

## **The diffusion of marketing "buzz" in social networks**

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### **Abstract**

Much research has been conducted to date about Word of Mouth (WOM) in the real world, but not enough research has been conducted regarding WOM in social networks. Unfortunately, in this field, there is much that is still unknown. The findings of this study, despite its limitations and its small scope, shed some light on some of the salient differences between WOM in the real world and WOM in a social network.

This study indicated that, like WOM in the real world, negative WOM is spread more rapidly and more widely than positive WOM. We also found, not surprisingly, that the greater the identification with the message, the greater the intention to act in compliance with the message. Opinions about the message sender were more positive for negative WOM. These findings match what we know about WOM in the real world.

In contrast, we discovered that, unlike the real world, people are likely to spread WOM in a social network even if they do not especially identify with the message. A possible reason for this phenomenon is the ease with which WOM can be spread on a social network. People tend to pass on WOM, especially negative WOM, if they feel it is important and has a cautionary message. This finding is important for marketing in social networks, and more research is needed into this issue.

**Key Words:** Word of Mouth (WOM), Social Networks, Negative/Positive WOM,

## Introduction

Internet marketing in general, especially in social networks, is a complex field, rich in possibilities, and one that opens up a great variety of opportunities to promote new businesses and business enterprises. A number of marketing methods are commonly used on the internet:

- (1) Internet marketing by advertising. This method enables promotion of the product in several ways, such as acquiring advertising space on popular sites (banners), where the message is displayed to users in a prominent position or in a relatively low-key fashion (for example, Google's AdWords).
- (2) Acquiring "search words" related to the subject being advertised in search engines such as Google, so that our site will be the first to appear in the search and will feature in a prominent position. These marketing methods usually entail per click payment. In this way, it is possible to develop an internet presence, since most information searches on the web begin with a search engine.
- (3) Internet marketing through social networks. This relatively new field enables marketing at several levels:
  - a. banners, as mentioned in the previous paragraph
  - b. buzz agents.

What actually are buzz agents?

It all starts with word of mouth (WOM) marketing. This is a well-known method, whereby a non-expert who has a certain opinion on a product or service, shares his beliefs, opinions and experiences regarding that product or service. WOM, and indeed diffusion of information about products or services among customers in general, have attracted the interest of marketing experts since the early 60's (Rogers, 1995). This method plays an important part in influencing potential customers and future consumers. Generating positive WOM in the "real" world entailed a phone call or a meeting. In contrast, achieving positive WOM on the internet is easier and cheaper. Therefore, companies and businessmen are trying increasingly to promote positive WOM on the

internet, to which end they also hire the services of agents. These are, practically speaking, people who get paid for spreading positive WOM about the company through all possible channels, be it talkbacks on news sites, participation in different forums or use of instant messaging. The company achieves extremely wide exposure at minimal cost. Recently, with the increase in popularity of social networks, activity has moved into this arena. In a social network, when I publicize what I think, all my friends see my message, as well as all my friends' friends, with whom I have no connection whatsoever. This way we gain enormous exposure with minimal effort. As soon as a few friends try the product as a result of what I wrote, they are also likely to be satisfied with it and publicize a response. If we cause people to talk about the product or service, and make it a relevant, hot topic for discussion, we have in effect generated "buzz".

People like to talk to people. Even in the computer age, we still like to talk. 80% of WOM conversations take place live, as opposed to 20% on the internet (Balter and Butman, 2005). Most of these conversations, whether online (blogs, e-mails, SMS's, internet product sites, forums) or live, are assumed to be honest (Kaikati, 2004), and in particular, spontaneous. Thomas (2004) indicated that information received from a friend lends explicit reliability and credibility.

I chose to focus on the topic of buzz in social networks, since this is a topic that has gained popularity in recent times and is very important, both for its practical applications and as a research field.

I attempt to investigate whether negative buzz diffuses through a social network more rapidly than positive buzz. The results of the study will probably shed light on the differences between positive and negative buzz in a social network. The results may also help us draw conclusions and formulate marketing recommendations for companies and business owners who are considering using this method of marketing.

In the following section a literature review is presented. Gaps in the existing knowledge are the drives of the current empirical study, which is an attempt to answer some of the research questions that characterize the early phase of the field. Conclusions and directions are offered with regard to the influence of positive and negative buzz in a social network.

## **Background and Literature Review**

In a study by Ahuja, Michels, Walder and Weissbuch (2007), the perceptions of teenagers about marketing buzz was studied by means of focus groups. It was found that teenagers like to serve as “buzz agents”, considering it to be a job. They usually conceal the fact that they are buzz agents and do not see this subterfuge as an ethical dilemma. They understand the benefit for themselves and for the company for whom they are working. One important practical implication of the findings is the importance of creating a relationship that encourages honesty and transparency in the marketing process, when teenagers act as buzz agents. WOM has a tendency to arouse the suspicion of the receiver, that someone is trying to “sell” him something, or that there is some sort of dishonest or non-transparent marketing going on, with a detrimental effect on the spread of the WOM. Therefore, our study attaches special importance to the subject of WOM credibility.

The study dealt with the power of teenagers in social networks and the power of marketing buzz. Teenagers are heavy consumers of offline and online media and spend about one and a half hours a day social networking (Hempel and Lehman, 2005). The considerable time they spend on it increases their exposure to positive or negative WOM in the social network, a fact that adds to the importance of this study’s results for potential advertisers.

The research showed that the logic guiding the teenagers is one of profitability – “the end justifies the means”. “Disclosing” the teenagers as advertisers is liable to reduce the potential of the buzz they are trying to generate. Considering the skepticism of teenagers regarding advertising in general, the very fact that they serve as buzz agents is likely to give them power and influence, but is also liable to arouse controversy if they are discovered. For the purpose of the present study, and since there is no legislation on the subject as yet, two assistants served as buzz agents in order to test the proposed hypotheses.

Research has shown the importance of WOM in shaping consumer attitudes, both in reaching a decision to buy (Banal and Voyer, 2000) and in reducing the risk associated with buying (Murray, 1991). In addition, WOM is critical for the success of service

providers (Berry and Parasuraman, 1991). For this reason, in this study one of the categories for which WOM was generated dealt with a service provider, in our case, an internet provider.

Bayon and Wangenheim claimed in their 2004 study, that a discrepancy still exists between the importance of WOM and existing research. Firstly, the forces that determine the strength of WOM are still not well understood. Secondly, insufficient attention has been paid to measuring the effect of WOM. When measuring the result ensuing from the WOM received (changing the service provider or not, making the purchase or not), we cannot measure the strength of the WOM giver, because we do not know what other factors caused the action, such as satisfaction/dissatisfaction, sales promotion, customer loyalty programs etc. In most cases, it would be unrealistic to assume that the decision was made on the basis of the WOM message alone. Perhaps this is the reason why measuring WOM influence has focused chiefly on measuring attitudes reported by WOM receivers. Receiving positive or negative WOM was the independent variable, and WOM receivers were compared to a population that had not received the WOM, with regard to purchase intentions (Charlett et al., 1995; Herr et al., 1991), or evaluation of the product (Bone, 1995; Cohen and Golden, 1972). Researchers usually asked about the level of influence of the WOM giver (Bansel and Voyer, 2000), but the behavior of the WOM receiver has never been analyzed. Research has shown that attitudes and behavioral intentions are not always good predictors of actual behavior, and that, in certain circumstances, behavioral intentions are totally unrelated to actual behavior (Fishbein and Ajzen, 1975). We are also likely to observe that the perceived influence of the WOM does not necessarily lead to the actual choice. In order to see the correlation between the perceived influence of the WOM and actual behavior, we must first measure the perceived influence of the WOM and then measure the choice and actual behavior. Therefore, in the second part of this study, questionnaires are distributed to WOM receivers, in which they rank the perceived influence of the WOM and are asked about the degree of influence that receiving the WOM had on their choice and decision in practice.

The study found that potential customers with a high risk perception should be approached by experts who explain the advantages of the company's service, whereas

customers ranked high with regard to social/psychological risk should be referred to peers whom they perceive as similar to them.

This must also be considered when making operative recommendations based on this research.

In a study carried out by Donovan, Mowen & Chakraborty, to test the influence of WOM by means of a story with negative content, urban legends were fabricated. The results of the study indicated that the more positive the character and the results were, the less people spread the WOM. The conclusions of this paper are in agreement with the hypothesis of our research that people tend to spread mainly WOM with a negative message. The paper discusses the effect of negative information on consumers, considers urban legends in general, and describes the results of an experiment in which the effects of two types of negative information on the intentions of consumers to spread urban legends were examined. The paper also attempts to outline the influence that the presence of a brand name has on spreading such an urban legend.

People pass on more information about failed products and services than about successful products and services (Folkes, 1984). It was also found that a tendency exists to include more negative information in WOM communication than positive information (Arndt 1967; Herr, Kardes and Kim, 1991). Information about failed products tends to be more vivid, and therefore reinforces the continued propagation of the story (Kamins, 1997). This research found that consumers are significantly more exposed to negative rumors than positive ones (92.6% as against 7.4%). On the other hand, this study found that there is a greater probability of hearing about a rise in the ranking of an academic institution for business management than a fall in ranking. Therefore, there is seemingly contradictory evidence with regard to the influence of the nature of the message (positive or negative) on its chances of being passed on. Kamins postulates that the main reason for spreading a rumor is self-interest. A positive rumor has a positive effect on the disseminator, whereas negative information is liable to harm the competitor. In contrast to such rumors, urban legends are stories with a plot, and have no connection with the disseminator.

The second part of the study examined whether inclusion of a brand name would have any influence on consumer perception of the urban legend. A study carried out by Herr, Kardes and Kim (1991), found that vivid information is more accessible to the memory and influences judgment more, with regard to WOM or printed information. Jolly and Mowen, (1984), found that a call to repair products had a greater effect when the brand name was well known, than when it was unknown. Therefore, we must take into consideration that including a brand name in the WOM we disseminate is worthwhile, in order to achieve maximum vividness.

The study found that when the intention was positive, mention of the brand name increases the chance of diffusion, whereas when the intention is negative, a reputable brand name is likely to soften the negative message. This must be considered when measuring diffusion of WOM about a strong brand.

The weakness inherent in Jolly and Mowen's research is that the intention to spread the WOM was measured, not the actual diffusion. Despite the fact that some studies do attest to a strong connection between the two, intentions do not always predict behavior. In our study we will be able to examine actual diffusion, by tracing those who join and leave the groups we set up in the social network. Based on the results of this study, we decided to include brand names in the stories to be spread, in order to increase the power of the message and its chances of diffusion.

Mazzarol, Sweeney and Soutar (2005) conducted an exploratory study to investigate the complexities of the WOM concept, and simultaneously to examine the triggers that motivate people to engage in WOM activity and the conditions that enhance it. The study was conducted using six focus groups, each of which numbered nine participants on average. Two key WOM terms were identified and termed "richness of message" and "strength of implied or explicit advocacy", as well as various triggers and conditions that affect WOM occurrence. The study was conducted within the limitations of quantitative research, with no supportive qualitative research, and it focused on the message giver rather than the receiver. The study suggested that WOM activity is more complex than previous research had argued. Managers need to consider various WOM facets, and, in particular, the fact that WOM will be more favorable when the message is positive, rich



and conveyed in a strong manner. The study was conducted using focus groups, with 54 participants, representing customers (4 focus groups) and potential customers (2 focus groups) of an economic institution (that collaborated in the research). The outcome of the WOM was investigated from the viewpoint of the message receivers. Several key factors were raised: (1) The richness of the message, with regard to its depth and strength, and in particular, the language of the message and the number of details conveyed in it (2) The scope of the stories at the time of conveying the WOM. The message givers considered the story to be an enjoyable experience, from their viewpoint and from that of the receiver. The story aspect included elements of humor and flowery language; storytelling was usually mentioned in the context of unfavorable WOM.

One of the triggers for spreading WOM was the awareness that the receiver needed information: favorable WOM to help the receiver, or unfavorable WOM to warn him/her. Therefore, in the present study we tried to spread up-to-date WOM related to subjects topical to the period of the study, in order to increase the chance that WOM receivers would spread it further. Other findings of this study show that closeness between the WOM giver and receiver is an important factor, since WOM is usually spread between friends and relatives.

In the current study, we tried to ensure that the message we conveyed in the WOM groups was rich. The message in the negative groups conveyed caution, while that of the positive groups tended to convey a good feeling to those who joined. Soutar and Mazzarol (2007) studied the factors that were most likely to increase the chances that WOM message receivers would be influenced by the information they receive. The particular contribution of this research lies in the fact that most existing studies investigated the message giver, whereas this study tries to draw conclusions about the message receivers, who are usually considered to be something of a black box. Results indicated that the potential of WOM to influence perspectives or actions depends on the nature of the relationship between the giver and receiver of the message, the richness and strength of the message and the way it is conveyed, and various personal and situational factors.

As indicated above, WOM results were investigated from the viewpoint of the message receivers. Several interesting findings came to light:

(1) A positive message led to a feeling of enthusiasm, confidence and optimism among receivers.

(2) Negative WOM led to good will towards the message giver, and at the same time to anger and a more negative opinion of the company.

However, it is important to note that, in certain cases, the receiver was rather suspicious regarding the credibility of the WOM. Therefore, in our study, we shall examine the WOM receiver's opinion of the WOM giver, his level of suspicion regarding message credibility and his opinion of the brand mentioned in the WOM.

The study indicated four groups of factors likely to increase the influence of the WOM on the receiver: personal factors, interpersonal factors, situational characteristics and message characteristics. In the first category, three key factors were found:

(1) The risk involved in deciding to listen to and accept the message, as perceived by the receiver.

(2) Potential improvement of the purchase or the product.

(3) Psychological outcome for the receivers.

In the category of interpersonal factors, it seems that WOM was more effective when the ties between the giver and receiver were close and based on trust and mutual respect. The third group deals with situational factors, in other words, factors unrelated to the giver, the receiver or the ties between them. The first factor in this group relates to the nature of the service in question. WOM was less effective for a very mixed, complex and high-risk service. Therefore, in our study, we tried to ensure that the services featured in the WOM we disseminated dealt with ordinary, everyday subjects, of as low-risk a nature as possible. Due to the limitations of the social network in which we chose to disseminate the WOM, it was not possible to develop close ties with all the WOM receivers within the budget and time frame at our disposal, and therefore this factor is not measured.

The value of the WOM rose, too, when the receiver was not able to obtain the information needed to make a decision. As expected, the WOM was conveyed better when the receiver was very interested in the message. It was clear, too, that the WOM was valued more when the message was received at a time when the receiver was

searching for information on the topic. Finally, WOM was especially important when the receiver had no time to investigate alternatives. The last issue, and perhaps the most interesting, deals with characteristics of the WOM itself, i.e. the manner in which the message was delivered and the nature of the message, which also influenced the effectiveness of the WOM: specifically, the richness of the message, how vividly it was delivered and the body language of the giver.

The study suggests several effective insights for managers seeking to systematically generate WOM as a tool for sales promotion. An organization that invests both in good customer service and in effective promotion of its products and services is likely to gain more from benefit from WOM since it reinforces the information already included in the communications process. In a study by Xueming Luo, the effect of NWOM (negative word of mouth) was measured on the stock market.

The study found that NWOM had both a short and long term (20 months) impact on the firm's cash flow and stock values, which served as criteria for assessing the influence of NWOM. It was also found that it takes around 3-4 months until the impact of NWOM peaks, and an average of 6-7 months until it dies out. In other words, the impact is not immediate, since the effect of NWOM among investors grows with time. Similarly, its impact does not die out overnight. The study actually found significant evidence of a 'vicious' cycle of NWOM – namely, that the more historical cash flow deficits the firm has, the more harmful NWOM will be in the future.

The study found, too, that in a competitive climate, the long-term impact of NWOM becomes more destructive, kicks in more quickly and haunts investors for longer. Therefore, it would have been preferable had our study been conducted over a longer period, but because of time restraints we had to limit it to a relatively short period of two months.

The study reinforces the claim that “the effect of WOM is notoriously hard to measure”(Rust et al, 2000, p. 46) because its effect is likely to be long lasting. A study of the relative incidence of positive and negative WOM (Hammond, East, Wright, 2007) indicated that according to 15 previous studies, positive WOM was more prevalent than negative WOM in a ratio of 3:1. Their study found that PWOM is more

prevalent NWOM, and conjectured that more people are satisfied with a service or product than dissatisfied. It was found, too, that categories of products that tend to receive PWOM also tend to have high levels of NWOM. PWOM usually relates to the present chief brand, whereas NWOM relates to past brands. In addition, a strong direct correlation was found between PWOM, and sometimes NWOM, and the brand's market segment. For this reason we tried to formulate a WOM message that related to brands with a large market segment. Another study (East, Hammond, Lomax, 2005) examined the effect of positive and negative WOM on the probability of buying a brand, as reported by the research subjects themselves. The study found that PWOM has a greater influence on the probability of buying a particular brand than NWOM. The explanation given by the researchers for the greater effect of PWOM posits prior probability to purchase (PPP). They found that the level of PPP was less than 0.5, allowing more room for positive, rather than negative, change.

## **Method**

The current study attempt to investigate whether negative buzz spreads more quickly than positive buzz in a social network. I also wish to examine the effect of a positive or negative message on the WOM receiver, according to several parameters, including level of identification with the message, did he/she pass on the message, the WOM receiver's intention to act in compliance with the nature of the message, his/her opinion of the message giver (positive or negative) and the perceived trustworthiness of the message.

The following hypotheses are examined:

- **H1a** The number of people that join the negative groups will be significantly greater than those joining the positive groups.
- **H1b** The number of people joining the negative groups will grow more rapidly than those joining the positive groups (negative buzz will spread faster than positive buzz).

Subsequently, in the second part of the study, questionnaires are distributed, in order to test additional hypotheses:

Hypotheses of the study independent of the type of message (positive or negative):

- **H2** The greater the identification of the WOM receiver with the message, the greater the number of people he/she will pass it on to.
- **H3** The greater the identification with the message, the greater the intention to act in compliance with the message.

Hypotheses dependent on the type of message (positive or negative):

- **H4** The level of identification with the message will be greater when the WOM is positive.
- **H5** The WOM receiver's opinion of the message giver will be more positive for negative WOM.
- **H6** The suspiciousness level of the receiver will be greater regarding negative WOM.

Since spreading WOM in the virtual world is significantly easier than in the real world, we assume that the WOM receiver is sometimes likely to pass on the message no matter what his level of identification with the message is (Hypothesis H3). In addition, during the field study, I found evidence that contradicted Hypothesis H6. In three different cases, the researchers were asked whether they had received money or any sort of benefit from spreading the positive groups' message. Therefore, it is possible that the level of suspiciousness towards the message will be higher regarding positive WOM, contrary to the findings described in the literature review.

In line with the research of Mowen, Van & Chakraborty, I expected to find that the groups of negative buzz will be significantly larger than the positive buzz groups (Hypothesis H0), mainly because the greater diffusion on negative messages in the given time frame (which we will test using Hypothesis H1). I also expected the level of identification with the message to be greater in the case of a positive message than a negative message (Hypothesis H4). In keeping with Sweeney, Soutar and Mazzarol's

study, I also expected to find a higher level of suspiciousness (Hypothesis H6), a more positive opinion of the WOM giver (Hypothesis H5) and greater trustworthiness, with regard to negative WOM.

## **The Study:**

The study was conducted with the assistance of two MBA students. We conducted a descriptive quantitative study on the basis of a representative probability sample, and performed the experiment by changing the independent variable (positive or negative message) and examining the effect on the dependent variables.

The study was divided into two parts, in order to maximize its external validity.

The first part of the experiment was a field study. We documented the list of members of each of the groups every day. This enabled to learn how many new people had joined, giving us a measure of the pace of diffusion. As a result, since the subjects were unaware of the fact that they were participating in an experiment, the external validity of the first part was very high.

In the second part of the study, we distributed questionnaires, and the participants became aware of the fact that they were taking part in a research experiment. Although the external validity was harmed to a certain degree, it did enable to receive answers to additional questions that were unobtainable in the field study.

### **Part A – Field Study**

We set up six groups in the social network Facebook: three groups spread positive buzz and three spread negative buzz. In order to minimize bias as much as possible, we chose symmetrical topics for the groups we formed: one group (propagated by one buzz agent) dealt with a certain brand in a negative context, while the other group (propagated by another buzz agent) dealt with the same brand in a positive context. In addition, each buzz agent formed both positive and negative groups.

The groups we set up dealt with “hot” topics that were featured in the press just prior to the study.

The groups we chose to form for purposes of the study:

- Negative group: a group calling to boycott internet providers 012, 013, because of their interference in surfing speed for file sharers. The description of the group included a link to an article on the subject.
- Positive group: a group calling to join the internet server Bezeq International, because of the fact that it was the only large internet provider that did not interfere with surfing speed for file sharers. The group description included a link to the same article given in the negative group.
- Negative group: a group calling to boycott Haim Hecht's TV program, because of one show that broadcasted populist, unsuitable content involving inappropriate use of children.
- Positive group: a group calling to watch Haim Hecht's show, because his program is stimulating, ethical and value-laden.
- Negative group: a group calling to boycott the fashion chain store H&M because of its demeaning attitude to customers (deliberately long lines at checkout), shortage of sizes and out of date fashion.
- Positive group: a group calling to buy at H&M, because of its fair prices, range of designer clothes at normal prices and because it is fashionable.

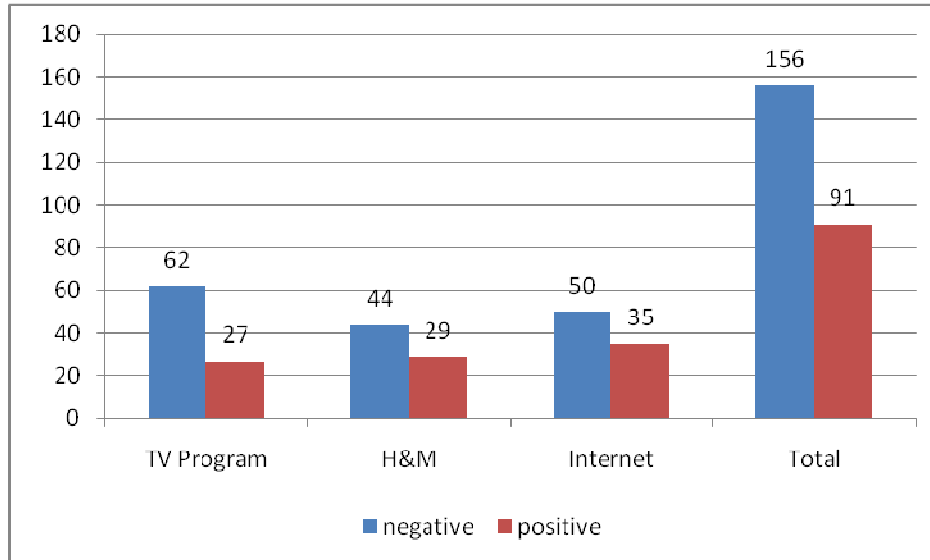
**Part B – Distributing the Questionnaires:**

At the stage at which the various groups' diffusion died out and within the time constraints of this study, we sent a message to the members of the different groups informing them that they had been participating in an academic study investigating the subject of marketing in social networks. The message included a link to an online questionnaire, containing questions intended to test Hypotheses H2-H6 (Appendix 1). A few days later, a final reminder was sent about participation in the study, and the results were collected.

## Results

The results of the field study (Part A) are summarized in the graphs below:

Figure 1 shows the size of the three different groups at the conclusion of the field study:



**Figure 1**

We can see that, in line with Hypothesis H1a, our field study indicated that groups conveying a negative message achieved a significantly larger number of members than those with a positive message, with identical initial values and time frame. The total number of new members in all the negative groups was approximately 71.4% higher than in the positive groups. The highest discrepancy was found in the group that dealt with Haim Hecht's show (129.6%), while the lowest discrepancy appeared in the group dealing with internet providers (42.8%).

We can see, too, that negative groups, even if they dealt with symmetrical topics, consistently reached a notably larger number of social network users in a sufficiently large number of participants to demonstrate statistical significance and a field study of high reliability. Hypothesis H1a is supported.

To test Hypothesis H1b, we examined the diffusion graph, drawn on the basis of daily tracking of new members for each of the groups in the field study:



We can see that on Figure 2-5, a bell-shaped diffusion graph was exhibited (a normal distribution). Figure 6, which represents the total number of members every day (as opposed to the daily number of new members), is a classic S-shaped diffusion curve. Figure 2-5 show clearly that the number of new members daily in the negative groups was greater than in the positive groups. Likewise, diffusion was more prolonged and dying out occurred more slowly in the negative groups (apart from Figure 4, in which the dying out process in the positive group was slower).

It can be asserted, therefore, that the numbers joining the negative groups did indeed grow faster than in the positive groups, in other words, negative buzz spread more rapidly than positive buzz. Hypothesis H1b was thus supported.

To test Hypothesis H2, we used questions from the online survey conducted among members of the different groups. We combined questions 1,2,3 and 7 (inverting the scale) into one variable (TotalMsgIdent), in order to increase measurement reliability. To ascertain the internal consistency of this variable, we tested it with Cronbach's alpha. We received an alpha value of 0.708, demonstrating that our index was of high reliability. We then sought to measure the correlation between the dependent variable of FrndsAmount (an ordinal variable matching question 11 in the online questionnaire – “how many friends did you send an invitation to the group to?” and the index of identification with the message (TotalMsgIdent). We examined the correlation between them using Spearman's test (because of the combination of ordinal and interval scales). We received a weak, insignificant correlation (correlation of 0.269 and significance of  $p=0.077$ ). Hypothesis H2 was thus disproved. In other words, unlike in the real world, when it comes to WOM in a social network, the WOM receiver is likely to spread the message even if he did not especially identify with it. A possible explanation for this is the ease and simplicity of spreading WOM in a social network, in contrast with the higher level of involvement required in order to spread it in the real world.

H3 was investigated by means of examining the correlation between the variable of identification with the message (TotalMsgIdnet) and a new variable (TotalMsgMotivation), which we created from questions 4 and 5 in the online

questionnaire. This new variable was also tested using Cronbach's alpha, in order to ascertain the reliability and internal consistency of this variable. The result showed that this variable is reliable, with an alpha value of 0.848. We tested the correlation between the variables using the Pearson product-moment correlation coefficient, which indicated a fairly strong (0.628) and significant ( $P=0$ ) correlation. Hypothesis H3 was thus verified: the higher the level of identification with the message, the greater the intention to act in compliance with the message.

Investigation of Hypothesis H4 was performed by testing the correlation between the variable of identification with the message (TotalMsIdent) and the independent variable Group Type, which contained 1 for a positive group and 2 for a negative group. We wished to examine whether a difference exists in the level of identification with the message between groups of a negative nature and those of a positive nature. To examine the correlation, we used the T test for independent variables. The results, using Levene's test, showed a coefficient of 0.155, therefore the variances are equal, meaning that the test is not significant ( $p=0.579$ ). From here we learn that no correlation exists between the level of identification with the message and the type of WOM (positive or negative), in contrast with the findings of the literature review on WOM in the real world. Hypothesis H4 was not supported.

We tested Hypothesis H5 by examining the correlation between the type of message (positive/negative) (GroupType) and opinions about the message sender, for which we made a weighted calculation based on questions 6,11 and 12 of the online questionnaire. We combined questions 11,12 as one index that measured opinion change (ranging from -6 for an opinion that made a marked negative change, to +6 for an opinion that made a marked positive change). We named this variable OpinionOnSender and we calculated Cronbach's alpha coefficient for this variable together with the variable Sender 1, which measured the trustworthiness of the message sender in the eyes of the WOM receiver. An alpha value of 0.150 was obtained. Since this value was too low, we did not combine the questions into one index, but used only the OpinionOnSender index (without measuring the trustworthiness of the message sender).

As mentioned above, we wished to see whether a difference exists between positive and negative groups with regard to opinions about the message sender. Once again, we used a T test for the independent variables. Using Levene's test we obtained a coefficient of 0.374, indicating that the variances are equal and therefore the test significant ( $p=0.001$ ). Examining the averages of both groups, we learned that in negative groups, the opinions about the WOM sender were significantly more positive, with an average of 3.56, as opposed to 1.4211. Hypothesis H5 was supported.

We tested Hypothesis H6 by examining the correlation between the type of message (positive/negative) and the level of suspiciousness towards the message and the message sender (variables Sender 1 and MsgAuthenticity in an inverted scale), based on questions 6,8 in the online questionnaire. Firstly, we tested Cronbach's alpha coefficient for the index comprised of both questions. We obtained a coefficient of 0.733, attesting to the variable's reliability. We therefore created a new variable – Suspiciousness. We then examined the correlation with the independent variables using T tests. Using Levene's test we obtained a coefficient of 0.415, indicating that the variables are equal and the test is significant ( $p=0.010$ ). We therefore examined which of the groups had a higher average. It seems that in the positive groups the WOM receivers were more suspicious, with an average of 3 as opposed to 1.8, which is statistically significant and contrary to the expectations arising from the literature review. It is interesting to note that this finding is in line with feedback we received in the course of the experiment, as buzz agents and independently. People expressed their suspicions, online and offline, that we were receiving money for spreading the positive WOM.

## **Discussion**

At the conclusion of the experiment, we discovered that some of our research hypotheses had been verified, some had not, and one hypothesis had been proven to be contrary to our expectations, at a statistically significant level.

### Supported Hypotheses:

Hypotheses H0, H1: In keeping with the study conducted by Mowen, Van & Chakraborty of WOM in the real world, in a social network negative buzz groups demonstrated significantly greater diffusion than positive buzz groups. Negative groups had also reached a significantly higher number of members by the conclusion of the experiment. Interestingly, at the beginning we expected there to be differences in the size of the groups because of the experiment's limited time frame, but, in fact, in all the groups diffusion was dying out before the end of the experiment. In other words, the time limit did not significantly affect the size of the groups in this experiment, and the experiment was concluded when the process of dying out was in full force. All the groups had identical starting conditions, identical time frames and dealt with symmetrical topics. The results we obtained were consistent for all groups.

Hypothesis H3: The higher the level of identification with the message, the greater the intention to act in compliance with the message. This finding may well be significant for advertisers, for whom it is important to motivate new members of their group. If advertisers need active, not passive, participants, or strong diffusion, they must create strong identification.

Hypothesis H5: In keeping with the study conducted by Sweeney, Soutar and Mazzarol of WOM in the real world, our results showed that in a social network, too, the opinion of the WOM receiver of the message sender was more favorable in the negative groups. When we combined two variables (OpinionOnSender, Sender 1) into one variable, the unified variable had low internal consistency and failed the Cronbach alpha test. We therefore remained with the basic variable – OpinionOnSender and did not combine variables. The variable OpinionOnSender represents the degree of positive or negative change among WOM receivers with regard to the message sender, while the variable Sender1 represents the trustworthiness of the WOM sender in the eyes of the message receiver. The fact that internal consistency was low suggests that a positive opinion of the WOM sender is not necessarily correlated with his perceived trustworthiness. The

significance of this finding is that people may have a positive opinion about the WOM sender even if they have doubts as to his trustworthiness. Here, too, there is room for further research, to define more clearly the circumstances and implications of this finding.

In contrast, for Hypotheses H2, H4 we obtained insignificant results and a weak correlation, contrary to our expectations at the beginning of the study. Regarding Hypothesis H2, we found that people spread WOM with no relation to their level of identification with the message. (The correlation was weak and statistically insignificant). The ease with which WOM can be spread on a social network may have influenced this finding. Possibly, people feel they can “warn” other members, especially if the WOM is negative, even if they do not especially identify with the message. This finding could be of critical importance for advertisers on a social network: they do not have to create strong identification among users in order to generate widespread diffusion. There is definitely room for more research of this phenomenon, focusing on factors that motivate receivers to pass on the message, even though they do not identify with it. However, a discussion on the subject is beyond the scope of this study.

Regarding Hypothesis H4, we found that identification with the message was not related to the type of message (positive or negative), contrary to the findings of Mowen, Van & Chakraborty in their study of WOM in the real world. Therefore, an advertiser who particularly wants to create strong identification (and thereby generate motivation to act, according to Hypothesis H3) does not necessarily have to focus on a positive or negative message, since no correlation was found between message type and level of identification with the message.

For Hypothesis H6 we obtained a finding that ran contrary to our initial expectations. In keeping with Sweeney, Soutar and Mazzarol’s research on WOM in the real world, we expected to find a higher level of suspiciousness of the message with regard to negative WOM in the social network. In contrast, this study showed that the suspiciousness level was significantly higher in the positive groups. As mentioned above, this finding does

match feedback we received in the course of the experiment as buzz agents. People expressed their suspicions, online and offline, that we were receiving money or some other recompense for spreading positive WOM. This feedback may explain this finding to a certain extent. It is possible that nowadays, when people are increasingly exposed to advertising communications, there is less room for naivety, and people tend to look for the “hidden” interests behind the group. Presumably, the instinct to look for hidden interests is weaker in a negative group and therefore the suspiciousness level was lower.

One interesting finding, apart from our original research hypotheses, was that, when the online questionnaires appeared, revealing the hidden interest behind setting up the groups, more members abandoned positive groups, albeit at a low level (approximately 3%). It is possible that abandonment occurred because of disappointment, since some of the members trusted the “purity of intentions” of the WOM senders and were disappointed to discover the existence of hidden interests.

Another interesting finding was that only in the negative groups did people take an active part in creating content, although to a minor extent – two sent personal messages and three wrote on the Wall, all of them containing general content identifying with the message. We feel that, in these cases too, there is room for further, large-scale studies (because of the small dimensions of the phenomena), in order to shed light on these interesting findings on differences between positive and negative groups.

A total of approximately 44 people filled out the online questionnaires, of whom around 19 in the positive groups (approximately 21%) and 25 in the negative groups (approximately 16%). The differences in percentage of responses may derive from a feeling of breach of trust when the hidden interest behind the setting up of the group was revealed. It is possible, therefore, that people who join negative groups are more sensitive to breach of trust, but this discussion is beyond the scope of the present study. The sample of 44 subjects who filled out the questionnaires was comprised of 56.8% women as opposed to 43.2% men. The age range of the subjects was as follows: 36 (81.8%) aged 26-34, three (6.8%) aged 15-25, three aged 35-44 and two (4.5%) aged 45-55. 47.7% of those taking part in the study were unmarried, 47.7% were married. 42 participants

(95.5%) were from the Central region, and only 2 (4.5%) were from the North. 41 (93.2%) were secular, and three were traditional (6.8%).

## **Summary and Conclusions**

Much research has been conducted to date about WOM in the real world, but not enough research has been conducted regarding WOM in social networks. Unfortunately, in this field, there is much that is still unknown. The findings of this study, despite its limitations and its small scope, shed some light on some of the salient differences between WOM in the real world and WOM in a social network.

This study indicated that, like WOM in the real world, negative WOM is spread more rapidly and more widely than positive WOM. We also found, not surprisingly, that the greater the identification with the message, the greater the intention to act in compliance with the message. Opinions about the message sender were more positive for negative WOM. These findings match what we know about WOM in the real world.

In contrast, we discovered that, unlike the real world, people are likely to spread WOM in a social network even if they do not especially identify with the message. A possible reason for this phenomenon is the ease with which WOM can be spread on a social network. People tend to pass on WOM, especially negative WOM, if they feel it is important and has a cautionary message. This finding is important for marketing in social networks, and more research is needed into this issue.

A further finding that indicates a difference between WOM in a social network and WOM in the real world is that no correlation was found between identification with the message and the type of message (positive or negative).

The finding that surprised us most and ran contrary to our expectations was that the level of suspiciousness towards positive messages was significantly higher than towards negative messages. As we discussed in the previous section, this finding may stem from the high level of overt and covert advertising we are accustomed to nowadays. We

posited that people tend to be more suspicious of positive messages, because the WOM sounds more like an advertisement and the “hidden” interest is more obvious.

This research has applicable practical implications. Positive or negative wording of WOM in a social network, aimed at generating buzz, is dependent on the goals of the propagator, although in general, one could say that negative WOM has many obvious advantages. An advertiser who wishes to generate negative WOM should preferably form a group with a negative message, such as a group calling to harm a competitor. Among the advantages of a negative message found in this study, we can list wider diffusion and a faster rate of diffusion (perhaps the most important goal of generating buzz), a lower level of suspiciousness and therefore lower defenses against the message, a more positive attitude towards the message sender, even if his perceived trustworthiness is low. In addition, other possible advantages of a negative message suggested by the study, which however were not proven because of the limitation of the sample size, are that a higher level of active participation among group members may occur, and that less people may abandon the group if the hidden motivation behind the group is revealed.

Sometimes, we cannot generate negative buzz in order to spread our message, for instance, when the buzz deals with a charitable organization, humanitarian aid, aid to animals etc. In these cases, we discovered that there is no need to generate strong identification with the message in order to spread it. But, if the advertiser wishes to motivate WOM receivers to act, it is nevertheless worthwhile to create strong identification. From the standpoint of such a disseminator, it is immaterial whether the group is positive or negative, since no correlation was found between the type of message (positive or negative) and the level of identification.

### **Limitations of the study**

It is important to note that this study was conducted on a fairly small scale and was limited in nature. More research is needed, and on a broader scale, in order to shed further light on the subject, both by testing the findings of this study on a larger, more varied sample, and by investigating additional phenomena observed in this study on a



small scale (such as abandonment of negative groups and activity of members in negative groups). Future research can attain a larger sample in several ways: using buzz agents, using a number of “diffusion waves”, or even promoting the groups by means of advertising.

This study was conducted on a limited budget, so we could not promote the groups by advertising or by hiring buzz agents. This limitation affected both the size of the sample and the number of groups we could form. The study also had a limited time frame – approximately twenty days were allotted for collecting the data and consequently, only one “wave” of diffusion could be generated. A further limitation was the insufficient variety within the sample. In the second part of the study, we found that those who answered the online questionnaire included a higher percentage of women, almost all of whom were secular, and most of whom were in the 26-34 age range. In the second part of the study, distribution of the online questionnaires was met with only partial cooperation by group members. The percentage of respondents was fairly low (approximately 21% in the positive groups and approximately 16% in the negative groups), and the sample is not necessarily representative.

We set up 5 groups, three with a positive message and three with a symmetrical negative message. It was not possible to form groups that were completely symmetrical, and therein lies another limitation of this study. In addition, among the responses in the online questionnaires, not one indicated a favorable change of opinion regarding the message sender. This finding perhaps attests to another bias in the results of the second stage of the research.

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