive reviews, which suggested the motives of bloggers were being called into question. Negative reviews were detrimental to recommendations to friends regardless of

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the platform. Although the difference in eWOM evaluation was based on attribution theory and whether participants attributed the reviews to circumstances, the study was not able to explain why personal blogs were more likely to be attributed to circumstances than brand or independent sites. Another form of eWOM used by marketers is viral advertising, which one study found was most often used by smaller companies because it had lower production and costs than traditional advertising (Porter & Golan, 2006). Like television ads, viral ads relied on branding messages and rarely used direct calls to action. It is worth noting that the empirical support for the influence of marketer-generated viral advertising was limited.

A network analysis of eWOM in Finland found online social networks were considerably different than offline networks (Vilpponen, Winter, & Sundqvist, 2006). The study found eWOM networks were centralized and characterized as loose-knit, highly concentrated, and few cliques. This resulted in a radial network with a central node connecting to several ties, but few ties between them. Vilpponen, Winter, & Sundqvist (2006) suggested the loose structure of eWOM was similar to that of mass media insomuch as it served to inform about innovations with limited potential to influence.

Finally, characteristics that distinguish eWOM from traditional WOM include a lack of face-to-face communication and the typically unsolicited nature of information (De Bruyn & Lilien, 2008). In addition, eWOM often occurs between strangers and can usually be anonymous (Lee & Youn, 2009). A multi-stage model of eWOM's influence on viral marketing found that strong ties were more likely to aid awareness; perceptual

affinity was most likely to increase interest; and demographic dissimilarity increased

awareness, interest, and final decision (De Bruyn & Lilien, 2008). Tie strength was

considered marginal later in the decision-making process because it did not directly affect

the cues for costs or benefits. Prendergast, Ko, and Yuen (2010) found that traditional

WOM theories of source similarity and attitudes toward the source were applicable to

eWOM. Both factors were directly related to purchase intent and indirectly related to

persuasiveness. Therefore, while there is bound to be overlap between traditional WOM

and eWOM, these types of WOM have enough discrepancies to warrant differentiation in

research.

Tie Strength

The study of idea diffusion was transformed as social network analysis became a

popular research method and Granovetter's 1973 article on the strength of weak ties

highlighted the importance of various relational dyads (Granovetter, 1973). Tie strength,

particularly strong and weak ties, became a regular variable measured in WOM studies.

Ties were characterized, classified, and evaluated for their level of influence. Brown and

Reingen (1987) examined the flow of referrals within a community and found people

were more likely to seek referrals from strong ties than weak ties when both sources were

available, but that homophily was an important factor regardless of tie strength. In other

words, people tended to seek information from those similar to themselves. Duhan,

Johnson, Wilcox, and Harrell (1997) examined how factors such as prior knowledge

level, perceived task difficulty, and evaluative cues influenced the decision to seek the

opinion of a strong or weak tie. Strong ties were most likely to be sought when task

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difficulty was high and prior knowledge was low. Weak ties were more likely to be sought when instrumental cues were important and subjective prior knowledge was low.

There is considerable support in the literature for analyzing tie strength. Network analysis of an online environment found strong ties had a slight tendency to result in earlier adoption times than weak ties, though the level was not significant (Vilpponen, Winter, & Sundqvist, 2006). While this led the researchers to conclude that all ties in an online social network were equal in their effectiveness and persuasiveness, the evidence was not overwhelming. Some studies recommended a continuum of tie strength instead of categorization. A study of eWOM by De Bruyn and Lilien (2008) found that siblings were overrepresented among those who passed along the experiment's email, whereas friends were underrepresented. In other words, familial strong ties were more likely to spread eWOM than other strong ties, though similar variations among weak or absent ties have yet to be tested. Research has shown influence also varies by tie strength. Weak ties have been found to influence purchase decisions because they provide a wider range of information and expertise (Granovetter, 1973; Godes & Mayzlin, 2004); however strong ties have been found to be more influential than weak ties when both sources are available (Brown & Reingen, 1987). Overall, the WOM literature supports the notion of differentiating between tie strengths, though the delineations between categories may be less clear.

Strong Ties. In spite of the acclaimed strength of weak ties, research has shown that strong ties serve a valuable function in the diffusion of influence. Brown and Reingen (1987) found strong ties were reported as more influential than weak ties for the

decision-making process. Similarly, Sweeney, Soutar, and Mazzarol (2008) found

closeness and perceptual homophily increased the effectiveness of WOM. Purchase

probability was also greater for strong ties when compared to weak ties for both positive

and negative WOM (East, Hammond, & Lomax, 2008). Social comparison theory

suggests that people compare their attitudes to the attitudes of others (Prendergast, Ko, &

Yuen, 2010). Such comparison increases the more an individual perceives similarity

because people tend to assume "similar people have similar needs and preferences" (p

690). The theory also suggests that similarity is positively related to persuasiveness and

behavioral intentions, which may explain why strong ties influence social networks even

though they are not the majority of relationships.

Granovetter (1973) proposed that the stronger the tie between two people, the

greater proportion of additional individuals to whom both were tied and the more similar

these individuals were to each other. Strong ties were more likely to choose similarly

than weak ties, which suggested strong ties were powerful for WOM insomuch as people

believed them to be the best indicators of similar choices. This was supported by

evidence that strong ties were most likely to be sought when task difficulty was high and

prior knowledge was low (Duhan, Johnson, Wilcox, & Harrell, 1997). Furthermore,

Granovetter (1982) also conceded that strong ties had value in that they were more likely

to be motivated to be of assistance and were more accessible than weak ties.

Weak Ties. Perhaps the most muddled category of tie strength definitions lies in

weak ties. Following Granovetter's (1973) theory, researchers seemed to want to call any

relationship not of the highest intimacy a weak tie. This ignored the distinction

Granovetter noted about absent ties. The confusion was further complicated when Godes

and Mayzlin (2004) defined USENET members as weak ties because they were held

together by a common interest. An integral piece of tie strength definition is that it refers

to a relationship between people. A "relationship" would suggest an exchange between

the two parties, at least enough for both to benefit from the connection. While this may

hold true for USENET members who regularly post to the same discussion boards

thereby creating a kind of bond with other users, the anonymous and one-sided postings

of most online review sites has led to a number of studies claiming weak tie effects in

which there are no weak ties studied. For example, Prendergast, Ko, and Yuen (2010)

argued that weak ties were created over repeated exchange of ideas within online forums

as demographic and lifestyle similarities were replaced with common interests among

readers. However, repeated, continued exchange was not actually measured in the study.

Another issue with this definition arises when it is considered that strong ties are more

likely to have similar interests than weak ties. Thus, a definition of weak ties formed by

strangers who share similar interests is inconsistent with the category's characteristics.

The researchers did not discuss whether reading reviews infrequently or without

contributing would constitute weak ties or absent ties.

In support of weak tie theory, Godes and Mayzlin (2004) found dispersion of

eWOM across a broad range of communities had more (and significant) explanatory

power than volume for television ratings. This highlighted the importance of reaching

across multiple social groups and was therefore reasoned to be a form of weak ties. As

previously noted, the regular exchange of information on USENET communities also

supports this definition. Essentially, Godes and Mayzlin found the communities acted like Granovetter's (1973) weak ties and therefore classified the relationships as such.

Weak ties usually require more assessment of the relationship, motivations, or expertise of the sender than strong ties to be effective (Sweeney, Soutar, and Mazzarol, 2008). Weak ties were likely to be sought when instrumental cues were important and subjective prior knowledge was low (Duhan, Johnson, Wilcox, & Harrell, 1997). Unfortunately the model by Duhan, Johnson, Wilcox, and Harrell (1997) did not account for the category of absent ties even though it studied referral services like 1-800-Dentist. In fact, they defined tie strength as weak "if the source is merely an acquaintance or one who does not know the decision-maker at all" (p. 284). This directly conflicted with Granovetter's (1973) definition of weak ties without providing an alternative source beyond Brown and Reingen (1987), who incidentally used Granovetter's definition when designing their study.

In 1982 Granovetter revisited his theory on the strength of weak ties and examined the empirical tests of the theory in the literature. He reasserted that weak ties (acquaintances) were less likely to be socially connected to each other than strong ties (close friends). Weak ties were therefore also more likely to form a bridging function between social groups and connect people who were significantly different from each other. This did not mean all weak ties served as bridges, or that even most weak ties served as bridges. Instead, bridges were disproportionately likely to be weak ties than strong ties. Thus, weak ties facilitated the flow of information and resources between social circles, which allowed for innovation diffusion and mobility. For example, weak

ties tended to shorten the path between individuals, which allowed for greater dispersion of innovation since idea diffusion tended to lose steam and coherence the farther it traveled through a communication channel (Granovetter, 1973). To his dismay, Granovetter (1982) found that few studies set out to systematically test the strength of weak ties. Instead, weak tie theory was more commonly used as an explanation for anomalies in results.

Absent Ties. If researchers have struggled to define weak ties, then they have completely ignored the role of absent ties. Of course, it may be futile to account for something that does not exist, but studies that explored the relationship across tie strengths have shown little interest in the influence of absent ties. The first question for absent ties, then, is why would people seek recommendations from strangers? After all, eWOM posted for strangers allows senders to feel less responsibility for consequences and the senders' true motivations can rarely be known (Lee & Youn, 2009). This unequal position between sender and receiver supports a distinction between absent ties and weak ties. It could be argued that the influence of absent ties was minimal until the Internet provided a means of posting and searching for consumer reviews. Vilpponen, Winter, and Sundqvist (2006) proposed that it was the innovation or message that brought people together and not interpersonal links. Thus, the influence of absent ties, people who possibly had even more breadth of experience than weak ties, took on meaning. For this reason, research on absent ties is usually specific to eWOM. The proliferation and popularity of online user reviews has been studied for its ability to influence or predict sales, usually of entertainment goods.

There is evidence that recommendations from absent ties are an influential force in eWOM. Chevalier and Mayzlin (2006) found support that eWOM from absent ties affected consumer purchase behavior at two online book retail sites. However, a review on one site was only related to a change in sales on that site, which suggested there were limitations to absent ties spreading influence on a broader scale. On the other hand, these findings may only be indicative of the fact that consumers could read a review and purchase the book from the same site, reducing the need to go to another site. The study also suggested the importance of environmental cues when evaluating recommendations from absent ties. In another study, Liu (2006) found the volume of user reviews posted to Yahoo! Movies was significant in explaining box office sales. Liu used the theory of information accessibility and influences to suggest that the volume of eWOM served as an awareness vehicle. Since the website did not lend itself to active exchange of reviews between users, it would be difficult to argue that even weak ties were established. Wang, Zhang, Li, and Zhu (2010) did a similar study to see how eWOM drove box office performance in China. Again, recommendations from absent ties posted to an online movie review site were found to influence innovation and imitation, which were constructs relating to the decision process. It is worth noting that none of these studies identified any concept of tie strength, let alone specify absent ties. However, these relationships could be inferred as absent ties using Granovetter's (1973) definition.

Christiansen and Tax (2000) had one of the only studies to examine absent ties in traditional WOM, though they did not specify this variable. They studied traditional WOM from the receiver's perspective of absent ties because the recommendations were

said to come from another student at the university, but did not specify the person as a friend or acquaintance. According to Granovetter's (1973) definition of tie strength, simply living in the same community would not constitute a weak tie. Discrepancies in sender and receiver evaluations of WOM indicated the need to clarify the senders' intent and the possibility of miscommunication between sender and receiver. One issue in the study was that the senders were told to relate a recent purchase experience to a friend (strong/weak tie) whereas the receivers were told the WOM was from a fellow student (absent tie). If tie strength does make a difference in perception, then it would have been better to tell the receiver that a "friend" provided the description or to instruct the senders that the recommendation would be given to "another student." As long as Granovetter's (1973) definition of tie strength is the standard among researchers, then variables examining strong and weak ties should also consider whether absent ties are part of the referral system.

Influence on Purchase Decision

Since many factors influence purchase decisions, this thesis examined two measures found in the literature: persuasiveness and purchase probability. Persuasiveness is a common measure of influence in advertising research, and many researchers use it to determine effectiveness (Prendergast, Ko, & Yuen, 2010; Lee & Youn, 2009; Christiansen & Tax, 2000). Further details on the scales used to measure persuasiveness are discussed in the method chapter.

Unlike persuasiveness, purchase probability is a less common measurement. Instead, most advertising studies measure purchase intent. In a meta-analysis of purchase

intent and purchase probability scales, Wright and MacRae (2007) found both scales were empirically unbiased with limited variability, but that purchase probability scales performed even better than intention scales. Purchase probabilities include a purchase time horizon whereas intention scales usually do not. Probability scales also have greater content validity than intention scales, and therefore provide more accurate predictions (Wright & MacRae, 2007). These scales also had narrower confidence intervals than purchase intent despite having smaller sample sizes. Thus, Wright and MacRae concluded that purchase probability scales were more useful for measuring both likely behavior and dependent marketing or psychological variables in academic research. It is important to note that the meta-analysis excluded new product studies and instead focused on established markets. This is because new products are believed to have a different decision-making process than established products. Therefore, this thesis examined established product categories.

Tie Strength "Theory"

The research question seeks to understand the relative influence of the type of WOM across all tie strengths. However, the level of influence may also vary among the tie strengths, so individual hypotheses are proposed.

Theories involving the construct of tie strength form the basis of this research study. However, there does not appear to be a single theory or model of how various tie strengths affect the influence of traditional WOM or eWOM. Duhan, Johnson, Wilcox, and Harrell (1997) proposed a model for factors that influenced people to seek recommendations from strong ties or weak ties, but even this model failed to identify the

influence of absent ties or the role of the type of WOM. Thus, three related theories involving tie strength were blended to create the theoretical framework for this study. These theories include social exchange theory (De Bruyn & Lilien, 2008), the strength of weak ties (Granovetter, 1973), and attribution theory (Lee & Youn, 2009).

Social exchange theory. Social exchange theory suggests that strong ties are more likely to provide information of greater value than weak ties (De Bruyn & Lilien, 2008). De Bruyn and Lilien (2008) developed a multi-stage model of eWOM influence that used the role of tie strength, perceptual affinity, and demographic similarity across three stages of the decision-making process (awareness, interest, and final decision). The model was tested within a cost/benefit analysis framework, which means people evaluated purchase decisions based on the costs, benefits and available cues. Overall, strong ties were more likely to aid awareness than weak ties, and perceptual affinity (a common trait of strong ties) was most likely to increase interest. Tie strength plays a significant role early in the decision-making process because the receiver's relationship to the sender may be one of the only cues available when deciding whether to proceed with the information. An important distinction of the multi-stage model was that it allowed for more antecedents than a single stage model. For example, if De Bruyn and Lilien had reduced their data to the final decision stage, tie strength and perceptual affinity would not have shown statistical significance. It is worth noting that the De Bruyn and Lilien model was tested only for eWOM. However, they proposed that traditional WOM among strong ties was likely to generate even more awareness than eWOM. Since strong ties are by definition more accessible to the individual, then the primary benefit of eWOM is reduced as

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traditional WOM offers more cues to receivers. Thus, for the purpose of this study,

social exchange theory and the De Bruyn and Lilien model suggest traditional WOM

from strong ties would be more influential than eWOM. This leads to the first

hypothesis:

H1: Recommendations from strong ties will be more influential on purchase

decisions for traditional WOM than eWOM.

Strength of weak ties. Perhaps the most well known theory is Granovetter's

(1973) strength of weak ties, which has its roots in sociological theory and network

analysis. The theory suggests that weak ties are important to social network structure and

to the diffusion of information within communities, which provides a link between

mirco-level interactions and macro-level patterns. Two important assumptions of the

theory are that the stronger the tie between two people, the greater proportion of

additional individuals to whom both are tied, and the stronger the tie between two people,

the more similar they are to each other. Thus, strong ties would limit the ability of

diverse information to spread between groups while weak ties would serve as information

bridges between groups. Although Granovetter initially proposed that only weak ties

would serve as bridges, Brown & Reingen (1987) found that strong ties do serve as

bridges, but disproportionately fewer than weak ties. Granovetter (1982) also revisited

his theory and conceded that strong ties have value in that they are more likely to be

motivated to be of assistance and are more accessible than weak ties. However, weak ties

facilitate the flow of information and resources between social circles, which allows for

innovation diffusion and mobility. Overall, the strength of weak ties suggests the

"removal of the average weak tie would do more 'damage' to transmission probabilities than would that of the average strong one" (Granovetter, 1973, p. 1366).

According to Granovetter (1973), the strength of weak ties lies in their ability to spread information across diverse social clusters. However, the scalability of eWOM means that people less well known to the individual are providing recommendations that are also less specifically relevant to the receiver. If the weak ties have less in common with an individual than strong ties, then weak ties may require more information about recommendations before becoming influenced. Even so, the greater perceived expertise of weak ties may make them a desirable source. It has been suggested that the limited accessibility of weak ties means they are less likely to be referenced by individuals. Thus, the online environment reduces the obstacles to access such sources. For the purposes of this research, the strength of weak ties suggests that eWOM may be more influential than traditional WOM for weak ties because the accessibility of weak ties information via the Internet lowers the barrier to communication. This leads to the second hypothesis:

H2: Recommendations from weak ties will be more influential on purchase decisions for eWOM than traditional WOM.

Attribution theory. Lee and Youn (2009) used attribution theory to understand how eWOM platforms influence consumer perceptions and the likelihood of recommending to friends. Although the study did not use the term absent ties, eWOM was described as "often occur[ing] between people who have little or no prior relationship with one another and can be anonymous" (p. 474). Attribution theory

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explains how people evaluate information based on the perceptions of whether the

message was prompted by a stimulus or circumstances. If a message is believed to be

prompted by a stimulus, such as product performance, then the person is more likely to

believe the information is accurate. On the other hand, if a message is believed to be

prompted by circumstances, such as dispositional characteristics of the sender or

monetary compensation, then the person is more likely to discount the accuracy of the

message. Lee and Youn (2009) noted:

> Attribution theory predicts that the more the consumer attributes the
> communicator's review about a product to that product's actual performance, the
> more the consumers will perceive that the communicator is credible, the more the
> consumer will have confidence in the accuracy of the review, the stronger the
> consumer's belief that the product has the attributes mentioned in the review, and
> the more the consumer will be persuaded by that review. On the other hand, the
> discounting principle in attribution theory predicts that when the consumer
> suspects that the communicator's review is caused by other non-stimulus factors,
> such as the circumstances, the more the consumer will discount the product's
> actual performance as a reason for the communicator to write such a review, the
> more the consumer will perceive that the communicator is biased, and the less the
> consumer will be persuaded by that review. (p. 476)

Attribution theory provides a framework for understanding why information from

absent ties may or may not be persuasive. Lee and Youn (2009) found that when reviews

were positive, participants were more likely to attribute reviews posted on blogs to

circumstances and therefore were less likely to share the information with friends. The

attribution to circumstances was also linked to a decreased likelihood of recommending

to a friend, which follows attribution theory. The evaluation of unknown sources (absent

ties) plays an even larger role as consumers become aware of corporate attempts to

stimulate eWOM, such as paying bloggers or posting positive reviews themselves.

As the weakest form of ties, absent ties (strangers) are most likely to be sought where strong and weak ties may not have enough experience. For example, in an area of emerging technology, early adopters will be the first to buy and test new products then post recommendations online. Even though these people are absent ties, an individual might seek their opinions because they offer expertise in an area not well known to the person's current social network. For the purposes of this thesis, attribution theory suggests absent ties may be more influential for eWOM than traditional WOM because the online environment may offer more cues when evaluating whether a comment is likely due to circumstances or the actual product performance. This leads to the third hypothesis:

H3: Recommendations from absent ties will be more influential on purchase decisions for eWOM than traditional WOM.

Based on the hypotheses stated above and Granovetter's (1973) strength of weak ties, this study also examines the relative influence within traditional WOM and eWOM across the levels of tie strength. For traditional WOM, the people closest to an individual are most likely to influence decisions (Brown & Reingen, 1987). Similarly, the personal nature of traditional WOM likely means that as tie strength lessens, strong to weak to absent, the level of influence is likely to decrease. However, eWOM reduces the barrier of access to weak and absent ties while also providing more context for people to evaluate the recommendations. On the other hand, eWOM might have an inverse relationship to tie strength with absent ties possibly representing the most knowledgeable

and therefore most influential sources. Building off the theories discussed, two additional hypotheses are proposed:

H4a: Influence will have a direct relationship to tie strength for traditional WOM.

H4b: Influence will have an inverse relationship to tie strength for eWOM.

As part of the experimental design, to be discussed in detail in the next chapter, two product categories were chosen for examples of traditional WOM and eWOM recommendations. In particular, mobile phones and movies were categories that were likely to be familiar to people and topics that might surface during a conversation. Although these categories were introduced to allow for a broader statement across categories, a moderating hypothesis is proposed between the categories. Both mobile phones and movies are relatively low-risk purchases, but mobile phones are likely to have more considered purchasing behind them (East, Hammond & Lomax, 2008). Since most mobile phone companies lock a consumer into a two year contract and new features are frequently developed for the phones, people may rely more heavily on the reviews of experts, or at least those more knowledgeable than themselves. Thus, one would expect that the level of influence for both traditional WOM and eWOM would be higher for mobile phones than for movies as people fulfill a greater need for information (Duhan, Johnson, Wilcox & Harrel, 1997). This leads to the hypothesis:

H5: The level of influence for both traditional WOM and eWOM will be higher across tie strengths for mobile phones than for movies.

Finally, the dependent variables measuring influence should be compared since they represent different levels in the hierarchy of purchase decisions. Persuasion is at the

beginning of the decision-making process whereas purchase probability is at the end. Therefore, it is more difficult to influence the end of the process because more factors and sources of influence would have contributed in the earlier stages (Lee & Youn, 2009; Wright & MacRae, 2007). Thus, the following hypothesis is proposed:

H6: The level of influence for both traditional WOM and eWOM will be higher across tie strengths for persuasion than purchase probability.

In summary, after reviewing the literature on WOM, it is the goal of this thesis to contribute to the body of work by examining the relative influence of traditional WOM and eWOM across strong ties, weak ties, and absent ties. Theories of the strength of weak ties, social exchange theory, and attribution theory have been used as a framework for understanding how tie strength, type of WOM, and influence may be related. One research question and six hypotheses were tested by analyzing data from an experiment, which is discussed in the next chapter.

Method

This study used a 2 x 3 x 2 mixed design with WOM type and tie strength between-subject experimental design and a within-subject repetition (product category) with a post-test only. The experiment included two independent variables, type of WOM and tie strength. The type of WOM had two conditions: traditional WOM and eWOM. Tie strength had three conditions: strong ties, weak ties, and absent ties. The repetition variable included two product category scenarios, mobile phones and movies, for each participant. The dependent variable was the influence on purchase decisions using measures of persuasiveness and purchase probability. The independent and dependent variables are operationalized below.

In order to control for interaction threats to internal validity, the experiment did not include a pre-test other than the basic screening criteria. Instead, post-tests were compared between groups to analyze differences on the dependent measures. This is consistent with previous studies (Lee & Youn, 2009; Duhan, Johnson, Wilcox & Harrel, 1997; De Bruyn & Lilien, 2008). The independent variables were categorical (traditional WOM/eWOM and strong/weak/absent ties) and did not allow for a control group. In other words, it would not be possible to ask respondents about WOM that is neither online or offline, or to provide examples without tie strength (since absent ties are a form of tie strength). Below is a diagram of the experimental design.

Group A (traditional WOM/strong ties) R----------X----------O

Group B (eWOM/strong ties) R----------X----------O

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Group C (traditional WOM/weak ties) R----------X----------O

Group D (eWOM/weak ties) R----------X----------O

Group E (traditional WOM/absent ties) R----------X----------O

Group F (eWOM/absent ties) R----------X----------O

Quantitative research is common for studies on WOM and tie strength because it allows for empirical testing of hypotheses and the development of models. Although surveys and content analyses are popular methods for examining WOM perceptions and valence, experiments have been used to test the theories framing this study (De Bruyn & Lilien, 2008; Lee & Youn, 2009). Experiments have also been used to determine the effects of WOM and purchase probability (East, Hammond, & Lomax, 2008). Therefore, an experiment was used to test the hypotheses of this thesis.

Participants

Participants were recruited using both college students and non-students. All participants were recruited from a large Midwestern university. Participants were pre-screened to be adults between the ages of 18 and 49 years old who have access to the Internet. The age demographics were based on a broad adult consumer with access to and familiarity with online communication. This is also a common age bracket for marketers with broad product appeal. It was important that participants have Internet access so they could draw from their own experiences with eWOM and traditional WOM influence. Although Internet access does not a guarantee eWOM exposure, a lack of access would limit a participant's exposure to both types of WOM.

The sample size included 201 participants. The participants were divided into six groups of 33 to 34 people. The sample size was determined based on an *a priori* power analysis with a 95% confidence level (alpha = .05), power of .80, and a small to medium effect size (.20) using a two-tailed *t* test (Creswell, 2008; Faul, Erdfelder, Lang, & Buchner, 2007). Although the effect size may be ambitious, there is limited reporting of effect sizes in the literature to draw from and a more conservative effect size of .10 resulted in an unmanageable sample size. The calculations were made using a software program GPower 3.1 (Faul, Erdfelder, Lang, & Buchner, 2007). Participants were randomly assigned to a treatment group (Creswell, 2008). A convenience sample was appropriate since the purpose of this thesis was to generalize to a theory and not the overall population. The sample was 73 percent female and 26 percent male, with one person declining to answer. Ninety-three percent were students and seven percent were non-students, which likely included faculty and staff. The average age was 23 years, and ranged from 18 to 49 years, with three participants declining to answer. Ninety-eight percent had access to the Internet from home and less than two percent said they did not have Internet access at home. However, 100 percent of the sample had access to the Internet because the questionnaire could only be completed online.

Independent Variables

There were two independent variables manipulated for this study: type of WOM and tie strength.

Type of WOM. The type of WOM was either traditional WOM or eWOM. As stated earlier, traditional WOM was defined as offline, personal recommendations about

products or services and occur face-to-face. eWOM was defined as online

recommendations though they may occur across any number of devices including

computers, mobile phones, or tablets. Specifically, this study used posts to social

networking sites and user reviews for examples of eWOM.

   Tie strength. Tie strength was defined by the level of closeness between two

people. There were three types of tie strength: strong ties, weak ties, and absent ties.

Strong ties are defined as those closest to an individual, so they were close friends in this

study. Weak ties are known to the individual but have less frequent interaction, so they

were acquaintances. Absent ties are unknown to the individual, so they were strangers.

Dependent Variables

   The dependent variable was the level of influence over purchase decisions as

measured by persuasiveness and purchase probability. Since multiple factors are likely to

contribute to the decision-making process, influence was measured by both

persuasiveness and purchase probability.

   Persuasiveness. Persuasiveness was measured using a three-item 7 point semantic

differential scale that asked participants to rate the persuasiveness of the recommendation

from the source. Similar scales were used by Prendergast, Ko, and Yuen (2010) to

measure online forum persuasiveness, Lee and Youn (2009) to measure product

judgment, and Christiansen and Tax (2000) to measure WOM evaluations. Based on

these studies, the scale was anchored by likely/unlikely to influence,

convincing/unconvincing, and strong/weak.

Purchase Probability. Ultimately, the role of strategic communication such as WOM is to influence purchase decisions. Thus, purchase probability was measured using the Juster scale. The Juster scale is an 11-point scale used to measure purchase probability, which was found to be more reliable than shorter scales (Wright & MacRae, 2007). As discussed in the literature review, this thesis used products from established market categories, so the Juster scale is an appropriate instrument. Small adjustments were made to the scale to make it more appropriate to product reviews. The scale is as follows (Day, Gan, Gendall, & Esslemont, 1991):

How likely would you be to purchase this product in the next 12 months?

10- Absolutely Certain
9- Almost certain
8- Very probably
7- Probable
6- Good possibility
5- Fairly good possibility
4- Fair possibility
3- Some possibility
2- Slight possibility
1- Almost no chance
0- No chance

Stimulus

The experiment used two scenarios to set up the independent variables. Duhan, Johnson, Wilcox, and Harrel (1997) noted that scenarios can minimize situational effects and are therefore appropriate for an experiment. A number of categories have been studied for WOM influence such as apartment rentals, obstetric services, cell phones, Internet service providers, schools, grocery stores, clothing stores, credit cards, optometrists, coffee houses, and restaurants (Lee & Youn, 2009; Duhan, Johnson,

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Wilcox, & Harrel, 1997; East, Hammond & Lomax, 2008). Most of these would fall under the umbrella of established markets and are relatively low-risk investments. Thus, scenarios in this study used mobile phones and movies as relatively low-risk investments of established markets to reduce confounding variables. In addition, established markets, such as mobile phones and movies, are one of the criteria for using the Juster scale to measure purchase probability (Wright & MacRae, 2007).   Furthermore, it was important to use product categories with which the participants were likely to be familiar to make the scenarios believable. This meant using products that the participants would use or purchase as well as products participants would seek others' opinions about before buying (Lee, Rodgers, & Kim, 2009). Both mobile phones and movies were likely to meet these criteria. Since the focus of this study was on the source and not the content of the product review, actual product reviews were not provided because it would introduce too much variance. The intent was to isolate source effects by having the participant focus on who gave the review rather than the actual review itself. This was similar to the scenario-based experiment conducted by Duhan, Johnson, Wilcox, and Harrel (1997). In addition, although valence has not been shown to affect WOM's influence, the stimulus noted that the review was positive. This reduced confusion when following the scenario with questions about whether the participant was likely to purchase the product.

Manipulation Check

A manipulation check was conducted at the end of the questionnaire to confirm that participants understood their proposed relationship to the sender and the type of WOM. Participants were asked to identify who provided the recommendations in the

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scenarios: close friend, acquaintance, or stranger. Also, participants were asked to identify how they received the recommendation in the scenarios: online communication or in-person communication. Since both of the independent variables are categorical, chi-square tests were used to confirm that the majority of participants correctly identified the type of WOM and tie strength (Lee & Youn, 2009).

Procedures

Six questionnaires were developed, one for each treatment group described above, and accessed via an online link. By conducting the experiment online, the researcher could confirm the participant had Internet access. Although Internet access does not ensure participants have been exposed to eWOM or the communication described in the scenarios, a lack of Internet access would make personal experience with eWOM unlikely. Each questionnaire included two scenarios and a list of questions relating to the persuasiveness and purchase probability as defined earlier. The two scenarios included one situation involving WOM and mobile phones and one situation involving WOM and movies. For example, the eWOM/strong ties scenarios included a positive review from a close friend via a social networking site post regarding a movie and another post regarding a mobile phone. Answers to the scenarios were averaged across the questionnaire to form a single influence measurement and to control for individual variability in the scenarios. The questionnaire concluded with basic demographic questions of age, gender, and designation of student or non-student to be used for descriptive purposes. An example of the questionnaire is included in the appendix.

A pilot study was conducted with a convenience sample of 12 participants, which allowed for two people in each treatment. The purpose of the pilot study was to ensure the questions measured were clear and answerable. In addition, the type of WOM and tie strength noted in each treatment must be clear to the reader, and the scenarios should be believable. Question wording, instructions, and flow should be easy to follow for the self-administered questionnaire to function properly.

Validity

Although this thesis and experimental design attempted to minimize threats to validity, it is important to note how this was done. Creswell (2008) offers suggestions for addressing internal, external, statistical conclusion, and construct validity issues.

Internal validity. First, threats to internal validity include history, maturation, regression, selection, mortality, diffusion of treatment, testing, and instrumentation. Since this experiment had a short duration (less than 10 minutes) and was conducted over a short period of two weeks, history, maturation, and mortality threats were minimal. The use of a single post-test did not look for changes in an individual's scores, but instead measured differences in scores between individuals. Thus, regression toward a mean was not a concern because extreme scores were not an indication of change. Similarly, the post-test only design eliminated the testing threat of participants remembering earlier responses as well as the instrumentation threat of changes between a pre-test and post-test. Selection was perhaps the most significant internal threat because a convenience sample was used. Also, requiring Internet access may have predisposed an individual toward receptiveness to eWOM. However, exposure to eWOM was essential

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for comparing relative influences online and offline. Diffusion of treatment was unlikely since the questionnaire was self-administered and accessed online for minimal interaction between groups.

External validity. External validity threats can include interactions between selection and treatment, setting and treatment, or history and treatment (Creswell, 2008). Although demographic information was included, the results are not intended to be generalized to the broader population due to the convenience sample. Instead, results were used to test the hypotheses and discuss implications for theory. History was a small concern as the scenarios referenced current technology that was not available 20 years ago as well as technology that may be obsolete in another 20 years. Even so, the relationship between traditional WOM and eWOM influence may hold as new technology replaces the old. Finally, setting was the main concern for external validity in this experiment. Although strong ties and weak ties could likely use the same WOM platforms, absent ties are more likely to use a different set of platforms. For example, strong or weak ties may use conversations, emails, or social networking sites, but absent ties are more likely to be found with referral services (1800-DENTIST) or user reviews.

Construct validity. Statistical and construct validity are important for establishing the thesis' value to research. Statistical conclusion threats to validity occur when there is inadequate power or inappropriate application of statistics. As part of the sample size calculation, power was projected at .80, which is within acceptable limits (Creswell, 2008). Construct validity is established by using accepted definitions for WOM and tie

strengths, as well as previously developed instruments to measure influence factors of persuasiveness and purchase probability.

Data Analysis

Both descriptive and inferential statistics were applied to the data. Descriptive statistics included the average age and gender skew of participants. While the convenience sample was not intended to be representative of the population, descriptive statistics illuminated potential bias. For inferential statistics, this thesis used *t* tests to compare the difference in influence between the groups as well as univariate analysis of variance (ANOVA). These statistical tests are the standard for experimental designs with categorical independent variables and continuous measures for dependent variables (Creswell, 2008). The confidence level, as previously noted, was 95%. Below is a summary of how each group was compared to test the hypotheses and explore the research question.

H1: Group A (traditional WOM/strong ties) versus Group B (eWOM/strong ties)

H2: Group C (traditional WOM/weak ties) versus Group D (eWOM/weak ties)

H3: Group E (traditional WOM/absent ties) versus Group F (eWOM/absent ties)

H4a: Group A versus Group C versus Group E

H4b: Group B versus Group D versus Group F

H5: All Groups (within-subject repetition factor)

H6: All Groups (within-subject subset of dependent variable)

RQ: Group A, C, and E versus Group B, D, and F

For the research question, responses were averaged across the three groups in each platform; however, the differences in settings for absent ties must be noted as a potential threat to external validity.

Results

The data were analyzed in three steps. First, a manipulation check was done to confirm the validity of the independent variables, namely type of WOM (traditional WOM or eWOM) and tie strength (strong, weak, or absent). Second, an item-total analysis was conducted using a Pearson *r* correlation to ensure the questions could be averaged to create a reliable influence score (Cronk, 2008). Finally, inferential statistical analyses were performed on the data to test the hypotheses and to probe the data further.

Manipulation Check

Each version of the questionnaire posed a scenario using a specified type of WOM (traditional WOM or eWOM) and tie strength (strong, weak, or absent). Since the variance between these conditions is the focus of this study, it was important to know that the manipulation was successful, as measured by participants responding to categorical level, multiple-choice items regarding the independent variables. Results showed that the majority of participants correctly identified both the type of WOM and tie strength. The lowest performing scenario was Version 3, tie strength, in which 63 percent correctly identified the absent tie. Most scenarios had at least 80 percent of participants correctly identify the variables.

A chi-square goodness of fit test was calculated comparing the frequency of type of WOM and tie strength selections to see whether these results could be attributed to chance from the multiple choice items. A significant deviation from random selection was found ($p < .01$) for both variables in all versions. This means that the results met the

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standard for the manipulation check and were significant at $p < .01$ (Lee & Youn, 2009).

A summary of the results are in the Table 1. Participants appear to have recognized the

type of WOM and tie strength presented in the scenarios.

Table 1

Summary of Manipulation Check and χ2

	Type of WOM			Tie Strength		
Treatment	*n*	% Correct	χ2	*n*	% Correct	χ2
eWOM						
Strong	33	85%	39.82**	33	91%	49.27**
Weak	34	100%	N/A**	34	85%	41.71**
Absent	33	79%	31.09**	33	64%	26.52**
WOM						
Strong	33	79%	31.09**	32	94%	24.50**
Weak	34	71%	21.24**	34	85%	41.71**
Absent	33	88%	44.18**	33	85%	39.46**

**$p < .01$

Calculating an Influence Score

As discussed in the method chapter, influence was measured by averaging the

results from eight questions. The validity of the questions and scales were based on the

literature review, but an item-total analysis confirmed the questions reliably measured the

same variable. A Pearson correlation $r > .7$ is considered most desirable and a correlation

$r < .3$ should be discarded (Cronk, 2008). All questions in the item-total analysis for

influence had a Pearson correlation $r > .63$, and five of the eight questions had a Pearson

correlation $r > .70$ (see Table 2).

Table 2

Pearson Correlation for Influence Score (N = 201)

Question	Pearson r
Movie	
Likely/unlikely to influence	0.75**
Convincing/not convincing	0.75**
Strong/weak	0.80**
Purchase probability	0.71**
Mobile phone	
Likely/unlikely to influence	0.65**
Convincing/not convincing	0.66**
Strong/weak	0.72**
Purchase probability	0.64**

$**p < .01$

Since the three items falling below the Pearson correlation of $r = .70$ were all

related to mobile phone reviews, an item-total analysis for phone influence was also

conducted to determine whether the results should be kept as part of the overall influence

score. The item-total analysis for phone influence (persuasion and purchase probability)

showed Pearson correlations $r > .76$, which supports combining these questions into a

phone influence score. The data are summarized in Table 3.

Table 3

Pearson Correlation for Mobile Phone Influence Score (N = 201)

Question	Pearson *r*
Likely/unlikely to influence	0.81**
Convincing/not convincing	0.80**
Strong/weak	0.87**
Purchase probability	0.76**

** *p* < .01

Based on the item-total analysis, it was decided that an overall influence score was a reliable measurement for the study. Therefore, the items were averaged into a measure labeled "influence," which serves as a single dependent variable of influence for the remainder of research, unless otherwise specified.

Hypothesis Testing

To test the hypotheses, a series of statistical tests were employed. Most of the hypotheses compared the means of two groups, so *t* tests were used. For hypotheses comparing three or more groups, ANOVAs were used (Cronk, 2008). Since the hypotheses predicted a specific direction of the differences in the sample means, one-tailed *t* tests were used. However, the research question did not propose which type of WOM would have greater influence, so a two-tailed *t* test was used.

Comparing traditional WOM and eWOM. Independent-sample *t* tests were conducted to test H1, H2, H3, and the research question (RQ) since each of these statements compared two sample means and the variables were between-subjects (Cronk, 2008). A summary of the means is in Table 4.

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Table 4

Mean Influence by Type of WOM (N = 201)

Variable (Hypothesis)	*n*	*M*	*SD*
Strong tie (H1)			
WOM	33	3.96	0.52
eWOM	33	3.87	0.64
Weak tie (H2)			
WOM	34	3.59	0.76
eWOM	34	3.63	0.57
Absent tie (H3)			
WOM	33	3.57	0.67
eWOM	34	3.44	0.72
All ties (RQ)			
WOM	100	3.71	0.68
eWOM	101	3.64	0.66

H1 examined strong ties and compared the influence from traditional WOM and eWOM. For strong ties, the influence from traditional WOM ($M = 3.96$, $SD = .52$) was higher than the influence from eWOM ($M = 3.87$, $SD = .64$), which is consistent with the hypothesis. However, the difference was not significant ($t(64) = .635$, $p > .05$); therefore H1 was not supported.

H2 examined weak ties and compared the influence from traditional WOM and eWOM. For weak ties, the influence from eWOM ($M = 3.63$, $SD = .57$) was higher than the influence from traditional WOM ($M = 3.59$, $SD = .76$), which is consistent with the

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hypothesis. However, the difference was not significant ($t(66) = -.21$, $p > .05$); therefore H2 was not supported.

H3 examined absent ties and compared the influence from traditional WOM and eWOM. For absent ties, the influence from traditional WOM ($M = 3.57$, $SD = .67$) was higher than the influence from eWOM ($M = 3.44$, $SD = .72$), which is contrary to the hypothesis. Even so, the difference was not significant ($t(65) = .80$, $p > .05$); therefore H3 was not supported.

The research question (RQ) compared the influence of traditional WOM and eWOM, regardless of tie strength. Since the research question did not propose which type of WOM would have greater influence, a two-tailed t test was used. The influence of traditional WOM ($M = 3.71$, $SD = .68$) was higher than the influence of eWOM ($M = 3.64$, $SD = .66$). However, the difference was not significant ($t(199) = -.69$, $p > .05$).

Table 5 summarizes the t tests for H1, H2, H3, and the research question.

Table 5

Summary of Independent-Sample t Tests

Source	df	t	p
H1	64	0.64	0.26[a]
H2	66	-0.21	0.42[a]
H3	65	0.80	0.21[a]
RQ	199	-0.69	0.49[b]

[a]Significance based on a one-tailed t test

[b]Significance based on a two-tailed t test

Comparing tie strength. One-way ANOVAs were calculated for H4a and H4b since each of these statements compared three sample means and the variables were between-subjects (Cronk, 2008). Where the differences were significant, a post hoc Tukey's HSD was computed. A post hoc Tukey's HSD is commonly used to determine which means in an ANOVA are significantly different by indicating an "honestly significant difference" (Cronk, 2008). In addition, effect sizes were calculated where the differences were statistically significant using $\acute{\eta}^2$, which is used for ANOVA models (Cronk, 2008).

H4a compared the influence of traditional WOM across strong, weak, and absent ties (see Table 6). The difference between groups was significant ($F(2, 97) = 3.60$, $p < .05$). A post hoc Tukey's HSD was computed to determine the differences between the ties (see Table 7). The analysis revealed that, for traditional WOM, the influence from strong ties ($M = 3.96$, $SD = .52$) was significantly higher than the influence from absent ties ($M = 3.57$, $SD = .12$). However, the influence from weak ties ($M = 3.59$, $SD = .76$) was not significantly different from either strong ties or absent ties for traditional WOM. The overall direction of the means is consistent with the hypothesis, however, the difference is only significant at the extremes (strong and absent ties); therefore H4a is partially supported. The effect size using $\acute{\eta}^2$ is .07, which means it is a small to moderate effect (Cronk, 2008).

H4b compared the influence of eWOM across strong, weak, and absent ties (see Table 6). The difference between groups was significant ($F(2, 98) = 3.79$, $p < .05$). A post hoc Tukey's HSD was computed to determine the differences between the ties (see

Table 7). The analysis revealed that, for eWOM, the influence from strong ties ($M =$ 3.87, $SD = .64$) was significantly higher than the influence from absent ties ($M = 3.44$, $SD = .17$). However, influence from weak ties ($M = 3.63$, $SD = .10$) was not significantly different from either strong ties or absent ties. This is contrary to the hypothesis that weaker ties would be more influential than stronger ties in eWOM; therefore, H4b is not supported. The effect size using $\acute{\eta}^2$ is .07, which is a small to moderate effect (Cronk, 2008).

Table 6

One-Way ANOVA for Influence between Tie Strength

Source	Sum of Squares	df	Mean Square	F
WOM[a] (H4a)	3.15	2	1.58	3.60*
eWOM[b] (H4b)	3.16	2	1.58	3.79*

Note. Table reflects between groups results.

[a]$n = 100$

[B]$n = 101$

*$p < .05$

Table 7

Mean Difference between Tie Strength using Tukey HSD

Source	Strong/Weak	Strong/Absent	Weak/Absent
WOM (H4a)	.37	.39*	.02
eWOM (H4b)	.24	.43*	.19

*$p < .05$

Repetition factors. To create a robust influence score, within-subjects repetition factors were used. Each participant was given a WOM scenario about movies and a WOM scenario about mobile phones. In addition, each participant was asked about the persuasiveness of the WOM and the purchase probability. Paired-sample t tests were calculated for H5 and H6 since each of these statements compared two sample means and the variables were within-subjects (Cronk, 2008). Where the differences were significant, effect size was calculated using Cohen's d, which is standard for t tests (Cronk, 2008).

H5 compared the influence for movies and mobile phones. The influence for movies ($M = 3.81$, $SD = .85$) was higher than the influence for mobile phones ($M = 3.54$, $SD = .73$), which is contrary to the hypothesis (see Table 8). The difference was significant ($t(200) = 4.51$, $p < .01$); therefore H5 is not supported. The effect size using Cohen's d is .32, which suggests a small to medium effect (Cronk, 2008). The results suggest the influence on mobile phones and movies was hypothesized backwards and the lower-involvement category of movies should have been predicted for greater influence.

Table 8

Mean Influence by Product Category

Product	n	M	SD
Movies	201	3.81	0.85
Mobile phones	201	3.54	0.73

H6 compared the means for the two subsets creating the construct of influence: persuasion and purchase probability. The mean for persuasion ($M = 3.90$, $SD = .69$) was

higher than purchase probability ($M = 3.01$, $SD = .86$), which is consistent with the hypothesis (see Table 9). The difference was significant ($t(200) = 17.74$, $p < .01$); therefore H6 is supported. The effect size using Cohen's d is 1.25, which suggests a large effect (Cronk, 2008).

Table 9

Mean Influence by Subset

Influence	n	M	SD
Persuasion	201	3.90	0.69
Purchase probability	201	3.01	0.86

Table 10 summarizes the t tests for H5 and H6.

Table 10

Summary of Paired-Sample t Tests

Source	df	t	p
H5	200	4.51	0.00[a]
H6	200	17.74	0.00[a]

[a]Significance based on a one-tailed t test

Additional Tests

A 2 (type of WOM) x 3 (tie strength) between-subjects factorial ANOVA was calculated comparing the influence means of participants who received product reviews via eWOM or traditional WOM from a strong, weak or absent tie. A significant main effect for tie strength was found ($F(2, 201) = 7.06$, $p < .01$). There was no significant main effect for the type of WOM ($F(1, 201) = .48$, $p > .05$). The interaction of tie

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strength and type of WOM was not significant ($F(2,201) = .311$, $p > .05$). A post hoc

Tukey HSD test of tie strength showed a significant difference between strong ties ($M =$

3.92, $SD = .08$) and weak ties ($M = 3.61$, $SD = .08$) as well as strong ties and absent ties

($M = 3.50$, $SD = .08$). However, there was no significant difference between weak ties

and absent ties (see Table 11). The effect size for tie strength using $\acute{\eta}^2$ is .07, which is a

small effect (Cronk, 2008).

Table 11

Mean Influence by Tie Strength

Tie strength	n	M	SD
Strong	66	3.92_a	0.08
Weak	68	3.61_b	0.08
Absent	67	3.50_b	0.08

Note. Means that do not share the same subscript are significantly different at $p < .05$

      In summary, H6 is the only hypothesis fully supported. H4a was partially

supported since the results were consistent with the hypothesis, but results were only

significant between strong ties and absent ties. H1, H2, and the research question showed

patterns consistent with expectations, but the differences were not significant. H3 results

were contrary to the hypothesis, but the difference was not significant. H4b and H5 were

not supported since the results were contrary to the hypothesis and the difference was

significant. Implications of these findings are discussed in the next chapter.

Discussion

This study used an experiment to determine whether traditional WOM and eWOM offered the same level of influence over consumer purchase decisions. Tie strength was introduced as a second independent variable because a review of the literature revealed several studies and theories that suggested the influence of WOM is dependent to some degree on the strength of the ties. Social exchange theory (De Bruyn & Lilien, 2008), the strength of weak ties (Granovetter, 1973), and attribution theory (Lee & Youn, 2009) provided a theoretical framework for understanding how tie strength and type of WOM could affect the influence on purchase decisions. Tie strength was found to have a significant influence on WOM, but the type of WOM (traditional WOM or eWOM) was not significant. Even though most of the hypotheses were not supported, the findings and implications are valuable to researchers and practitioners.

Theoretical Implications

Since none of the theories had been explicitly tested for differences in online and offline WOM, hypotheses were proposed using assumptions and suggestions from the researchers. For example, De Bruyn and Lilien (2008) tested their model using eWOM then projected the findings to a traditional WOM scenario. On the other hand, Granovetter (1973) pre-dated the rise of the Internet, so his theory was developed under the sole condition of traditional WOM. Attribution theory is not specific to WOM or tie strength, but was used by Lee and Youn (2009) to examine the influence of absent tie recommendations via eWOM. In this study the findings of H4a (traditional WOM) and

H4b (eWOM) both showed a pattern of greatest influence from strong ties, less influence from weak ties, and the least influence from absent ties. Furthermore, both of these hypotheses found the differences were only significant between the strong ties and absent ties. Therefore, a lack of significance or support for the hypotheses comparing traditional WOM and eWOM across strong ties, weak ties, and absent ties respectively, does not inherently challenge the theories guiding the study. Instead, the findings suggest that traditional WOM and eWOM are viewed similarly by participants, and therefore models based on one type of WOM should apply to the other form. Speculation on why online and offline communication were viewed similarly could include the familiarity of participants, mostly in their early 20s, who have likely grown up in a highly connected culture where the real world and virtual world have considerable overlap.

In spite of a lack of significance for the hypotheses that examined traditional WOM and eWOM across each level of tie strength, additional tests of the data supported the theoretical framework that tie strength significantly affects the influence of WOM. This indicates ecological validity as the findings are supported by theories on tie strength. A significant difference was found between the influence of strong and weak ties, as well as between strong and absent ties. This supports social exchange theory, which states information from strong ties is more valuable than information from other ties (De Bruyn & Lilien 2008). The strength of weak ties is also supported based on the mean influence of 3.61 on a five-point scale. Even recommendations from absent ties scored an average influence of 3.50, which is well above the scale's midpoint. However, since the difference between weak ties and absent ties is not significant, it is possible that

Granovetter's definition of tie strength may not necessitate a differentiation between weak and absent ties. In other words, the main distinction for influence is based on a dichotomy of strong and not strong (including both weak and absent) ties. This further supports the lack of research in the literature about absent ties. If the difference between weak ties and absent ties is not significant, then there seems little justification for studying them separately.

Perhaps the greatest implication for researchers is that this study supports the extrapolation of findings from either an online or offline WOM context to the other. Since eWOM is usually more cost efficient to study than traditional WOM, and eWOM offers greater flexibility in tracking data, researchers can take advantage of the benefits of eWOM without jeopardizing the applicability of their findings beyond online communication.

Practical Implications

The practical implications of this study are of most interest for advertisers and marketers. WOM has long been hailed as the most influential form of communication amongst consumers; however, advertisers have struggled with the high costs associated with participating in such conversations. The rise of the Internet, and social media in particular, has created opportunities for cost-efficient eWOM campaigns. Additionally, eWOM allows advertisers to be part of the communication and to possibly influence its direction. Although it is not possible to control eWOM, reviews by unsatisfied consumers can be more easily monitored and addressed via eWOM than traditional

WOM. Thus, the benefits of focusing on eWOM instead of traditional WOM to influence consumers are both strategic and economical.

The research question asked how the influence of traditional WOM varied from the influence of eWOM. The answer to this question is a resounding "there is no difference." Regardless of whether the communication is between strong ties, weak ties, or absent ties, the difference between the level of influence for these types of WOM is insignificant. It is true that the overall mean influence was slightly higher in traditional WOM than eWOM; but if the difference in influence is insignificant while the cost efficiency is substantial, then there is little support for pouring resources into traditional WOM when eWOM is arguably as effective. Of course, this does not solve the problem of how to get people to talk positively about a brand, but it does indicate where the money is best spent.

Tests for H5 revealed significant results; however these findings are more important for practical applications than for major theoretical implications. Analysis showed that the influence of WOM on movies was significantly higher than the influence of WOM on mobile phones. This is contrary to the hypothesis, which suggested the higher complexity of mobile phone purchases would drive greater need for information sources (Duhan, Johnson, Wilcox, & Harrell; 1997). One possible explanation could be that movie selection is a lower risk decision so a recommendation may be sufficient to prompt sampling. By comparison, a mobile phone purchase requires a higher investment and greater risk, so more information sources may be sought before making a decision, thereby reducing the influence of any particular source. Another possibility is the added

dimensionality of mobile phones over movies insomuch as the complexity in features for

mobile phones may be more or less important person-to-person and therefore WOM is

less likely to be as valuable for mobile phones as movies. Essentially, personal taste may

be more important for mobile phones than movies. In hindsight, it would be reasonable

to consider the hypothesized relationship in the reverse order with movies influenced

more than mobile phones. The results also suggest that the influence of WOM is likely to

vary by product category. Additional research, whether by academics, advertisers, or

marketing research companies, could examine a benchmark of WOM influence then

determine which categories are more or less dependent on such communication. While

WOM is often part of any strategic communication campaign, the influence for the

category may affect the size or share of the budget allocated to such projects.

The only hypothesis fully supported by the results was H6, which proposed the

persuasion aspect of the influence construct would be rated higher than the purchase

probability. Like the results of H5, the implications for this analysis are mostly related to

measurement tools. It should not be surprising that it is easier to be persuasive than it is

to cause a behavior. Both persuasion and purchase probability were measured because it

was important to confirm people found the recommendations persuasive before they

could be said to make a purchase decision based on such recommendations. It was also

important to use both persuasion and purchase probability in creating the influence

construct because it allows for people to become aware of a brand and possibly consider

it in the future, even if the recommendation is not sufficient to spur action directly. One

caution from the findings is that persuasion may be more easily measured, but researchers

should take care before extrapolating persuasion to purchase behavior. As long as advertisers' ultimate goal is to affect purchase behavior, then research should examine both the persuasiveness and purchase probability, or intent, of communication.

Limitations and Direction for Future Research

Although this study did not find a significant difference between traditional WOM and eWOM based on the variables and measurement used, it is still possible that these two types of WOM may vary in other conditions. The scope of the study necessitated limiting the number of dependent variables as well as creating consistent scenarios that examined a specific form of traditional WOM (face-to-face recommendations) and eWOM (recommendation on a social networking site, technology site, or movie site). In other words, it is possible that other forms of eWOM, such as emails, tweets, or viral videos may have provided different results. Similarly, if the dependent variable had measured awareness, interest, or likeability, there may have been more significant differences. Thus, future research could examine the relationship between traditional WOM and eWOM across a variety of factors.

The theories identified for this study are predictive and intended to illuminate how the influence of traditional WOM and eWOM would vary across tie strength. However, these theories do not explain why no significant difference was found between traditional WOM and eWOM. For example, attribution theory explains why people are less likely to recommend information they attribute to circumstances, but it does not explain why one platform is more likely to be attributed to circumstances than another. Furthermore, although participants could identify whether they received the information online or in-

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person, it is unclear whether the participants viewed these as different types of communication, namely eWOM and traditional WOM. In addition, each theory was used to predict whether traditional WOM or eWOM would be more influential, but this study did not set out to test which tie strength would give the most influence. Instead, these findings are based on additional tests performed on the data. It is also important to note that traditional WOM and eWOM should not be considered the only source of influence in consumer purchase decisions. Advertising, public relations, and experience are just a few of the other information sources people reference when making product selections. Therefore, this study was not intended to suggest the overall value of traditional WOM or eWOM communications, but instead examined whether these two types of WOM are equally effective. Future studies can overcome these limitations by comparing the influence of WOM against other information sources to determine the relative influence.

Another limitation of this study was the measurement of a single dependent variable influence score. As indicated by the significant differences found between persuasiveness and purchase probability, as well as the model developed by De Bruyn and Lilien (2008), it is likely that WOM influence varies along the consumer journey for the decision-making process. Although it was necessary for the scope of this research to focus on a single dependent variable, future research could examine whether the type of WOM influences earlier stages such as awareness or attitudes toward a product.

Of course, given that the method was an experiment, the results cannot be generalized to the larger population. Future studies can employ alternative methods, such as surveys, to achieve the goal of generalization. Although the sample size should be

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sufficient based on a power analysis, the sample skewed heavily toward female participants and most participants were in their early 20s. It is unknown how a more gender-balanced or age-diverse sample may have responded differently. Future studies can overcome this limitation by drawing on additional and alternative demographic segments of the population to gain a more diverse and perhaps robust picture of the phenomenon presented here.

In addition to the above suggestions, future research could include a qualitative investigation of how people interpret WOM across product categories. As one of the few analyses to show statistical significance, additional research on the varying levels of WOM influence across industries is warranted. In fact, such research could also be quantitative in order to generalize the findings. This study also lends itself to various operationalizing of the constructs, which could lead to different experimental scenarios. For example, influence could be measured using purchase intent instead of purchase probability, or influence could be measured based on a change in attitude following a WOM recommendation.

Finally, another area of interest would be to examine whether marketer-initiated versus consumer-initiated WOM affects the influence on consumers. This would challenge an assumption of advertisers that WOM influences whether it is from marketers or consumers. This research could be qualitative or quantitative, but would likely focus on the transparency, credibility, and reaction of consumers to advertisers' attempts to stir the conversation.

Conclusion

The core research question of this thesis was how the influence over consumer purchase decisions varied across the type of WOM (traditional WOM and eWOM) as well as tie strength (strong, weak, and absent). The hypotheses were based on a blend of the strength of weak ties, social exchange theory, and attribution theory. Essentially this thesis examined whether WOM in either form is equally influential.

The results of this study suggest that there is no significant difference between the influence of traditional WOM or eWOM. While this was not what the researcher expected, the findings did fill a gap in the literature. Therefore, researchers may be confident in developing models based on data collected in one medium (online or offline) and projecting the findings to the other. Similarly, advertisers can look to leverage eWOM for a greater return on investment if the expenditure for eWOM is less than traditional WOM but the influence is comparable. The study also provides additional support for theories regarding tie strength insomuch as strong ties are significantly more influential than weak or absent ties. Interestingly, there was no significant difference between weak or absent ties.

Finally, the measurement of WOM and influence should be carefully examined. Multiple product categories should be tested for their variability, and constructs for influence should be more complex than simply persuasion or purchase alone. Overall, WOM appears to be an influential source for the decision-making process, and the "who" is more important than the "how" or "where."

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APPENDIX

Appendix A

IRB Approval

See IRB #1195339, last project listed, titled *The Influence of Traditional Word-of-Mouth, Electronic Word-of-Mouth, and Tie Strength on Purchase Decisions.* Project status is "Approved Exempt."

Appendix B

Informed Consent

This online questionnaire is part of an academic research project on how people think about product reviews. Please take a few minutes to answer the questions. There are no right or wrong answers, and your responses will be anonymous. Once you have completed the questionnaire, you will be asked to submit your responses. Participation in this study is voluntary and you have the right to choose to stop at any time. For your time, a $10 Amazon gift card will be sent to you within one week.

For a link to the questionnaire, please contact Tiffany Jackson at tlsg26@mail.missouri.edu

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Appendix C

Questionnaire

This online questionnaire is part of an academic research project on how people think about product reviews. Please take a few minutes to answer the questions below. There are no right or wrong answers, and your responses will be anonymous and confidential. Once you have completed the questionnaire, you will be asked to submit your responses. Participation in this study is voluntary and you have the right to choose to stop at any time. For your time, a $10 Amazon gift card will be sent to you within one week.

Thank you for your participation, we appreciate your feedback.

Part I: Product Reviews
This section includes two scenarios about product reviews from a close friend.

You are looking to buy a new mobile phone. Imagine you are online visiting a social networking site. While browsing online, you see a close friend has posted a positive product review describing his/her new mobile phone. Think about how likely you are to consider this information in your purchase decision.

How would you rate the persuasiveness of a product review from a close friend on the following items? The closer your selection is to a word, the more you agree with the description.

- Likely to influence 1   2   3   4   5   6   7   Unlikely to influence
- Convincing   1   2   3   4   5   6   7   Not Convincing
- Strong   1   2   3   4   5   6   7   Weak

Using the same scenario, based on the product review from a close friend, how likely would you be to purchase this product in the next 12 months? Please choose one.

    10- Absolutely Certain
    9- Almost certain
    8- Very probably
    7- Probable
    6- Good possibility
    5- Fairly good possibility
    4- Fair possibility
    3- Some possibility
    2- Slight possibility
    1- Almost no chance

0- No chance

You are planning to go see a movie. Imagine you are online visiting a social networking site. While browsing online, you see a close friend has posted a positive product review about a new movie he/she saw. Think about how likely you are to consider this information in your purchase decision.

How would you rate the persuasiveness of a product review from a close friend on the following items? The closer your selection is to a word, the more you agree with the description.

- Likely to influence 1   2   3   4   5   6   7   Unlikely to influence
- Convincing   1   2   3   4   5   6   7   Not Convincing
- Strong   1   2   3   4   5   6   7   Weak

Using the same scenario, based on the product review from a close friend, how likely would you be to purchase this product in the next 12 months? Please choose one.
10- Absolutely Certain
9- Almost certain
8- Very probably
7- Probable
6- Good possibility
5- Fairly good possibility
4- Fair possibility
3- Some possibility
2- Slight possibility
1- Almost no chance
0- No chance

Part II: Demographic Information
Age: _____
Gender: _____ Male   _____ Female
Are you a student: ____ Yes   _____ No
Do you have access to the Internet at home? _____ Yes   _____ No

Part III: Product Reviews
In the previous scenarios, who gave you the product review? Please choose one.
- Close Friend
- Acquaintance
- Stranger
- Not sure

In the previous scenarios, which of the following best describes how you received the product review? Please choose one.

- Online
- In Person
- Not sure

Thank you for participating. Please hit "done" to send your response.

Debrief

Thank you for your participation in this study. This study uses six versions of the questionnaire you have just completed, but changes the situations slightly for the following conditions:

1. Review is from a close friend and read online
2. Review is from an acquaintance (such as a coworker or classmate) and read online
3. Review is from a stranger and posted to a user-reviews site online
4. Review is from a close friend and discussed face-to-face
5. Review is from an acquaintance (such as a coworker or classmate) and discussed face-to-face
6. Review is from a stranger and discussed face-to-face

You are free to withdraw your data from this research study, if desired.

If you would like more information on the study or the findings, please see the contact information below.

Additional Scenarios for Treatment Conditions

eWOM

Weak Ties- Acquaintance (such as a coworker or classmate)
You are looking to buy a new mobile phone. Imagine you are online visiting a social networking site. While there, you see an acquaintance (someone you know by name but are not close to) has posted a positive product review describing his/her new mobile phone. Think about how likely you are to consider this information in your purchase decision.

You are planning to go see a movie. Imagine you are online visiting a social networking site. While browsing online, you see an acquaintance (someone you know by name but are not close to) has posted a positive product review about a new movie he/she saw. Think about how likely you are to consider this information in your purchase decision.

Absent Ties- Anonymous/Strangers
You are looking to buy a new mobile phone. Imagine you are online visiting a technology site. While browsing online, you come across positive user product reviews which describe people's experiences with particular mobile phones. Think about how likely you are to consider this information in your purchase decision.

You are planning to go see a movie. Imagine you are online visiting a movie site for showtimes. While browsing online, you come across positive user product reviews which describe people's reviews of new movies. Think about how likely you are to consider this information in your purchase decision.

Traditional WOM

Strong Ties- Close Friend
You are looking to buy a new mobile phone. Imagine you are hanging out with a close friend. Your close friend tells you about a recent purchase and describes his/her positive experience with the mobile phone. Think about how likely you are to consider this information in your purchase decision.

You are planning to go see a movie. Imagine you are hanging out with a close friend. Your close friend tells you a positive review about a new movie he/she saw recently. Think about how likely you are to consider this information in your purchase decision.

Weak Ties- Acquaintance (such as a coworker or classmate)
You are looking to buy a new mobile phone. Imagine you are having a conversation with an acquaintance (someone you know by name but are not close to). Your acquaintance tells you about a recent purchase and describes his/her positive experience with the

mobile phone. Think about how likely you are to consider this information in your purchase decision.

You are planning to go see a movie. Imagine you are having a conversation with an acquaintance (someone you know by name but are not close to). Your acquaintance tells you a positive review about a new movie he/she saw recently. Think about how likely you are to consider this information in your purchase decision.

Absent Ties- Anonymous/Strangers
You are looking to buy a new mobile phone. Imagine you are at the store looking at various kinds of phones. While looking through the store, another customer sees the mobile phone you are looking at and tells you about his/her own positive experience with that particular mobile phone. Think about how likely you are to consider this information in your purchase decision.

You are planning to go see a movie. Imagine you are at the theaters trying to decide which movie to see. While waiting in line for tickets, another customer asks what you are planning to see and describes his/her own positive reaction to the movie. Think about how likely you are to consider this information in your purchase decision.

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