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Word of Mouth Marketing through Online Social Networks

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ABSTRACT

This paper proposes a research agenda for studying factors that may affect marketing effectiveness in the context of online communities. Findings of prior studies are synthesized into a more comprehensive review of the state of the art of research on word of mouth marketing through online social networks. Based on the review, we propose a research model that incorporates both network and individual factors, present the research plan, and discuss the potential implications of the research.

Keywords

Marketing, Blogs, Online Social Networks.

INTRODUCTION

Online social networks, which are collections of individuals who share information regarding a common interest in an online setting over the internet (Kumar, Raghavan, Rajagopalan, and Tomkins, 1999), have grown in popularity over the past several years. Chances are that either you or someone you know is an active member of at least one online social network. For example, social network sites such as MySpace.com, Facebook.com and Linkedin.com allow members to edit a profile page within the site, develop a list of other members on the site with whom they share a connection, view the profiles and posts of other members, and send messages to other members (Boyd and Ellison, 2008). Some of the more popular social network sites have become so much a part of today's culture that the names of the sites are interchangeable in conversation as both nouns and verbs, such as saying "I'll 'facebook' you later" to a friend in passing. Web logs, or blogs, which are websites on which dated journal entries are posted and displayed in reverse chronological order, can also help form online social networks through various means, such as subscription, co-membership, comment, and citation (Xu and Chau, 2007). In fact, many social network sites also incorporate a blog function.

An important contribution of online social networks is that they have expanded the definition of community, which was once exclusively based on geographical, political, or religious similarity, to be based on any set similar of interests, including products and brands (Dwyer, 2007). In addition, since online social networks are maintained via the internet, they have an observable network structure (Xu, Xue, Zhang, and Yeo, 2008). In other words, an observer of an online social network would be able to observe to whom each user is directly connected. These features make online social networks a naturally attractive channel for marketing purpose, especially "word of mouth" marketing that utilizes networks of interpersonal communications to promote products (Brooks, 1957). For example, in a network of bloggers, if one blogger posts a blog to promote a product, the good words of the product may be quickly disseminated to other bloggers linked, directly or indirectly, to this specific blogger (Kirkpatrick and Roth, 2005). However to date, most of the research on online social networks has focused on impression management, networks and network structure, the relationship between online and offline connections, and privacy issues (Boyd and Ellison, 2008). So far research about marketing through online social networks is still limited. This paper will review and interpret the findings of previous works and recommend how these findings can be applied to marketing through online social networks.

LITERATURE REVIEW

Word Of Mouth Marketing

Word of mouth (WOM) marketing refers to the use of informal communications among networks of consumers to promote products, brands, or services (Brooks, 1957). Social theory proposes that people tend to connect with others who share common interests (Hill, Provost, and Volinsky, 2006). Therefore a customer's decision to purchase a product or service can

be strongly influenced by his or her community or general social network (Yang, Dia, Cheng, and Lin, 2006). WOM messages can reach and potentially influence many receivers, and are usually perceived by consumers to be more reliable and credible than firm-initiated ones, since the senders of WOM are mostly independent of the market (Brown, Broderick, and Lee, 2007).

WOM marketing can be categorized based on the means by which the advertising message is spread (Trusov, Bucklin, and Pauwels, 2006). *Community marketing* focuses on forming communities of people with common interests so that they can share product reviews and experiences. *Referral programs* enable satisfied customers to refer their family and friends. *Viral marketing*, on the other hand, spreads entertaining or informative media by encouraging consumers to forward the message to their friends, and in turn encouraging their friends to continue to forward the message in a chain reaction of consumer awareness. Furthermore, WOM marketing is often also stealth marketing, encouraging customers to feel they just happened to hear about the product or service rather than to feel directly marketed to (Xu et al., 2008). For example, marketers may pay actors to pose as consumers and artificially create momentum for their products and brands. These actors would then casually mention products in online communities in an attempt to generate positive online word of mouth (Porter and Golan, 2006). In this study, we mainly target our research to viral marketing.

Marketing Through Online Social Networks

Members of online social networks are ideal targets for participation in word of mouth marketing efforts. Their participation in online social networks allows members to be more open to word of mouth marketing messages from their online community, and they naturally want to share information with other members (Dwyer, 2007). More than half of social network site users already tell members of their social network about products they have used (Li, 2007). Online social network members are also more interested in viewing the profile pages of companies (Li, 2007). The opportunity of online social networks is that the reach of groups of consumers who share common interests is no longer limited geographically and that word of mouth messages can be spread quickly by consumers who truly share common interests and preferences. However, although WOM marketing and offline social networks have been extensively studied (Brown et al., 2007), there is little research that studies the phenomenon of WOM marketing through online social networks and the factors affecting the effectiveness of such WOM marketing efforts. Among the limited number of studies along this line of research, we found two general categories of factors. The first category focuses on how the characteristics of the social network of consumers (e.g., network structure) influence consumers; while the other category explains how individual factors impact the communication among consumers and the final adoption of products. We review related research in each category in the following.

Network characteristics

One of the most crucial features of online social networks is the availability of visual network structure, or the display of the other members with whom each member is connected (Boyd and Ellison, 2008). As researchers and marketers aim to explain consumer influences, such network structure information can assist marketers in identifying *influencer* members and *connector* members within the community. Influencers are members from whom other members ask for information. Influencer members are often seen as opinion leaders. Thus, other members tend to give the opinions of influencer members more weight than the opinions of non-influencer members. As a result, influencer members may have a greater impact on other members' behavior (Xu et al., 2008). Connectors are the members who are connected with more links to other members, thereby allowing for a larger potential community over which to spread word of mouth messages (Dwyer, 2007).

Most of the existing research studies about marketing through online social networks focus on finding the influencers and connectors based on network characteristics. Network structure characteristics such as centrality, tie strength, tie frequency, and group cohesion have been found to be particularly important (Haythornthwaite, 1996; Lewis, Kaufman, Gonzalez, Wimmer, and Christakis 2008). For example, centrality measures the extent to which a set of actors are organized around a central point and determines the relative importance of a node within the network (Haythornthwaite, 1996). Thus, nodes with high degree centrality are more influential on the overall process of innovation adoption (Goldenberg, Han, Lehmann, and Hong 2009). However, people also found that a member of a social network not only will be influenced by the members to whom he or she is most closely connected, but also will be affected in some way by members who are connected through other members (Hill et al., 2006). Furthermore, Katona, Zubcsek, and Sarvary (2007) found that an individual who is connected to many others has a higher adoption probability and the density of connections in a group of already adopted consumers has a positive effect on the adoption of individuals connected to this group. Based on these findings they developed a method to determine the influential power of every individual in an online social network.

In addition, research has found that if a subset of individuals adopts a product they may trigger cascade of adoptions by additional members (Yang et al., 2006; Brown et al., 2007). Subsets in a social network can be identified by tie strength between members and homophily (similarity of members' characteristics). However, homophily in online context is independent of interpersonal factors such as age and socio-economic class which are traditionally associated with homophily, but mainly depends on shared group interests (Brown et al., 2007). Yang et al. (2006) proposed a data mining framework to discover cohesive subgroups (in which actors have relatively strong ties and common interests) from social networks derived from customer interaction data. They then identify potential customers of a product based on the discovered subgroups, and target advertisements to this subset of customers.

Rather than quantifying network influence by just the number of direct or indirect adopters and their connections, recent studies also considered the frequency of contacts (tie frequency) between adopters and potential adopters (Hill et al., 2006; Xu et al., 2008). In addition, Xu et al. (2008) noted that dissatisfied consumers engaged in a greater amount of, and presumably negative, word of mouth than satisfied adopters. At the same time, negative WOM messages have a greater impact on potential consumers than positive word of mouth messages. Additionally, consumers who claimed to be loyal consumers of a product were more likely to talk to others about the products when they were dissatisfied. However, these self-proclaimed loyal consumers were not more likely than other consumers to promote a product when they were satisfied (Hill et al., 2006). As a result, Xu et al. (2008) proposed a frequency rating model that incorporates both the frequency and valence (i.e., positivity of WOM) of interactions among members. They used this model to measure the influence a member receives from friends in an online social network, thereby identifying potential adopters of a product from the network.

Individual characteristics

When researchers are investigating how consumers influence each other, network structure itself becomes less important than the impact of characteristics of individual consumers and their communication. For instance, for a marketing message to have positive effect in an online social network, the message sender should be identified as experts on the basis of their knowledge (Brown et al., 2007). To evaluate source credibility, Dwyer (2007) applied an adapted PageRank (APR) metric to identify the information that attracted the most customer attention, as well as members who typically provided that information.

Recipients' product involvement, which is their perceived relevance of the product based on inherent needs, values and interests (Zaichkowsky, 1985), is another factor that may motivate the WOM behavior (Dwyer, 2007). Product involvement can also be a measure of personal interest the consumer has in a product or brand (Zhu and Tan, 2007). In this way, product involvement encourages consumers to both seek out as well as spread WOM information (Zhu and Tan, 2007). Continuing product involvement leads a consumer to continue to engage in WOM marketing regarding the product or brand that the consumer is establishing a relationship with (Dwyer, 2007). This excitement over a product purchase dissipates over time (Dwyer, 2007).

Furthermore, there is concern about the impact of explicitly stating that a product recommendation is an advertisement over disguising the advertisement as general word of mouth (Zhu and Tan, 2007). The attribution theory suggests that the trust a consumer has in an advertisement message is related to the degree that the consumer believes that the advertiser has nothing to gain from the consumer's resulting behavior (Kelly, 1967). In other words, a consumer is more likely to be open to a word of mouth message from another consumer and is less likely to be open to a product advertisement from a party that is paid a commission. Therefore, the primary concern is that when readers recognize that an endorsement is an incentivized endorsement that the readers may automatically dismiss the recommendation as a general advertisement with ulterior motives. Zhu and Tan (2007) discovered an interesting 3-way interaction among communicator expertise, product involvement, and advertising intent. They suggest that WOM advertising is more effective when the expert power of the person from whom the recommendation is coming from is matched with the level of involvement required by the product. However, whether the explicitness of advertising intent will enhance or inhibit the behavioral intents of audiences depends on specific conditions of communicator expertise and product involvement.

As illustrated by Zhu and Tan (2007), when product involvement is low, potential consumers are more likely to be influenced by social network members who are most similar to themselves. Thus for products requiring a low level of involvement, it is generally not a good idea to ask "high expert power" bloggers to endorse the products by disclosing that the recommendation was incentivized, because readers will likely assume that monetary gain was the only motivator for the endorsement and may begin to question the reputation of the blogger. On the other hand, it does not matter whether a high expert power blogger discloses that an endorsement of a high involvement product is incentivized or not. This is likely due to the fact that the credibility and reputation of the blog are tied to the reputation of the bloggers. If a high involvement product is going to be endorsed by a low expert power endorser then any incentives to the endorser should not be disclosed. The concern is that the

contrast between the high involvement product and the low expert power held by the endorser will further reduce the perceived credibility of the endorser, increasing readers' resistance to the intended message.

Therefore, when deciding whether the WOM marketing should be incentivized and in turn whether such incentivized marketing efforts should be explicitly stated as such, marketers should consider the effect of explicit endorsement on consumers' behavior. While most consumers feel bombarded by advertising messages and have a more negative opinion of advertising than they used to (Porter and Golan, 2006), when done appropriately (i.e., approach low expert power bloggers to write about low involvement products, and high expert power bloggers to endorse high involvement products), declaring that a word of mouth message was incentivized actually had a positive effect of consumers' behavior toward an online advertised message (Zhu and Tan, 2007).

The limited number of existing research studies about marketing through online social networks are summarized in Table 1. As illustrated in table 1, most studies focus on either individual characteristics or network influence. Very few studies investigate both.

Research Focus	Author(s)	Major Findings	Research Methods
Network characteristics	Yang et al., 2006	Cohesive subgroups can be used to identify a short list of prospective customers for a given product.	Data mining
	Katona et al., 2006	An individual who is connected to many others has a higher adoption probability and the density of connections in a group of already adopted consumers has a positive effect on the adoption of individuals connected to this group.	Empirical analysis
	Xu et al., 2008	The frequency-rating model incorporating both the frequency and valence of interactions among members might be a better behavioral model for explaining product adoption in a social network.	Empirical analysis
Individual characteristics	Zhu and Tan, 2007	A 3-way interaction between endorser expertise, product involvement and advertisement intent (e.g., when the level of product involvement is not matched with the level of endorser expertise, implicit advertising messages received favorable consumer behavioral intent.)	Experiment
Individual and network characteristics	Dwyer, 2007	An adapted PageRank (APR) metric can be used to identify the information that attracted the most customer attention, as well as members who typically provided that information (credible source)	Empirical analysis
	Brown et al., 2007	Distinctions between online and offline conceptualization of tie strength, homophily, and source credibility.	Interview and social network analysis

Table 1. Existing Research on Marketing through Online Social Networks

PROPOSED RESEARCH

Based on our review of the related research, we found very few studies that investigate the impact of both individual characteristics and network characteristics on marketing through online social networks. Of the two studies we have reviewed, one is an exploratory study distinguishing online and offline concepts of different factors (Brown et al., 2007), while the other uses some network features to get measures of an individual characteristic (Dwyer, 2007). However, in reality both categories of factors may have impacts on the effectiveness of online marketing. For example, a person may have a high level of expertise regarding a product, but may have very few friends or connections in a social network. Another person may be very active and influential in the network with many connections but may not necessarily know much about the product. In such a scenario, it remains unknown about which person will be a better endorser to promote a product.

Thus, the goal of this research in progress is to propose a research model that studies the impacts of both types of factors: individual characteristics and network characteristics on the effectiveness of WOM marketing through online social networks. The proposed research model is depicted in Figure 1. In this model, the network characteristics include centrality, tie strength, density, and group cohesion; and the individual characteristics are expertise, advertising intent, and product involvement. The dependent variable is the marketing effectiveness.
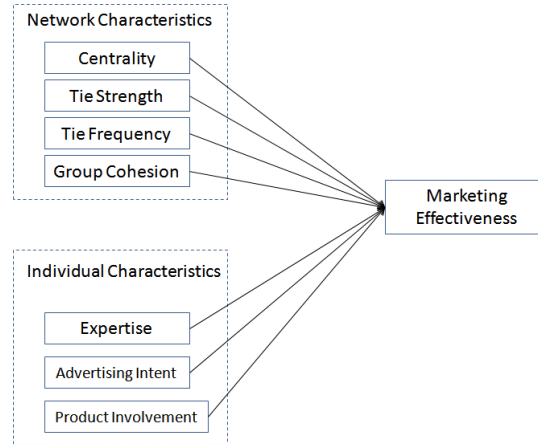

Figure 1. The Proposed Research Model

We plan to perform our research in three stages. In the initial stage, we will conduct an experiment and limit it to a single type of online media: blogs. To control for confounding factors, we will create fictitious blogs for the experiment and manipulate the individual characteristics in a way similar to the one used by Zhu and Tan (2007). For the network characteristics, ideally we should measure them using social network analysis methods. However, in this early and exploratory stage of study, we will use a very simplified measure that indicates whether the subject knows the blogger or not. The details of the experiment are still under development. During this stage, more factors may be found as either independent variables or mediating factors (e.g., group social norms (Brooks, 1957)).

In the second stage, we will conduct a large-scale field experiment on real blog sites and recruit real bloggers as subjects. We will then be able to use survey instruments to measure the individual characteristics and use social network analysis to measure network characteristics. We will then test the model in order to find the significance of each factor.

In the third stage, we plan to extend our study and perform experiments on other types of online media such as social network sites and discussion forums. With data gathered from different sites and different media, we will be able to cross validate and finalize the research model. In the future, more sophisticated research may be conducted to study the dynamic processes of word of mouth marketing and examine how advertising messages, consumer reviews, and product recommendations are spread and diffused in online social networks.

POTENTIAL RESEARCH IMPLICATIONS

Although this research in progress is still in its infant stage at present, we could foresee its many potential theoretical and practical implications. Theoretically, it can help one better understand marketing through online social networks, an important IT phenomenon in the Web2.0 era. Specifically, combining both individual characteristics and network characteristics brings attention to IT related factors in explaining the effectiveness of online WOM marketing. Findings from this research will contribute to not only marketing theories but also theories regarding computer mediated communication, information diffusion, and IT adoption.

Practically, marketers would have a lot to consider before launching a WOM marketing campaign in online social networks, including what product they want to advertise, who they should target to spread their advertizing message, whom the marker wants their message to reach, and how endorsers should be incentivized or if the endorsers should be incentivized at all (Zhu and Tan, 2007). The results from this research study may help them make decisions on these factors. For example, if a person with more connections in the network but with less expertise is more influential than an expert without connections, companies may prefer to seek WOM endorsement on such person (node) in the network. Moreover, if factors such as network characteristics are found to be of significant impact on consumers' purchasing decision and behavior, information technologies such as data mining may be employed to enhance these factors, thereby helping improve the effectiveness of

online WOM marketing. Ideally, a software tool may be built upon the results of this study to help marketers identify both individual expertise and the "network power" of users in online social networks, and weigh on both to discover and recruit the most effective ones for marketing considerations.

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