The Internet as a Micro Marketing Tool: Targeting Consumers through Preferences Revealed in Music Newsgroup Usage

Eugene Sivadas
EMERSON COLLEGE, BOSTON

Rajdeep Grewal
UNIVERSITY OF CINCINNATI

James Kellaris
UNIVERSITY OF CINCINNATI

Recent developments in information technology have created new opportunities for marketers to target consumers more precisely. The advent of the information superhighway, for example, has begotten the intriguing possibility of identifying and serving very narrow segments of consumers ("micro marketing") on the basis of interests and preferences reflected in their Internet usage. In this article, the authors develop and test propositions concerning the predictive value of Usenet newsgroup usage. Results of an electronic survey show that readers of music-related newsgroups (product category) tend to be highly involved in the topic of their specific newsgroup (brand) and avid consumers of related goods/services. Moreover, for newsgroup-related products, newsgroup readership is shown to be a better predictor of purchasing patterns than standard demographic variables. J BUSN RES 1998. 41.179–186. © 1998 Elsevier Science Inc.

Each consumer is basically his own individual target audience, his own market segment. Stephen P. Arbeit (*Viewpoint,* 1982)

The Internet is sure to become a commercial hot spot. Robert Kuttner (*Business Week,* 1995)

No longer the domain of the anorak brigade, the Internet is attracting advertisers who are catching on to its money-spinning potential. Chris Boulding (*Marketing Week,* 1995)

The ability to target one's marketing and communication efforts has long been accepted as the key to marketing efficiency and competitive advantage (cf., Bass, Tigert, and Lonsdale, 1968; Wind and Cardozo, 1974). This process of identifying and reaching the "right audience" has become more complex and has grown in importance with the emergence of two countervailing trends: while markets are getting larger, market segments are getting smaller. Witness the expanding globalization of markets and the concurrent shift from mass marketing to the targeting of increasingly smaller segments (micro marketing).

The past decades have seen a shift of the balance in power away from large manufacturers to consumers (Arbeit, 1982). Increased global and domestic competition, a movement away from a relatively homogenous to a more diverse consumer base, and technological advances have multiplied exponentially the choices available to consumers (Arbeit, 1982). Faced with increased competition and a shift of power to the consumer, marketers have put greater emphasis on customer orientation and satisfaction.

To accomplish the goal of delivering greater value to customers, marketers have tried to enhance their understanding of consumer needs and wants and as a basis for building long-term relationships. This philosophical shift has been characterized as "relationship marketing" (Petrison, Blattberg, and Wang, 1993; Sheth and Parvatiyar, 1995). The diffusion of database marketing and direct marketing principles from the narrow confines of book clubs and record clubs along with the emergence of single source systems like scanner data, have made responses to marketing activities more measurable than ever before (Curry, 1993; Nash, 1986; Petrison, Blattberg, and Wang, 1993). Increased sophistication of marketing effort has been due in part to the emergence of information technologies that allow marketers to "collect, make sense of, and distribute information" (Harris, 1985). This improved measurability of marketing activity through single source scanner systems and relational databases has allowed marketers to create new prod-

ucts and services by identifying special segments whose needs have not been met. The power of information technology has enabled marketers to target and satisfy the needs of narrow segments of the population, whereas increased competition has made it imperative for them to do so.

Academic researchers are also drawing attention to emerging information technologies and the profound impact they are likely to have on the practice of marketing (e.g., Blattberg, Glazer, and Little, 1993; Blattberg and Glazer, 1993; Curry, 1993). For example, Blattberg and Glazer (1993) and Pepper and Rogers (1993) have argued that these information technologies will lead to a new era in marketing, wherein marketers will target "differentiated" products to very narrow (even individual level) segments. Curry (1993) also highlights the shift from mass to micro marketing by suggesting that information technology may allow marketers to address consumer needs at the individual level (one-to-one marketing).

One aspect of this emerging information technology is the Internet. The Internet is being hailed as the fourth mass medium by the popular press (Wayne, Jr., 1996). As the quotes at the beginning of this article illustrate, the Internet is expected to have a major impact on the business world. In fact, unlike other existing media, this is a medium that has truly global reach and is expected to redefine the way business is conducted (Mehta, Grewal, and Sivadas, 1996). For example, there are already a host of "cybermalls" on the Internet (Fox, 1995). Airline tickets are expected to be distributed via the Net (Henderson, 1995). Electronic cash is expected to transform the world's financial life (Barrett, 1995). Plastic manufacturers plan on using the Net to communicate with their customers (Mapleston, 1995). Moreover, the Internet is diffusing rapidly even in developing countries like China (*East Asian Executive Report*, 1995).

Interest in the potential of the Internet as a marketing tool appears at a time when marketers are increasingly targeting their efforts at smaller segments of the population in an expanding global marketplace. The Internet is one technological innovation that is expected to play a major role in helping marketers address opportunities attendant to both trends (e.g., see Hoffman and Novak, 1996; Mehta, Grewal, and Sivadas, 1996). However, as Berthon, Pitt, and Watson (1996) indicate, much more research needs to be done to understand how to conduct commerce on the Internet.

In this article, we explore the potential of the Internet as a segmentation tool to identify and reach narrow consumer segments. Popular features of the Internet include e-mail, the newsgroups of the Usenet, FTP, and the World Wide Web (see Mehta, Grewal, and Sivadas, (1996) for a review of these Internet components). We examine the Usenet component as a means of identifying, targeting, and reaching consumers with very specific and identifiable interests.

The sections that follow provide an overview of the features of the Internet and Usenet, develop propositions concerning the predictive value of consumer interests and preferences reflected in Usenet newsgroup usage, and describe the method and results of an electronic survey designed to test our propositions. The concluding section discusses practical implications of the findings and suggests an agenda for further research.

The Internet

The Internet is "a global web of 47,000 private and public networks" (Earle, 1993). Engelman (1996) described the Internet as "a worldwide, self-governed network connecting thousands of smaller networks, and millions of computers and people, to megasources of information." The Internet has expanded about 2000% in the last decade, and reports indicate that it is doubling in size every 10 months (Hoffman and Novak, 1996). Hoffman and Novak (1996) estimate the total number of Internet users to be somewhere between 16 and 36 million. Most surveys of the Internet users (cf., Gupta, 1995; Mehta and Sivadas, 1995a) suggest that most users of the Internet are middle to upper-middle class college-educated professionals or future professionals. In addition to being a rapidly growing medium the Internet has global reach (Mehta, Grewal, and Sivadas, 1996). Moreover, the demographics of Internet users are of the type many marketers find desirable to target (Gupta, 1995). Thus, it becomes important to develop marketing tools and techniques to unlock the full potential of this new medium and to tap the net user market efficiently and effectively.

One of the most popular features of the Internet is what is collectively known as the Usenet. The Usenet is "a place divided into thousands of theme-based discussion areas called newsgroups" (Engelman, 1996). There are about 11,000 newsgroups on the Usenet today. Each of these newsgroups deals with a very specialized topic (e.g., "comp.c++" is a newsgroup devoted solely to discussing the c++ programming). An extremely wide range of topics—from Nepalese culture to Madonna, from Unix operating system to field hockey—is represented among the newsgroups on the Internet. The topical diversity of newsgroups and the relative specialization of the topics discussed within groups provides fertile opportunities for marketers to identify consumers with interests at a more microscopic level than is possible with existing media (Tehrani, 1995; Wayne, Jr., 1996). For example, a typical newspaper may have some pages relating to sports news. However, in the Usenet newsgroups the discussion topics are more finely tuned with many newsgroups catering to each of many different sports. Witness the separate newsgroups for college versus professional football. This high degree of specialization allows identification of individuals who may be interested just in college football, but not in pro football, or vice versa.

Such accuracy in the identification of possible target segments makes the Usenet a potentially very useful segmentation tool. In their study, Mehta and Sivadas (1995a) examine the attitudes of Internet users toward the commercialization of the Internet. Not surprisingly, they found that readers of a given newsgroup tend to be highly involved with the topic

of that newsgroup. More importantly, they found that highly involved newsgroup members tended to score low in involvement with other newsgroups. On the basis of these results, the authors concluded that the Usenet newsgroups can be used to identify "unique" segments of consumers. We argue that this segmentation approach, which uses actual behavior (i.e., readership of one or more newsgroups) to segment consumers, can allow marketers to identify highly involved, "narrow" segments, even within a product category. In the next section we further develop this line of reasoning and advance some testable propositions.

Propositions

The overall goal of the present study is to provide an initial test of the viability of identifying narrow segments of potential customers on the basis of preferences and interests revealed in their use of the Usenet. The last couple of years have witnessed the emergence of the World Wide Web on the Internet as an advertising medium (Berthon, Pitt, and Watson, 1996). As Berthon et al. point out (1996, p. 44), unlike other media on the web, "the customer generally has to find the marketer rather than vice versa and to a greater extent than is the case with other media." Among other goals, we believe that identification of narrow, well-defined segments of potential customers on the Usenet will allow marketers to direct such targeted consumers to their web sites.

The attempt on the part of the consumer to seek out the marketer on the web page is indicative of high involvement. Involvement with "specific" information is a defining character of the Internet user. As Poiesz and de Bont (1995, p. 450) aptly describe it, "involvement is the momentary mobilization of behavioral resources for the achievement of a personally relevant goal." The specific newsgroups read by Usenet users are chosen by the users themselves. Hence, it seems reasonable to infer that Usenet users read postings of newsgroups devoted to topics, issues, or products that interest them. Given this interest, it would also seem reasonable to expect a high level of personal involvement on the part of the reader with the newsgroup's focal object. Both Mehta and Sivadas (1995a) and Berthon, Pitt, and Watson (1996) suggest that Internet users should be highly involved with the medium. Consumers may thus be highly involved with the topic or "product" that constitutes the basis for newsgroup postings they read.

The above reasoning can be extended to infer consumption patterns. Researchers have long argued that purchase and consumption are consequences of involvement (Poiesz and de Bont, 1995). Involvement has been linked with brand loyalty and postpurchase satisfaction (Richins and Bloch, 1991), frequency of product usage (Mittal and Lee, 1989), and adoption of new products (Foxall and Bhate, 1993). Given that Usenet users manifest high interest/involvement in some topic through their choice of newsgroups, they should be more likely to consume products and services related to their chosen topic. For example, a person reading the classical music Usenet newsgroup should have a higher likelihood of buying classical music recordings than hard rock recordings. Although we test our propositions within the context of music newsgroups, we believe that our findings should extend to other product categories like computer software and hardware, ethnic products, and games. There are several Usenet newsgroups that solely discuss a particular game (e.g., rec.games.bridge, rec.games.backgammon, rec.games.chess, rec.games.chess.computer) or various types of foods (e.g., rec.food.choclate, rec.food.drink.tea, rec.food.veg).

P1: Consumers will be more interested in the specific type of product or service corresponding to their chosen newsgroup versus other types of products and services within the same general product category.

P2: Consumers are more likely to engage in the consumption of products and services related to their chosen newsgroup versus other types of products and services within the same general product category.

In addition to the above propositions, we seek to assess the predictive power of newsgroup readership relative to more traditional media selection variables such as demographics (see Wells, Burnett, and Moriarty, 1995). Traditional demographic criteria dominate media selection (Assael and Poltrack, 1991; 1993; Cannon and Rashid, 1990/91). For example, most popular media research sources (e.g., Nielsen) rely primarily on demographics (Cannon and Rashid 1990/91). Assael and Poltrack (1994) point out that "the goal of reaching current or prospective purchasers accounts for most media buys." It is commonly accepted that media selection should be based on purchase behavior (Aaker, 1968; Currim and Shoemaker, 1990). Media planners tend to evaluate and select media vehicles based on whether these media reach predefined target segments (typically defined as buyers of a product). Given that the goal of most media buys are to reach buyers, and that demographic criteria are heavily relied upon to select media, we examine whether newsgroup membership is a better predictor of purchase behavior than are demographics. Given that newsgroup usage constitutes a behavioral indicator of underlying preferences, we expect it to be superior to demographics as a predictor of purchasing behavior in the product category related to the newsgroup.

P3: Compared to demographic variables, Usenet newsgroup readership should be a better predictor of purchasing in the newsgroup-related product category.

Data Collection and Analytic Methodology

Research Setting and Research Instrument

We test our propositions by examining music newsgroups on Usenet. We selected music newsgroups as our setting because music constitutes a highly diverse and competitive multibillion dollar industry. Marketers always find it challenging to identify

the kind of music that will be accepted by different consumers (Gottlieb, 1992). In addition, music is an industry characterized by narrow segments. Direct marketing methods are widely used in this industry to segment the market and target the consumers (Stipp, 1990). These characteristics of the music industry make it an ideal testing ground for new segmentation tools, like the participation in Usenet newsgroups.

We selected six music-related newsgroups to represent a broad spectrum of musical tastes and interests: rec.music.gdead, rec.music.classical, rec.music.country-western, rec.music.reggae, rec.music.indian-misc, and alt.rock-n-roll. The research instrument identified the newsgroup respondents frequented and measured consumer involvement with the type of music corresponding to their particular newsgroup. It also collected data on the type of music they listen to, recorded music they purchase, and the concerts they attend. Rank-order data on music preferences for six types of music (classical, country, reggae, rock, and Indian) were also gathered. In addition, some demographic information and background information regarding their use of and expertise with the Internet was collected.

Data were collected by posting a questionnaire on each of the above six newsgroups. Researchers are beginning to use and evaluate the Internet as a research data collection tool (Kiesler and Sproull, 1986; Mehta and Sivadas, 1995b). In a pioneering study in this area, Mehta and Sivadas (1995b) conducted an experiment to compare response rates and content in mail versus electronic mail surveys. They found that although response rates tend to be lower in electronic mail surveys, respondents tend to provide more insightful answers to open-ended questions. The sampling frame for the Mehta and Sivadas (1995b) study was comprised solely of posters (versus readers) of the newsgroups.

In the present study we post our survey on the newsgroup so that all readers of the newsgroups will have access to it. We recognize that this approach precludes personalization of the survey and the offering of monetary incentives, both of which would presumably increase response rates (Dillman, 1978). However, to enhance the response rate to our questionnaire, it was posted twice on each of the six newsgroups over a 3-week period. We also recognize that our self-selected sample, although comparable to those used in other Internet studies (e.g., Gupta, 1995), imposes limits to the generality of our findings.

The first part of our questionnaire asked respondents about their use of and experience with the Internet. Questions pertained to the length of time they had been Internet users, frequency of Internet use, and who paid for their Internet account. The next set of questions inquired about their frequency of use of various Internet services indexed on a 6-point scale (e.g., Usenet, FTP, Gopher) and how often they were posted on Usenet groups. Respondents were also asked to list their three favorite newsgroups. The next section pertained to measuring their involvement and interest with the

specific newsgroup on which the survey was posted. We used a modified version of the 7-point Likert-type scale used by Mehta and Sivadas (1995a) to measure involvement. The next set of questions asked respondents to indicate the number of hours they listened to various types of music, the amount of money they spent in an average month buying cassettes/CDs/ records for each of these types of music, and how many concerts they had attended during the past year for each of these types of music. Demographic items (gender, age, income, occupation, and education) concluded the questionnaire.

Data Analysis Framework

Each of the three propositions was tested by means of both the univariate multiple linear regression model and multivariate multiple linear regression model. In the univariate multiple linear regression case, adjusted R-square was used as an overall measure of model fit. In the multivariate multiple linear regression case, Pillai's trace, Hotelling-Lawley trace, and Wilks' lambda were used in addition to R-square as indicators of overall fit of the model. In addition, for both the univariate and the multivariate case the beta coefficients are reported.

To test our first proposition, the rank of the six types of music was used as the dependent variable and the group membership of the respondent was used as the independent variable. For the remaining two propositions, the three measures of consumption (number of hours per day spent on listening to music, dollar amount spent on purchase of recorded music per month, and number of concerts attended during the past year) were used as dependent variables and either the group membership or the demographics were used as the independent variable. The results are presented next.

Results

Of the 72 ($n = 72$) responses received, 68 were complete. The sample was comprised of 50 (69%) men and 22 (31%) women. Their ages ranged from 19 to 53 with a mean age of 31 years. Median income was in the $25,000–$49,999 range and median level of education was a 4-year college degree. Of the respondents, 34.7% had an undergraduate degree and another 36% held advanced graduate degrees. A variety of occupations was represented in the sample, ranging from librarians to computer programmers. About 44% of respondents were currently undergraduate and graduate students at various universities.

P1 suggests that consumers will be more interested in the type of product or service corresponding to their newsgroup versus other types of products and services within the same product category. We collected rank-order data on the interest in activities of various newsgroups and fitted univariate and multivariate multiple linear regression models with the rank of a type of newsgroup (e.g., rank of rock-n-roll music) as the dependent variable and the newsgroup to which a person belonged as independent variables (these were dummy-coded

Table 1. Univariate Multiple Linear Regression Results: Beta Coefficient and Adjusted R-Square for Music Group Membership as Predictors of Rank for Type of Music

	Constant	Grateful Dead	Reggae	Rock-n-Roll	Asian-Indian	Classical	Adj. R^2
Country rank	1.83[a]	2.81[a]	3.98[a]	2.62[a]	2.98[a]	1.62[b]	0.324[a]
Classical rank	3.00[a]	0.23	1.18	1.00	0.36	−2.00[a]	0.384[a]
Rock-n-Roll rank	3.00[a]	−1.65[b]	−0.27	−1.92[a]	0.45	0.38	0.365[a]
Reggae rank	4.17[a]	−1.16	−2.25[a]	−0.08	−0.46	0.14	0.196[a]
Asian-Indian rank	4.40[a]	0.01	0.02	0.68	−2.67[a]	−0.48	0.284[a]
Rap rank	4.80[a]	0.21	−0.89	0.27	−0.40	0.96	0.091[b]

[a] Significant at 1% level.
[b] Significant at 5% level.

variables). Both the univariate multiple linear regression (see Table 1) and the multivariate multiple linear regression results support our proposition. Because the results were statistically identical, we report only the univariate analysis here.

For example, from Table 1 we see that the readers of rec.music.reggae give a higher rank to interest in products related to reggae music (beta coefficient of reggae is −2.25; significant at the 1% level—note that negative coefficients tend to improve the rank) versus other musical products. Similarly, members of rec.music.reggae tend to give lower ranks to interest in products related to other newsgroups (e.g., coefficient for grateful dead is −1.16; coefficient for rock-n-roll is −0.08; coefficient for Asian-Indian music is −0.46; and the coefficient for classical music is 0.14). The interesting case is that of rap music. Remember that rank data were collected for rap music, but we did not survey the rap music newsgroup. The adjusted R-square for rap music is relatively low for both the univariate (0.091) and the multivariate (0.088) analysis. Also note that the other three statistics (Pillai's trace, Hotelling-Lawley trace, and Wilks' lambda) of overall model fit for the multivariate multiple linear regression model were significant at the 1% level, implying that group membership is a good predictor of the rank ordering of type of music.

P2 anticipated that consumers are more likely to engage in the consumption of products and services related to their preferred newsgroup versus other types of products and services within the same product category. Three aspects of music consumption were measured: (1) number of hours spent on listening to music, (2) dollar amount spent on purchase of recorded music per month, and (3) number of concerts attended during the past year. Results from both the univariate multiple linear regression model (Table 2) and the multivariate multiple linear regression model indicate strong support for the proposition on all three dimensions of consumption. Again, because the statistical results were identical, we report only the univariate analysis.

For example, from Table 2 we see that the readers of rec.music.indian-misc spend more hours per day listening to Indian music (beta coefficient of hours per day is 2.75; significant at the 1% level), spend more dollars per month on product related to Indian music (beta coefficient of dollars per month is 23.20; significant at the 1% level), and attend more Indian music concerts (beta coefficient of concerts per year is 3.20; significant at the 1% level). Further investigation of this newsgroup (rec.music.indian-misc) reveals that members do not listen to other types of music, do not spend money on products related to other types of music, and do not attend concerts of other types of music (i.e., no other beta coefficient is significant for the rec.music.indian-misc newsgroup). The goodness of the overall fit of the model is indicated by the significant value ($p < .01$ for all groups expect rap music) of the Pillai's trace, Hotelling-Lawley trace, and Wilks' lambda.

Thus, readers of rec.music.country-western listen much more to country music, spend more money on buying recorded country music, and attend more country music concerts than readers of any of the other music groups surveyed, and these people spend more money on country music than on other kinds of music. This pattern of results holds true across all the newsgroups (Table 2). Readers of a given newsgroup appear to be avid consumers of products/services corresponding to that type of music but not of other types of music. Similarly, readers of other newsgroups exhibit significantly lower interest in products/services corresponding to other newsgroups.

Our third proposition states that, compared to demographics, Usenet newsgroup readership should be a better predictor of purchasing in the newsgroup-related product category. For both the univariate multiple linear regression model and the multivariate linear regression model, adjusted R-square was used as a measure of overall fit for both group membership and demographics as independent variables. The univariate results are presented in Table 3.

When we use newsgroup membership as independent variables, in both the univariate multiple linear regression case and the multivariate multiple linear regression case the R-squares are significant for all newsgroup consumption indicators at the 1% level of significance, except for that of rap music. As stated earlier, the case of rap music is very peculiar. We did not collect data from rap music newsgroup members and hence, as expected, the newsgroup membership does not predict consumption. The results for the demographic variables as independent variables are less impressive. Only a few coeffi-

Table 2. Univariate Multiple Linear Regression Results: Beta Coefficient for Music Group Membership as Predictors of Consumption for Type of Music

Dependent Variable	Constant	Grateful Dead	Reggae	Rock-n-Roll	Asian-Indian	Classical
Country h/d	3.67[a]	−3.40[a]	−3.67[a]	−3.53[a]	−3.51[a]	−3.47[a]
Country $/m	26.20[a]	−24.14[a]	−26.20[a]	−24.28[a]	−26.20[a]	−23.12[a]
Country c/y	5.17[a]	−4.58[a]	−5.17[a]	−4.93[a]	−5.17[a]	−5.09[a]
Classical h/d	0.00	0.77	0.00	0.01	0.76	3.69[a]
Classical $/m	0.00	6.06	0.00	1.15	5.30	43.62[a]
Classical c/y	0.00	1.71	0.15	1.00	0.50	12.92[a]
Rock-n-Roll h/d	0.17	2.63[a]	0.34	4.56[a]	0.42	0.28
Rock-n-Roll $/m	1.00	19.29[b]	9.64	32.69[a]	0.20	3.92
Rock-n-Roll c/y	0.33	10.43[b]	4.84	8.28	−0.23	−0.18
Reggae h/d	0.00	0.28	3.35[a]	0.23	0.28	0.00
Reggae $/m	0.00	1.31	41.18[a]	2.31	2.10	0.00
Reggae c/y	0.00	0.44	7.08[a]	0.23	0.00	0.00
Asian-Indian h/d	0.00	0.03	0.20	0.00	2.75[a]	0.04
Asian-Indian $/m	0.00	1.00	3.00	0.00	23.20[a]	0.38
Asian-Indian c/y	0.00	0.06	0.25	0.00	3.20[a]	0.31
Rap h/d	0.00	0.31	0.20	0.12	0.08	0.00
Rap $/m	0.00	1.00	0.91	1.15	0.00	0.00
Rap c/y	0.00	0.47	0.33	0.08	0.00	0.00

[a] Significant at 1% level.
[b] Significant at 5% level.
h/d = hours per day; $/m = dollars per month; c/y = concerts per year.

cients are significant at the 5% or 1% level. These results strongly support P3, that newsgroup membership is a better predictor of consumption related to the topic of the newsgroup than are demographics (a similar pattern of results was obtained with Pillai's trace, Hotelling-Lawley trace, and Wilks' lambda).

Conclusions

Our study presents empirical evidence that the Internet facilitates identification and access to very narrow segments of consumers with very focused sets of interests. Using Usenet newsgroups, we presented a method of identifying and communicating with narrowly defined segments of consumers within a product category.

On examining newsgroup readership we find that not only are readers of particular newsgroups highly involved with their newsgroup, they are avid consumers of products/services related to the type of newsgroup. Readers of the various (music) newsgroups surveyed attend concerts, buy recorded music, and spend time listening to the type of music corresponding to the newsgroup they read. For example, readers of the classical music newsgroup spent about 3.69 hours a day listening to classical music, spend about $43.6 a month on buying recorded classical music, and had attended nearly 13 classical music concerts the past year over. Moreover, whereas they are avid consumers of the type of music related to their newsgroup, their consumption of other types of music (unrelated to the newsgroup they read) tends to be minimal. We thus demonstrate that significant differences exist in interests and consumption behavior within a product category (music

in present case). Thus, newsgroups can be used to target and reach consumers with very focused and well-defined interests.

We also demonstrate that newsgroup membership is a better predictor of consumption related to newsgroup products and/or services than were demographics. Most media buys are made with the objective of reaching current or potential customers. And, most media planners rely on demographics to identify which media best reach potential customers. And, most media planners rely on demographics to identify which media best reach potential customers. We do not mean to imply that demographics do not predict consumption, but, ideally, media selection should be based on the actual purchasing behavior of consumers who attend to the media. Usenet newsgroups allow marketers to target groups on the basis of behavior. Usenet groups not only allow us to reach consumers based on their product involvement and purchase behavior, but potentially allow marketers to engage in a two-way dialogue with consumers as compared to other mass media that are characterized by one-way communication. Thus, Usenet groups may allow marketers to target their communications and product offerings precisely to consumers based on identifiable interests that appear to be predictive of consumptive behavior.

The World Wide Web has generated a lot of excitement among advertisers. However, as Berthon, Pitt, and Watson point out (1996, p. 44), unlike other media, "the customer generally has to find the marketer rather than vice versa and to a greater extent than is the case with other media." By using Usenet newsgroups, marketers can direct potential customers to their web sites.

Although the present study is preliminary in nature, the

Table 3. Univariate Multiple Linear Regression Results: Adjusted R-Square for Music Group Membership and Demographics as Predictors of Consumption for Type of Music

Dependent Variable	Univariate Regression with Music Group Membership as Independent Variables	Univariate Regression with Demographics as Independent Variables
Country h/d	0.469[a]	−0.200
Country $/m	0.341[a]	0.012
Country c/y	0.486[a]	−0.053
Classical h/d	0.590[a]	0.147[b]
Classical $/m	0.451[a]	0.021
Classical c/y	0.418[a]	0.140[b]
Rock-n-Roll h/d	0.534[a]	0.093
Rock-n-Roll $/m	0.367[a]	0.047
Rock-n-Roll c/y	0.161[a]	−0.057
Reggae h/d	0.361[a]	0.104[b]
Reggae $/m	0.452[a]	0.036
Reggae c/y	0.311[a]	0.140[b]
Asian-Indian h/d	0.851[a]	0.237[a]
Asian-Indian $/m	0.374[a]	0.108[b]
Asian-Indian c/y	0.520[a]	0.173[a]
Rap h/d	0.044	−0.024
Rap $/m	−0.044	0.008
Rap c/y	0.056	−0.016

[a] Significant at 1% level.
[b] Significant at 5% level.

results seem to suggest an intriguing possibility for refining segmentation and targeting. Our results indicate that marketers may be able to improve response rates to their communications by using Usenet groups to target consumers, because readers of a particular newsgroup tend to be avid consumers of products and services related to that particular newsgroup. Future research should examine whether the present results hold true for other product and service categories represented among Usenet newsgroups. We believe that the Usenet newsgroups should allow marketers to identify narrow segments of consumers in many other product categories, including computer software and hardware, sports, and ethnic-oriented products and services. Future research should also explore the extent to which the current findings may generalize to usage behaviors associated with other components of the Internet. To the extent that consumers' interests and preferences can be accurately inferred from their information use behaviors, the Internet should be a key factor in advancing micro marketing techniques. We commend the continuing exploration of its potential to future research.

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