The Impact of E-WOM Spread through Social Networks on the Decision Making Process: a Romanian Online Community Analysis

PERJU ALEXANDRA, ICONARU CLAUDIA, MACOVEI OCTAV-IONUT
Department of Marketing
Academy of Economic Studies
Piața Romană, no. 6, Bucharest
ROMANIA
alexandraperju@gmail.com, claudiaiconaru@ase.ro, octav.macovei@yahoo.com

Abstract: - The trigger of a viral online marketing campaign is the interpersonal influence of users who generate referrals, disseminate experiences and opinions. Studies measuring the outcome of word-of-mouth communications are insufficient in determining how such communications affect purchasing decisions. In this paper, we try to identify the role of electronic-word-of-mouth within the stages of a viral marketing recipient’s decision process, by highlighting which factors would motivate such influence within an online community. The purpose of the study is to replicate a model developed initially by Arnaud De Bruyn and Gary L. Lilien, but adapt the methodology to an online social network, by giving the participants the identity of a target person and inviting them to send a referral to someone within their social network, inviting them to participate in the study. We then observe the effects of the social tie on a recipient’s behavior up to the point of decision and conclude with the most representative findings and suggesting to online marketers that social networks of friends are more likely to generate referrals than others, since personal affinity is a strong influence factor.

Key-Words: e-WOM, online communities, social networks, decision making process

1 Introduction
The rise of the internet has developed radical shifts in the way companies interact with their customers. New forms of communication platforms allowed the emergence of online social networks which changed the way that information is transmitted from the company to consumers and among consumers themselves.

With the blasting growth of social communities like Facebook, LinkedIn, Twitter, MySpace, Second Life and many other popular applications, such as blogs, forums, reviews sites, chat rooms; companies are facing a highly increasing interactive consumer who uses the internet not only to purchase goods and services, but also to disseminate his knowledge, experiences and opinions [5]. Using a consumer-to-consumer communication channel, information about goods and services is rapidly and more cost effectively adopted by the market [14]. This dissemination of information, not easily controlled by marketers, facilitates the spreading of online word of mouth (e-WOM) [19]. E-WOM is capable of increasing the sale of goods and services, which in turn, leads even to more e-WOM and the cycle repeats itself [6]. Moreover, social networks increase the volume of traffic of retail sites: social networks generated 6% of the retail traffic in 2006 and up to 37% in 2009 [9]. Due to these considerations, companies are highly motivated to make use of the influence of e-WOM spread by members of the online communities through social networks.

2 Problem Formulation
The present paper intends to show how an e-WOM process influences consumer behavior in an online community environment. So far, to our knowledge, no studies exist with regards to the impact of e-WOM spread through social networks on the decision-making process. As per WOM influence and the decision making process, it has been argued how WOM communications can influence each stage of such a process [1] during the awareness, interest, and final decision stages.

2.1 e-Word-of-Mouth and social networks
According to [12], a social network consists of the relationships and interactions among a group of individuals, a medium for information, ideas and
influence spreading. As being said, the social networks are perfect nests for e-WOM to develop. Word-of-mouth (WOM) is not a new concept, on the contrary it received a great amount of research from both academics and practitioners for decades, beginning with the early 1950s [1].

Studying previous literature on this topic, [1] states that communication through word-of-mouth influences the decision making process of consumers, their expectations, pre-usage attitudes and post-usage perceptions. The great influence of WOM lies in the fact that consumers are likely to trust recommendations that come from their community, friends and family [18]. Another couple of studies from the body of marketing literature state that opposed to other communication sources, WOM has greater persuasiveness due to its perceived credibility and trustworthiness [4], [6], [15].

2.2 Literature Review

WOM has been studied in previous marketing literature, from marketing classics (Arndt, Whyte, Burzynski & Bayer, Engel, Kegerreis & Bayer) [1] to current studies on electronic WOM. Electronic word of mouth has become an important crossroad for consumer opinions [3], [7], [6], [15]. Analyzing previous literature, [17] identified the salient factors capable of explaining why members of online communities spread e-WOM: extreme satisfaction or dissatisfaction, commitment to the firm, a long relationship with the firm and the novelty of the product. Another study on viral marketing, [11] examines the main motivations to forward online content: the need to be part of a group, to be individualistic, to be altruistic; to gain personal growth. Furthermore, studies have been carried on the analysis of information spreading in social networks and social influence and trust value in web-based social networks [13], [22], [12], [20], [10]. Through social networks, companies can identify potential customers, likely to buy after being influenced by an existing customer who bought the product or service [8].

The results of a recent study of Torsten et al. [21] show that e-WOM has a considerable impact on customers’ churn decisions and also on purchase decision (a 19.5%, respectively 8.4% increase in sensitivity). It has long been established [2] that in the experience of a purchasing decision, a consumer typically follows a mental sequence of at least three stages, namely an awareness stage where the consumer knows about the existence of the alternative, an interest stage where the consumer is aware of the existence of the alternative and decides to learn more about it, and a final decision stage where the consumer sustains the adoption of the alternative by taking an observable action.

3 Problem Solution

To empirically assess the impact of e-WOM spread through social networks on the decision making process, we adapted Stanley Milgram’s “small world methodology” [16], successfully replicated before in the context of the Internet [1] and based our field study on a popular social networking platform to determine the influence of unsolicited referrals within one’s online social community at different stages of the decision whether to participate in an online experiment and to perhaps gain access to understanding the factors generating the viral effect.

Thus, the participants received a message from an acquaintance on the social network platform, suggesting that they participate in an online experiment with a chance to win five 100 RON prizes, the condition for a participant to make the drawing being to complete a survey found on a webpage dedicated to the study. On the experiment’s web page, visitors received detailed information about the study and were invited to continue the referral chain by answering a series of questions about themselves and about another acquaintance of their choosing within their social network, which they had chosen as their “next link”. Upon completion, participants were invited to initiate more chains, by referring other acquaintances to the experiment page found on the social networking website.

3.1 Data set

The experiment was seeded by inviting 550 personal contacts on one of the authors’ online social network, 83 of which agreed to participate and in turn, refer the experiment page to another. There was a one week period of waiting time, for the chain effect to take place on its own. After excluding incomplete surveys and data cleaning, we retained 560 final responses.

The respondents were supposed to make three consecutive decisions throughout the study to complete the final step of the experiment. The experiment focuses on a low risk and low
involvement decision, making it easy to transform a communication link into an influence link, given the interactive environment of the social network.

3.2 Hypotheses
The experiment is ongoing. At the present stage, we found relevant to our context to hypothesize that:
H1: The stronger the personal tie, the more likely it is for an e-WOM communication to generate awareness.
H2: The higher the affinity between an aware member and his target referral, the more likely the recipient is to complete the survey.
H3: The higher the demographic similarity of the tie, the more likely the recipient is to complete the survey.

Demographic similarity was measured along four dimensions, namely sex, level of education, occupation, and age. Our hypothesis is based on the argument that although one is generally inclined to take advice from an expert, within a social network, source expertise being domain specific would play an insignificant role in the early stages of the decision process. Also, since the present experiment is not a complex one and the costs and benefits have been clearly expressed, a recipient shouldn’t require the source’s extra expertise.
Thus, we pose that the transitional probability of a multistage decision model is influenced in each stage by the characteristics of the source.

3.3. Results
H1 is supported (p<0.05), all item responses relating to tie strength showing that tie strength is statistically significant in facilitating awareness.
H2 is strongly supported, showing that referrals from sources with similar interests in general (survey item 11) and tastes in products and services (survey item 12) are more likely to generate interest and the decision.

Since we found no significant parameters indicating expertise (significant differences in age and the level of education), similarities observed between all of the researched demographic dimensions, H3 is supported.

Given the online platform, we were able to identify and track the recipients’ reactions at each stage of the decision-making process in real time.
The items related to online influence indicate that the subjects which reached the final stage of the process are generally viewed as or view themselves as sources of expertise in the online environment.

Fig. 1. Study design

Fig. 2. Item 14 - I often influence others’ opinions in the online environment

As per age repartition, in Fig. 3 we observe the demographic similarity of the majority of the subjects reaching the decision stage to complete the survey, further supporting H3. The clustering of ages 24-34 and 18-24 also indicate how an online social platform is favorable when targeting younger groups.
This effect is also explainable due to the nature of the experiment and the country in which it took place, since it is arguable whether Romanians are still adapting to the viral marketing phenomenon and online social networks. In other words, it is possible for a similar study to generate different results, as other age groups accommodate themselves within online social communities as well as younger users.

4 Conclusion
Comparing the present observations with the results, we could estimate with a one stage model usually encountered in WOM research, reveals new representative findings. First, perceived affinity between social community members becomes a statistically significant factor (p< 0.05). Second, a multistage model offers relevant information, since the number of respondents and influence factors at each stage can be identified. Finally, the influence of tie strength proves to be a statistical importance and can be measured and highlighted within each stage within future studies, to better highlight the influence of WOM across the decision making process.

The present study shows that while the online social community can be a good environment to capture the recipient’s attention and achieve awareness, it has little influence at the next stage - the first source’s closer acquaintances were no more likely than other to complete the survey after accessing the experiment’s page, since out of the first group of 550 subjects, 83 participated in the first run by completing the survey and referring their own acquaintances, thus far generating an average chain of five personal links, leading to a final result of 560 completed surveys. Thus, our study suggests that social networking sites of friends are more suitable for e-WOM than networks of professionals, since tie strength and perceptual affinity are high triggers of online referral.

Moreover, ongoing experimentation allows us to test further hypotheses in different contexts of the created social environment and observe whether a viral effect is produced.

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