Public Policy Prescriptions From Consumer Research

Session Chair: Nina Mazar, MIT Sloan School of Management
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Special Topic Session

Paper 1 Almost Honest: Internal and External Motives for Honesty
Nina Mazar, On Amir
MIT Sloan School of Management, Yale School of Management
Our work addresses the question whether decisions about being honest or dishonest are solely driven by rational considerations of the external benefits (e.g., having more money) and costs (i.e., punishment in case of being caught) of the dishonest act. The findings from our experiments show that this rational model is incomplete: Individuals seem to have internalized social norms, and, when activated, behaving in accordance with these internalized norms is rewarding. Based on these results we offer suggestions on how to design more effective and efficient policies for punishments and programs for the prevention of crime and deception.

Barbara E. Kahn, Mary Frances Luce
The Wharton School University of Pennsylvania, Fuqua School of Business Duke University
We address lapsed use of protective measures, whereby consumers neglect to remain vigilant over time. We apply our model to the experimental contexts of medical screening tests and safety measures. We focus on the dual implications of “false positive” events where use of the protective measure causes some “hassle” and “false security” events where the protective measure is neglected but the threat is unrealized. We argue these events influence adherence through “magical thinking” processes of incorrect causal inference and we investigate how these inferences interact with processes of coping with emotional reactions to the underlying threats.

Paper 3 Social psychological motivations in nonprofit marketing
Jen Shang, Rachel Croson
Psychology Department University of Pennsylvania, The Wharton School University of Pennsylvania
Recently funding for activities such as education, healthcare, and other public services has been transformed to become more dependent on local and individual funding sources, and less reliant on taxation and government revenue. As a consequence of these changes, and in anticipation of a continuation of this trend, it is important to better understand the motivations for voluntarily contributions toward the provision of public goods. In this research we investigate these issues in the domain of public radio. The first set of studies identifies the motivations for contributing, and the second set examines the impact of social norms on contribution.

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SESSION OVERVIEW

In what ways can research on consumer behavior inform public policy and help to design more effective and more efficient policies? In the session “public policy prescriptions from consumer research” three papers that deal with a variety of consumer research topics exemplified their possible contribution to theory and demonstrated the overall applicability of research on consumer behavior for policy.

The field of consumer research continuously produces papers that give other researchers valuable new insights in understanding motives, goals, and reasons for why consumers act in certain ways under certain conditions. Surprisingly, little of this knowledge has ultimately been applied in real world to improve the quality of individual consumers’ decisions, their life in general, or our society’s welfare. The goal of this special session was to bring together research that has examined more directly questions related to social policy in an attempt to promote not only the particular topics of research (which are very interesting in and of themselves), but also the general theme of pursuing public policy as a goal for research.

The particular topics of the three papers are moral behavior, health, and fund raising. In essence, all three papers deal with the multiplicity of goals consumers face, their attention to these goals, and their pursuit of them—put the recognition that some of these goals represent the public good and some do not. The question of interest then is how to align the actions of the individuals with those of society at large. Joel Cohen, who is the editor of the Journal of Public Policy and Marketing, and who has been in involved in this intersection between consumer behavior research and public policy for a long time, discussed the three papers.

We hope that our call for more collaboration between these fields will invoke fruitful follow-up thoughts and discussions that will ultimately result in a larger role of consumer research in politics.

“Almost Honest: Internal and External Motives for Honesty”
Nina Mazar, On Amir, Dan Ariely

The standard rational model of human behavior in philosophy as well as economics assumes that individuals are motivated to maximize their selfish needs. In the domain of honesty and deception this representation of homo economicus means that individuals are honest only to the extent that the cost-benefit analysis of the dishonest act points in favor of honesty. In other words, the standard rational model of decisions about honesty and dishonesty is one in which the decision is made without any external downsides to a dishonest act, individuals will consider being honest. Our current work tests the existence of such internal mechanisms by manipulating one factor that the rational model predicts would largely influence the tendency to be dishonest: the probability of being caught in the dishonest act, and one factor that the standard rational model predicts would not influence the tendency to be dishonest: awareness of the dishonest act (e.g., religious priming or having individuals sign a bogus honor code).

Our experimental results support our hypothesis that individuals posses internal reward mechanisms for honesty. In particular, first we show that when given the opportunity and incentives to be dishonest individuals do exhibit dishonest behavior but that this dishonest behavior is limited in its extent (limited by the degree to which dishonesty activates their internal reward mechanisms). Second, we show that when the probability of being caught further decreases, the tendency for dishonesty does not change substantially (we argue that this is based on the fact that the probability of being caught only changes the external, but not the internal rewards from honest behavior). Finally, our third finding is that increasing awareness of motivation for honesty dramatically decreases the tendency for dishonesty. This last finding seems to be in line with the notion that higher awareness might cause the internal mechanisms for rewards from honesty to be more active or to “kick in” earlier (see related experiments by Duval and Wicklund [1972] with, for example, mirrors).

We would like to argue that these results could offer a different perspective when thinking about how to design policies for punishments. If we were to adopt the standard rational model when designing policies, we would subscribe policies in which the expected magnitude of punishment is set to be larger than the possible benefits of a dishonest action (another option would be to increase the probability of being caught). In principle, such setups will make the cost of the dishonest act higher than the expected benefit, and hence there should be no dishonest acts. To the extent that the standard rational model is incomplete, it might be useful to reconsider punishment policies. Such considerations would set the magnitude of punishments to be smaller than the possible benefits of dishonest actions in order to take into account not only the effects of the external rewards but also of the internal rewards. To illustrate this point imagine that for a particular possible crime the expected benefit is $Y$, and the internal positive reward for honesty is $X$. In this case the standard rational model would prescribe a punishment with expected magnitude of $-Y$ to offset $Y$, while the model that includes internal rewards would prescribe $-Y+X$ under the assumption that the joint magnitude of the two components influenced the decision to commit the dishonest act.

Another interesting difference between the standard rational model and our extended version of it relates to how both models treat cases in which crime and dishonesty do exist. In such cases, the standard rational model would suggest that the expected magnitude of the punishment is not sufficiently large, and it needs to be increased in order to prevent further crime. From the perspective of the model that includes internal rewards, the existence of crime and dishonesty could just as easily be attributed to low activity in the internal reward mechanisms. The recommendations under these conditions would be to invest in educational efforts to increase the internal mechanisms for rewards, which in turn would decrease the tendency for dishonest acts.

Finally, the perspective that includes internal reward mechanisms also suggests that there are immediate changes one could implement in the environment that would increase honesty. Much like the honor code manipulation in on of our experiments, one could imagine to ask people to sign an honor code just before starting to fill out their tax return forms. Similarly, for universities
and other educational institutions that are considering whether and how to implement an honor code the recommendation is simple: Implement the honor code and use an explicit and salient signature as an invoking cue for honesty.

Reference

“"A Repeated Decision-Making Framework for Understanding Decisions about Protective Measures: The ‘Magical Thinking’ Model”" Barbara E. Kahn, Mary Frances Luce

We believe that the use, and neglect, of protective measures is an issue with crucial public policy implications. As just one example, nationwide accidents from bicycle riding cause more childhood injuries than any other consumer product except automobiles but only 41% of children use bicycle helmets while riding. Clearly, it is in the public interest to encourage and reinforce helmet use. Most strategies for doing so focus on education as to the benefits of helmets. As such many people are aware of the advantages of bike helmets and own helmets, but still do not ensure that their children wear them every time they ride. In other words, educational campaigns have focused on motivating initial compliance and have not focused on the repeated adherence in use every time a child rides. Our research addresses this problem of repeated adherence to protective measures over time. We will review and provide empirical support for a model of adherence focused on the segment of people who are educated, and largely persuaded, about the benefits of protective measures (e.g., screening tests, safety precautions) and who have not experienced the relevant threats (e.g., disease diagnosis or accidents). This is a situation where a marketing approach is particularly relevant to public policy considerations (see Rothschild (1999) on distinctions among marketing, education, law).

We are concerned with the problem of lapsed use, whereby consumers who have initially adopted protective measures become less vigilant over time. We apply our model to two major classes of chronic behaviors. First, we have data from several experiments (published as well as ongoing) that address adherence and delay in the context of medical screening tests such as mammograms. Second, we will discuss extensions of our model and experimentation to non-medical protective measures such as bike helmet, car seat, or sunscreen use.

Our “magical thinking” model focuses on two problematic classes of events and their implications for repeated decision behavior. First, we focus on “false positive” events where the protective measure is used, the relevant threat does not occur, and there is some “hassle” associated with use of the protective measure (e.g., a false positive in mammography screening). For instance, our prior published work indicates that false positive mammography test results can reduce intentions to engage in cancer screening, unless coping resources are bolstered (Kahn & Luce 2003). Data collection that is currently underway suggests that these processes are moderated by individual difference factors as well as by one’s prior medical history.

We are currently extending our model to include a second set of problematic “false security” events. In work that is currently underway, we extend our focus to include situations where the protective measure is not used but again the threat is not realized. Initial tests of this model will occur within the domain of bike helmet use, focusing on why and how adherence declines as a function of previous behavior. In this domain, we hypothesize that declines occur because (1) if there is discomfort or stress involved with wearing of the helmet and an accident does not occur, the perceived efficacy of the helmet diminishes and (2) if a helmet is not used, and an accident does not occur, perceived vulnerability to the threat diminishes. Although experiments currently in development focus on use of bicycle helmets, we suggest that our model will generalize to the patterns of behavior that exist for a wide variety of preventative measures (e.g., seatbelt use, cars seats, etc.) and screening behaviors.

Our theoretical approach to the effects of false positive and false security events on adherence begins with a normative, decision tree structure for the value of protective measures. We then augment that analysis with a more descriptive process model that has two components. First, we argue that incorrect causal inferences occur due to “magical thinking” or the erroneous interpretation of causality between two closely occurring events. We suggest consumers may incorrectly infer a causal relationship between the “false positive event (hassle)” or the “false security they feel” and subsequent evaluations of subjective probabilities associated with the decision to use the preventative measure. For instance, decision makers may incorrectly infer, or over-infer, from “failure” associated with hassle of a protective measure to relative efficacy. As another example, decision makers may incorrectly infer reduced vulnerability from a “false security” event. For instance, an individual may infer that it is generally acceptable to neglect bike helmets simply because negative outcomes do not follow from an instance of neglect. Second, we believe it is important to understand decision makers’ processes of emotion and coping, as protective measures address anxiety-provoking events (cancer, car accidents). We will also discuss how our model overlaps with, and diverges from the traditional health belief model, and similar approaches to health related decisions.

Our theoretical model provides several avenues for public policy application, as understanding the causes of adherence declines will allow us to suggest specific strategies and tactics to reverse these declines. First, because our approach relates behavior to a normative framework, it allows for calculation of normative, rational actions (some protective measures are not worth taking) and for comparison of actual behavior to model predictions. Further, it provides an “as if” framework for individual consumer behavior that may directly suggest avenues for intervention. We believe that there are three main classes of approach for public policy interventions following from our work. First, there is a “cognitive” debiasing approach rooted in the behavioral decision theory literature. This approach may allow for identifying and correcting biased interpretations people draw from prior behaviors (e.g., biased judgments of vulnerability). Second, there is an “emotional” approach based on emotional appeals and specific appraisal dimensions. This approach may suggest specific emotional appeals to signal goal relevance and mitigate the impact of reactions to “problematic” (False Positive or False Security) events. Finally, there is also a “behavioral” approach acknowledging that it may be possible to generate behavior that bypasses intention by creating habits. This could be beneficial in that it might provide some resistance to impact of factors such as negative evaluation given hassle or reduced subjective vulnerability given neglect of measure. More generally, we believe that by addressing the problem of repeated adherence to protective measures over time, we can uncover interventions with public policy benefits.

References

“Social Psychological Motivations in Nonprofit Marketing”
Jen Shang, Rachel Croson

Recently funding for public goods such as education, healthcare, and other public services have become more dependent on local and voluntary funding sources, especially individual contributions, and less reliant on taxation and government grants. Local governments, schools, and other nonprofit organizations have increasingly turned to private donations as a source of funding for public goods. In 2003, individual giving accounted for 74.5% of donations to nonprofits. One challenge facing policy-makers is to evaluate the effectiveness and permanence of this funding source, and to decide how much of its limited budget to allocate toward making nonprofits more effective in their fundraising as opposed to funding the nonprofit providing the public goods directly.

We identify social psychological motivations that impact the extent of voluntary funding through a survey of contributors to public radio stations. We use results from this survey to suggest interventions that can be used to increase this funding source, and use a field experiment to test these interventions. Our results suggest both tactics that nonprofits can use to increase their voluntary contributions, and publicity campaigns that policy-makers can use to increase voluntary contributions to these nonprofits (and thus decrease their reliance on governmental funding).

In the survey of current and lapsed members of public radio stations we elicited ratings of various motivations for giving, then correlate those ratings with self-reported contributions and actual contributions (matched back to the radio station’s historical database). As expected, we find that individuals over-state their actual contributions; claiming that they contribute more than they actually do. However, we also find that the motivations that correlate with reported contributions are not the same as the motivations that correlate with actual contributions. Thus in addition to the substantive contributions, this part of the project also makes a methodological contribution to research in this area; the type of response seems to interact with motivations for giving.

One motivation identified in the survey is that of social norms (Fisher & Ackerman, 1998); individuals contribute because they believe others contribute, or because it is the appropriate thing to do. In the field experiment, we focus on the impact of social information and its impact on voluntary contributions to fund public radio. We test the impact of providing social information about another donor’s contribution to targets in both on-air fund drives and mailing campaigns. We find that contributions are extremely responsive to this social information; they increase their contribution when the social information is higher than their previous contribution, and decrease it when the social information is lower. When social information is omitted or is the same as their previous contribution, they contributed the same amount as they did the year before. The differences in these changes are statistically significant (F(2,296)=3.03, p=0.05), and economically significant; the difference in the average contribution between the high and low social information condition is over $30 per donor, representing a 15% increase in contribution revenue.

It is also heartening to note that this social information effect is long-lasting. Having been exposed to higher social information does not affect the retention rate (likelihood of contributing the next year), and generates higher revenue in the subsequent year as well. Thus this intervention does not simply shift future intended contribution to the present; it actually increases overall contribution and thus the extent of the public good provided.

A follow-up lab study searches for the causes of this effect. We find that the effect of social information on behavior is fully mediated by beliefs in the social norm (what others contribute and what is appropriate to contribute). Identifying this mechanism has the potential to help policy-makers in designing publicity campaigns encouraging voluntary contribution (and thus reducing the reliance of nonprofits on government funding); highlighting others who contribute high amounts or influencing beliefs of appropriate contribution is likely to have an impact on revenue from individual contributors.

In this research, we use field surveys and field experiments to investigate the motivations for, and impact of social psychological factors on, donors’ contributions to nonprofit organizations that provide public goods. Increasing our understanding of these motivations can help policy-makers to make better decisions about designing publicity campaigns to increase nonprofit’s effectiveness in fundraising, and how to allocate limited budgets between these activities and direct funding.

Reference
EXTENDED ABSTRACTS

“Subjective Expertise and Word-of-Mouth”
Andrea C. Wojnicki, University of Toronto

Consumer-to-consumer communication or word-of-mouth (WOM) is an impactful marketplace force that has been studied for decades by academics. Two prevalent constructs in the WOM literature are “opinion leaders” (Rogers and Cartano 1962) and “market mavens” (Feick and Price 1987). It makes sense that consumers who give and are asked for information regarding certain product categories (opinion leaders) or the marketplace in general (market mavens), are also likely to be experts. While the relationship between WOM and expertise is backed by very little empirical evidence (see Jacoby and Hoyer 1981 for exception), it remains as a common and non-contentious assumption in the WOM literature.

Why are these experts talking? Researchers have suggested a few motivations that may encourage consumers to generate WOM, including involvement, altruism, reciprocity, cognitive dissonance, and self-enhancement (cf. Feick & Price 1987, Gatignon & Robertson 1986). This last motivation, self-enhancement or status-seeking, may be particularly compelling in the context of WOM and expertise. Consumers may use WOM as a means to gain attention, social status, superiority, or power by showing off what they have bought, what they’ve been doing, or to enhance their reputation as an expert.

According to self-enhancement theory, people strive to associate themselves with the positive and avoid the negative (cf. Baumeister ‘98). It follows then that consumer experts may be motivated to self-enhance by talking about their positive (satisfying) experiences. But this would only be the case if these experiences were diagnostic of or attributable to the consumer’s expertise. One way of operationalizing this attribution is with choice. If the consumer chose the product to consume, the outcome may be attributable to their expertise. If, however, the product was imposed, the outcome would be attributable to something else, such as chance. Study 1 will test the hypothesis that satisfied experts generate the most WOM, but only when they had choice. Based on the insight that the salience of consumers’ identities can affect their behaviors (cf. Tybout and Yalch 1980), Study 2 will test whether this effect is intensified when consumers’ expertise status is primed.

It is predicted that the same pattern of results described above will persist in both the primed and not primed conditions, but they will be exaggerated in the primed condition such that satisfied experts will generate even more WOM when their expertise status is primed versus when it is not primed.

Study 1
Subjects from an online subject pool were emailed an invitation to participate and given a 72 hour window to complete the study. 449 subjects completed the study and were mailed a $5 money order as compensation. When they logged on to the experiment website, they first read a hypothetical marketplace scenario that was randomly assigned to the choice or imposed and the satisfied or dissatisfied conditions. Following a distraction task, subjects answered questions regarding subjective expertise (Mitchell & Dacin 1996), opinion leadership (Childers 1986), involvement (Higie & Feick 1988), all specific to restaurants, as well as the market maven scale (Feick & Price 1988).

Consistent with predictions, the two-way interaction between outcome and expertise was significant in the choice condition (p<.042) and an analysis of simple effects revealed that satisfied experts generated more WOM than any other group. The main effect of expertise was also significant, and expertise, opinion leadership and WOM are all positively and significantly correlated, even after controlling for involvement. In the imposed condition, the interaction between outcome and expertise was not significant (p=.283).

Study 2
459 subjects from a different, independent online subject pool completed this study. A third factor, salience (primed versus not primed) was added to the design. Subjects in the not primed condition followed a procedure very similar to Study 1. Subjects in the primed condition first answered the expertise scale questions and were then explicitly labeled as a restaurant expert or non-expert. They were also reminded of this status before they indicted how much WOM they would generate regarding the hypothetical restaurant scenario.

Results confirm hypotheses—the three-way interaction between salience, outcome, and expertise was significant (p=.001). Importantly, the simple effect of salience for satisfied experts was significant (p<.001), as was the main effect of expertise (p<.001).

Discussion
This research demonstrates self-enhancement as a viable and significant motivation for consumers’ WOM behaviors. Based on their desire to enhance their expertise status, satisfied experts generate the most WOM, but only when they can take credit for a positive outcome (Study 1), and even more so when their expert status is salient (Study 2).

This research also demonstrates new and nuanced evidence in support of the relationship between expertise and WOM: the main effect of expertise on WOM was significant in both studies. It should be noted though that it is satisfied experts who are driving this main effect. These results may also illuminate previous inconsistencies regarding prevalence of positive versus negative WOM in the marketplace—a question that has received some attention, but with ambiguous results. Here, we see that consumers who are satisfied generate more WOM than those who are dissatisfied, but only when they are experts, and only when they had choice.

References
“Word-of-Mouth in Virtual Communities: A Netnographic Analysis”

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Online forums, boards, list servers, chat rooms, newsgroups, and blogs provide consumers worldwide with the ability to share their knowledge, experiences, and opinions. The popularity of electronic consumer exchanges is reflected in the vast number of virtual communities that specifically focus on consumption-related interests. When making a purchase decision, consumers may turn to the community to gather information, ask for advice, or review experts’ opinions. Post-purchase, they may communicate their own experiences to the community. The result is an ongoing process of interpersonal influence and online word-of-mouth recommendation. As information exchange between consumers via the Internet continues to grow exponentially, spheres of influence will become increasingly virtual. Marketers are challenged to cater to this development. It is therefore important to acquire systematic knowledge about this process of online interpersonal influence within virtual consumption communities.

Considering existing research efforts, we start to understand why people participate in and contribute to virtual communities (e.g., Dholakia, Bagozzi and Klein Pearo 2004; Hennig-Thurau, Gwinner, Walsh and Gremler 2004), with what effect (e.g., Algesheimer, Dholakia and Hermann 2005; Bickart & Schindler 2001; Muniz & O’Guinn 2001), and how we can measure that effect (e.g., Godes and Mayzlin 2004). However, what is still lacking is a deeper understanding of what people talk about and how they try to influence each other online. This study applies the method of netnography (Kozinets 2002) to investigate interaction dynamics between virtual community members. The main goal of the study is to analyze how the discussants communicate with and influence each other.

The community under study (www.SmuleWeb.nl) is organized around culinary matters attracting around 30,000 unique visitors per month. It consists of theme pages, member pages, discussion forums, chat rooms, and databases for articles, reviews, and recipes. I made my entrée in the community and started informal observation of the forums in September 2000. I reviewed a range of member contributions, conducted in-depth interviews with members and administrators, and participated in offline community gatherings. After three years of knowledge building, I intensified my monitoring by systematically reviewing all topics discussed in the forums in 2003. In several rounds, I made a purposeful selection of 53 discussion threads for further analysis. The total research volume amounted to 3161 postings generated by 82 distinct contributors. The conclusions are based on an iterative content analysis. My interpretation of the data has been constructed through continuously moving between individual postings, chunks of postings, entire discussion threads, and the emergent understanding of the complete data set. The evolving netnography has been posted in its entirety to the community to elicit member feedback. In total, sixteen members (active discussants and lurkers) reacted. All reactions were positive and affirmed the analysis and interpretation.

First and foremost, the netnography has given insight in the character of the virtual community as a reference group. SmulWeb consists of a varied member database. Participants differ with respect to gender, age, race, nationality, education, income, profession, family situation, and lifestyle. No real life counterpart of SmulWeb (e.g., cooking club or wine course) shows this level of diversity. Offline reference groups are geographically more restricted, but they also tend to be more limited in terms of economical, social, racial, and ideological characteristics according to the principle: birds of a feather flock together. Online, these feathers are not directly apparent. They are also less relevant because members have one important thing in common: their passion for the community’s topic of interest. Although they share this passion, their related opinions and behavior diverge due to their different backgrounds. It is these differences that are the motor of the community’s processes of interpersonal influence and WOM recommendation, because the community members actively learn from and influence each other.

The netnography has revealed four main frames of discussion. The discussants engage in communicative acts to (1) share knowledge, (2) negotiate norms, (3) oppose values, and (4) celebrate similarities. These labels do not only exemplify the aim of discussions (to share, negotiate, oppose, and celebrate), but also what is at stake (knowledge, norms, values, and similarities). The categorization is valuable for researchers and marketers alike, because it highlights the complexity of online forums as sites of interpersonal influence between consumers. It is not just about information exchange related to specific purchase decisions, but discussants engage in far more encompassing communicative acts to define, negotiate, argue, and cheer about value systems surrounding the community’s focal topic of interest. Furthermore, discussants have several tactics to influence each other. They call upon authority to convince others of their expertise. They tell stories about other people’s deviating behavior to express and reinforce their shared norm, and they contextualize their own behavior whenever it deviates from this norm. Finally, the ‘virtuality’ of the community stretches the unifying character of the discussions, because members more easily let go of their decorum, and show their true selves to an audience of like-minded individuals to whom they confess secret passions.

References


**“Viral Marketing Mavericks: Capturing Word-of-Web”**

Janghyuk Lee, HEC School of Management, Paris & Korea Advanced Institute of Science and Technology (KAIST)

Judith Lynne Zaichkowsky, Simon Fraser University

Viral marketing refers to the strategy of encouraging consumers to sell a product on behalf of the company that creates it. The effectiveness of viral marketing on-line has been well documented in the business community. Some examples include WD-40, which quadrupled visitors to its website by giving away 1,000 radios shaped like its product to those who signed up 10 other members (Business Wire, 2002); or Listerine which created a game called Germinator on its web site and encouraged players to email their scores to friends (Neff, 2001). Other viral marketing programs are loyalty or fidelity programs. Consumers can earn points for every contact person they give the company. They can then trade their points for company merchandise. The web documents both the sender and receiver of that information.

Encouraging current consumers to tell their friends about one’s brand and encourage purchase is about the most trusted form of product endorsement. Consumers who tell others about products can be classified into four categories, depending upon the amount of information they give and receive. Consumers who both give and receive a great deal of product-based information are called socially integrated. Those who mainly give information, but do not care to receive it are called socially isolated. Those who like to receive information, but rarely give information are deemed socially dependent. Finally, consumers who give and receive low amounts of marketplace information are deemed to be socially isolated (Schiffman et. al, 1975). The web has made the social aspect a virtual aspect because consumers can both send and receive a great deal of information without the face-to-face contact, and in fact may be socially isolated on a face-to-face basis, but be socially integrated on-line.

Therefore the computer and the World Wide Web have added an extra layer or dimension of explosion to WOM, creating “word-of-web.” Consumers are now able to send the same message to dozens or hundreds of consumers at a time through a click on their address book. They are also able to link the company of interest to their own web site, which may be deep linked to certain key words in search engines. This web-embedded information has the potential to be seen by thousands or more. The question is who are these consumers who practice word explosion and what motivates them to link and share company information. As a first step to answering this question, the network behavior of customers of an on-line company is documented.

**The Study**

An electronic greeting card company (established in 2002) supplied the following data: the number of subscribers; the number of e-cards sent on monthly basis; a list of paid subscribers to their service; the start and expiry date of their subscription; and a list of all cards sent to other members from July 2004 to January 2005. Due to the nature of this business, the volume of e-cards sent is subject to seasonality. There was a low of 0.41 cards sent per member in September and a peak of 12.38 cards sent in December. November and April showed minor peaks, 5.41 and 3.64, due to Thanksgiving and Easter.

Exploratory analyses showed the following: (1) During the peak season (November and December which accounted for 78.1% of e-cards sent), new customer acquisition was more effective (22.3 cards sent to acquire each new subscriber) than during the off-peak season (33.4 cards). Less cards were sent to non-subscribers compared to existing subscribers (the ratio of e-cards sent to non-subscribers from existing subscribers was significantly lower during the peak season (0.25) than during the off-peak season (0.31)). These results show the importance of timing to diffuse word-of-web. The impact on new customer acquisition can be maximized if it is diffused when consumers are in the same buying mode. (2) Heavy senders and heavy receivers can be very important. Our e-card data confirmed the well known Pareto law of 20/80, as 20% subscribers sent 75% of the e-cards. The cross tabulation of heavy senders and heavy receivers showed that heavy senders also tended to be heavy receivers. (3) Heavy senders are less likely to exit the company than light senders. Cox-regression analysis showed the significant impact of the number of e-cards sent on the survival probability. This result was confirmed from two different subscriber cohorts starting in November and December 2003. However, the number of e-cards received showed a negative impact on likelihood to continue as a customer. This needs to be explored in future research.

**References**

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