The Effect of Advertising on Word-Of-Mouth

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This paper explores how different ad attributes generate word-of-mouth communication (WOM) about the ad and the advertised product, and how this WOM later affects purchase intent. We use a set of three studies to show that different ad characteristics (such as creative or informative ads) lead to different reactions to the ad, including WOM about the advertised product, WOM about the ad, and purchase intent. We next show that WOM about the ad leads to purchase intent by changing ad perceptions. Understanding how the ad can generate WOM may lead to a better understanding of the ultimate effectiveness of the ad.

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SESSION OVERVIEW

Talking and sharing are some of the most fundamental consumer motives. People tell friends about new restaurants, email relatives interesting articles, and post online reviews about books they like (or hate). But while it is clear that such behavior is frequent, and important, we know less about the causes and consequences of such behaviors.

A great deal of research in both consumer behavior and marketing science recognizes that word-of-mouth (WOM) is important, but less work has drilled more deeply to examine the psychological factors driving transmission. Research has shown that WOM can impact sales (Chevalier and Mayzlin 2006), and diffusion (Goldenberg, Libai, and Muller 2001), but what motivates consumers to spread WOM and how do aspects of conversation partners influence what people talk about? Similarly, while we know that people like to share, what types of things tend to be shared? Certain YouTube videos, ads, or New York Times articles end up being viral, but why? How do content characteristics influence what spreads? Finally, what are the consequences of transmission for consumer attitudes, choice, search, and willingness to pay?

This session addresses these, and related questions, as it integrates various research perspectives to examine drivers and consequences of WOM. Berger and Milkman use six months of data from the New York Times most emailed list to examine characteristics of content that make them more likely to be shared. Moldovan and Lehmann investigate how aspects of advertisements, such as their creativity and informational content, generate WOM and affect purchase intent. Stephen, Lehmann, and Toubia look at both sharing and listening, and consider what drives people to share WOM as well as how transmitter and item characteristics drive the decision to listen. Mayzlin and Moe focus on the impact of WOM, and investigate how customer reviews influence consumer search, willingness to pay, and outcomes for the firm.

Taken together, these talks blend psychological factors that drive transmission and reception, as well as the consequences of these processes for consumer behavior. Distinguished ACR Fellow, and renowned scholar, Donald Lehmann will integrate the papers and lead a discussion about important directions for future research. It is hoped that the discussion will generate some interesting possibilities for future work in this exciting area.

Given how fundamental transmission and sharing is to our everyday lives, we expect this session will be of substantial interest to a host of contingencies. Not only should it appeal to researchers working on social influence, attitude change, and new product adoption, but also to those who study advertising, social networks, and decision making more broadly.

EXTENDED ABSTRACTS

“Virality: What Gets Shared and Why”
Jonah Berger, University of Pennsylvania, USA
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What makes certain things more viral? Word-of-Mouth and interpersonal transmission drive social influence, purchase behavior (Godes and Mayzlin 2008), diffusion (Rogers 2003), and product success (Godes and Mayzlin 2004), but what types of things are more likely to be shared and why?

Some perspectives have argued that cultural prominence is driven by random copying, advertising, or social influence dynamics (Bentley and Shennan 2005; Salganik, Dodds, and Watts 2006). An alternate explanation of cultural selection, built on notions from the biological realm, suggests that due to shared human psychology, characteristics of items themselves can drive transmission (Schaller and Crandall 2004). Unfortunately, however, empirical tests of these predictions have been limited by the ability to examine actual transmission in the field across a host of cultural items measured on various characteristics.

We study virality and cultural transmission by examining six months of data (over 7,000 articles) on which New York Times articles make the most emailed list. The data includes everything from world news and politics to sports and travel, and its breadth and reader base makes this an ideal domain to study virality. Further, by controlling for the amount of time spent on the homepage, and where articles appeared in the print edition, we can test whether above and beyond such “advertising,” item characteristics drive success.

Many theories paint transmission as an economic, value-based exchange. Linguists often assume that the function of language is to share factual information which will have immediate value (e.g., where good food is readily available or the location of predators). Similarly, social exchange theory (Homans 1958) suggests that transmission is an economic exchange of useful resources. To test such informational selection (things spread based on their utility), we examined whether content that is more broadly relevant (i.e., provides information that is relevant to more people) or provides advice (i.e., information on how to do things) is more viral.

We also take a broader theoretical perspective and argue that people also transmit information to deepen social relationships. Language can be seen as a form of social grooming (Dunbar 1996) and people may be more likely to share emotional content because it deepens social bonds (Peters and Kashima 2007). Along these lines, people may be more likely to share surprising content because it breaks existing schemas, and encourages people to confer with others to resolve the discrepancies. Consequently, we examine whether these aspects, above and beyond informational utility, increase transmission.

Using a webcrawler, we collected every article that appeared on the New York Times website from August 30th, 2008 to February 15th, 2009. For each article, we collected the title, text, length, author name, publication date, section and page where it appeared, and the one sentence summary provided by the paper. We also collected snapshots every 15 minutes of where articles appeared on the New York Times website and which articles appeared on most emailed list (emailed the most in the last 24 hours). We used name lists to determine author gender, and used Google hits as a rough measure of author fame.

We used both automated and manual coding to score articles on our key independent variables. Standard word lists (General Inquirer) were used to measure the number of positive and negative words in each article and from this we computed valence and emotionality. In cases were it was not possible to use automated
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coding, we trained coders to rate articles of some key measures. We selected a random sample of 1,446 articles, and two independent raters coded each of the three remaining measures (surprise, broad relevance, and advice). Inter-rater reliability was high and codes were averaged to form a measure of each dimension.

Before turning to our variables of interest, we first consider controls and other factors that might drive virality. Not surprisingly, articles which should have received more attention (i.e., appeared on earlier pages of the physical paper or spent longer on more visible places on the newspapers homepage) were more likely to make the most emailed list. Articles were also more viral if they appeared in particular sections (e.g., Opinion), and were written by women or more famous authors.

Even controlling for these factors, however, our results demonstrate that content characteristics also drive transmission. Content that was more broadly relevant or contained advice was more likely to be viral. Further, even beyond more economic value, emotional selection also played a role. While more positive and surprising articles had a higher propensity to make the most emailed list, content that was more emotional, regardless of valence, was also more likely to be viral.

Overall, these results illustrate the important role that cultural selection, and shared psychology, play in cultural transmission.

“The Effect of Advertising on Word-of-Mouth”
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When considering the purchase of a new product, consumers often rely on word of mouth (WOM). While WOM can be important to new product success, it is not always clear how WOM can be initiated and managed. In this paper we claim that advertising can trigger WOM about the product and about the ad. Further, the spread of WOM about the ad (and not the product) may have additional effects on sales.

Previous research that explored advertising effectiveness has usually tested how different ad characteristics affect attitudes toward the ad, the brand, purchase intent, and ad recall (Brown and Stayman 1992). Although these factors may affect WOM, the common marketing models do not take into account the effect of marketing efforts on WOM (Bayus 1985). While some studies showed initial evidence that WOM can be stimulated by marketing efforts (Bayus 1985; Gelb and Johnson 1995; King and Tinkham 1990), these studies hardly discuss the valence of WOM (positive or negative), or the content of WOM (about the product or about the ad).

Based on previous findings our main hypotheses are that creative ads will have a small effect on purchase intent. However, these ads will lead to WOM about the ad. Informative ads, on the other hand, are expected to lead to greater purchase intent and positive WOM about the product, but not to WOM about the ad. While WOM about the product is expected to lead to further purchase intent, WOM about the ad is expected to increase involvement in the ad, and increase the purchase intent of the product as a result of watching the ad.

In Study 1 we asked 424 participants to rate 21 print ads (between subjects). The dependent variables were: WOM about the product (including WOM amount, positive and negative WOM, and information search), Ad WOM (intentions to talk about the ad or forward it to friends), and purchase intent. The independent variables (after factor analysis) were: creative, informative, sex appeal, status appeal, and negative. Regression results supported our hypotheses: Creativity is the main ad characteristic that leads to WOM about the ad and about the product. However, it does not lead to purchase intent. In addition, as we expected, informative ads lead to more positive WOM and increase purchase intent, but have no effect on Ad WOM.

In Study 2 we collected data of actual forwarding of 53 TV commercials in an online site. We tested how the ad characteristics (as rated by judges) affected the number of times an ad was forwarded per view, a proxy for actual spread of the ad. Ad characteristics explained 51% of the variance in actual forwarding behavior, and the results were very similar to those of Study 1.

Since creative ads were found to lead to WOM about the ad, but had little effect on purchase intent, Study 3 explores whether exposure to ad WOM prior to the ad can moderate the effect of a creative ad on purchase intent. In this study, 87 students were exposed to either a creative ad or to WOM about the ad (the WOM did not mention the product, only the ad). Later, half of all participants were then exposed (or re-exposed) to the creative ad. The dependent variable was purchase intent of the product (1-7 scale).

The results showed that the purchase intent of the product was significantly higher in the condition in which participants were exposed to the ad WOM and after that to the ad, compared with the other three conditions, indicating that exposure to WOM about the ad can moderate the effect of creative ads on purchase intent. Results confirm our hypothesis that while a creative ad had a small effect on purchase intent, exposure to WOM about the ad, prior to watching the ad, led to higher purchase intent.

Results of the three studies indicate that advertising can trigger WOM about the product and about the ad. Different characteristics of the ad lead to different types of behaviors, such as WOM and purchase intent. Although ad creativity hardly leads to purchase intent by itself, it may lead to WOM about the ad, which may in turn have an effect on purchase intent of the consumers exposed to this WOM.

“Why Do Consumers Talk, Does Anyone Listen, and What Happens?”
Andrew Stephen, INSEAD, France
Donald Lehmann, Columbia University, USA
Olivier Toubia, Columbia University, USA

Despite the large amount of research on word-of-mouth (WOM) and social contagion in marketing, sociology, physics and elsewhere, surprisingly little is known about the individual-level talking, listening, and impact processes. We know little about the underlying individual-level processes that drive WOM. Why do consumers transmit WOM about products to their peers? When do they listen to these messages? And when and in what ways are they impacted by WOM? In this research we study transmission, reception and impact. We address the following questions: (1) what are consumers’ motivations or reasons for transmitting information to others, (2) what factors related to recipients affect transmitters’ likelihoods of talking, (3) what factors related to transmitters affect recipients’ likelihoods of listening, and (4) what types of WOM are likely to be more impactful on recipients’ brand/product-related attitudes and subsequent consumption behaviors?

For transmission, in the first study (N=110) we asked participants to recall times when they actually transmitted WOM, asked them “why?” and asked them to give information on the characteristics of the people who they talked to (recipients). We found that transmission motives were predominantly self-focused and centered on needs to either express opinions or to in fact solicit (not give) information. When participants were sharing their own experiences with products the former was the only motive. However when they were passing-on information about others’ experiences
(retransmitting) they not only wanted to express this opinion but also sought information from the recipient (possibly to validate or verify the previously-received information).

In study 2 (N=200), participants were in a hypothetical situation where they had to select recipients who they would transmit WOM to, given knowledge of recipients’ characteristics (interest in topic, track-history of being receptive, tier strength, and social connectivity). We found that transmitters preferred recipients who were likely to listen (e.g., strong topic interest, past receptivity, strong friendship ties). This was all that mattered when transmitting own information, and is consistent with just wanting to express one’s opinion to people who would actually listen. However, when retransmitting information from others the social connectivity (many versus few friends) of the recipient also mattered. Well-connected people have access to more sources of information and, all else equal, should themselves be better sources. Indeed, in study 3 (N=28) we found that transmitters expected well-connected people to be sources of high quality information. Based on these studies, transmission is associated more with using the social capital embedded in one’s social ties than it is for building social capital (e.g., by transmitting in order to give advice). However, transmitters use social capital in different ways: when sharing own information recipients are used as a receptive audience for one’s opinions, and when passing-on others’ information recipients are used for validating, verifying or elaborating the existing information.

In a fourth transmission-related study (N=920,770) we examined a different type of transmission—sharing information in an online social network—using data from a popular Facebook “app.” App users can share the app itself with “friends” and can share results from quizzes that they take within the app (they take personality and psychological tests). We find the probability of sharing the app or of sharing various quiz results decreases exponentially as a person’s number of friends (social connectivity) increases. Also, as a person’s social connectivity (and hence their stock of social capital) increases, people become more strongly focused on using their network connections for seeking information. Related to the previous three studies, having more social capital means a stronger desire to use it for self-focused purposes.

We then consider reception/impact with three studies (participants are recipients). In the first study (N=127) we examine listening decisions as functions of transmitter characteristics (expertise, social tie strength, connectivity) and message characteristics (valence) in a hypothetical situation where participants imagined themselves exposed to WOM from certain people. Participants indicated who they would listen to. Although transmitters who are perceived to be “experts” are more likely to be listened to, we found high reception probabilities under various other combinations of transmitter and message characteristics, including cases where transmitters lack any objective credibility or expertise. In the two other studies (N=276 and 272; also hypothetical), participants were given uninformative product information and exposed to WOM about that product. We measured attitudes toward the product and purchase intentions pre- and post-WOM. The message varied on valence and tone (factual versus emotional), and the transmitter varied on objective credibility (category expertise) and tie strength (friend, acquaintance, or stranger). Instead of measuring only dispositional attitude, we also measured certainty (i.e., confidence in disposition toward the product). Capturing certainty changes were important: e.g., in 45% of the cases where dispositions did not change post-WOM, certainties did change (indicating that WOM had an impact, just not on disposition). Disposition and certainty changes (individual or combined) affected purchase intentions. Moreover, although objectively-credible transmitters are influential, low-credibility transmitters (e.g., strangers, novices) sometimes impact attitudes and purchasing, provided the message makes recipients feel more certain about their existing opinion. Thus, under the right conditions almost any transmitter has a good chance of being influential.

“The Impact of Consumer Reviews on Consumer Search and Firm Profits”
Wendy Moe, University of Maryland, USA
Dina Mayzlin, Yale University, USA

A number of studies have demonstrated that customer reviews affect product sales (see, for example, Chevalier and Mayzlin (2006) and Dellarocas, Zhang and Awad (forthcoming). In particular, both the valence and the quantity of reviews influence sales on a product level. But how do customer reviews impact consumer search and what they choose, as well as company profits and category-level performance? This is the focus of the current study.

In particular, consider a retailer with multiple products that implements a review tool that allows customers to post feedback on its site. The reviews can serve as a matching tool that reduces consumer uncertainty about the products. This could have two possible effects: 1) Re-allocate sales across products within a category which may result in higher utility for the consumer but not in higher profits for the retailer in the short run, and/or 2) Raise the firm’s profits by increasing the probability that the consumer purchases within a category and increasing her willingness to pay for the product. Here we look at the effect of consumer reviews on category sales and traffic within a site.

To test our hypotheses, we have obtained a data set from a retailer that sells products across a large number of categories. A unique aspect of our study is that we have sales and search data before and after the review tool is introduced. This allows us to determine the effect of the introduction of the ratings tool on sales and search, as well as measuring how the volume of reviews affects search and sales within the category. Another interesting aspect of the data is a measure of search behavior: the number of times that a product is viewed within a course of the week. We argue later that the data on search behavior allows us to identify the mechanism through which reviews influence sales.

To determine the effect of the introduction of reviews onto a site, we estimate an aggregate model, where the dependent variable is category sales. First, we show that the over-all category sales increase in the period after the ratings tool was introduced. This is true even once we control for cross-category heterogeneity. Some of the increase in dollar sales seems to be due to the increase in search. That is, the total number of category page views increases in the period after the ratings are introduced. However, increase in search alone is not sufficient to explain the increase in dollar sales: even after we control for the number of page views of the category’s products per week, the dollar sales per week are still significantly higher in the period after ratings were introduced. On the other hand, once we control for the number of page views of the category’s products per week, the unit sales are not significantly higher in the second period. This seems to suggest that ratings increase search and make it more likely that consumers buy relatively more expensive products. This last finding leads us to investigate the effect of reviews on the relative distribution of product sales.

Next, we consider the impact of the introduction of review on the distribution of search and sales across products within a category. In particular, we investigate how the impact of reviews is moderated by the initial market share of a product as well as its
price. Since reviews reduce uncertainty in consumer’s expected valuation of the product, we would expect that the introduction of reviews would lead consumers to be willing to buy more expensive products. Of course, another reason why demand may shift towards more expensive products is that in the presence of correlation between price and quality, more expensive products will obtain better reviews and hence will have more sales.

We analyze the review-generating process as a function of the product’s own characteristics as well as the characteristics of other products sold within a category. Our analysis also sheds light on the debate whether additional information creates a bigger marginal impact for the already successful products or for the less successful products (see Salganik et al (2006) and Tucker and Zhang (2008)). The findings in the previous literature have been mixed: Salganik et al (2006) find that previous download information helps the already successful products more, while Tucker and Zhang (2008) find that previous clicks information is especially useful for the niche products. We find that sales within a category become more concentrated after the introduction of the review tool. Hence, we find that reviews seem to drive consumers to more expensive, successful products.