Exhibit C
to the
Declaration Of Shawn G. Hansen
In Support Of Plaintiff EMG Technology, Llc's
Surreply In Opposition To
Defendants' Motion To Transfer

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SEGMENTING VCR OWNERS


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Videocassette recorders (VCRs) have been available for home use for over a decade. During this relatively short period of time, the penetration level has already climbed to over 48 percent (Rosenthal, 1987), and current estimates optimistically place VCRs in 68 percent to 85 percent of American households by 1995 (Forkan, 1986; Koughan, 1986; *Marketing & Media Decisions*, 1985; Zahradnik, 1986).

Broadcasters and advertisers have been warily monitoring the growing acceptance of this technology. With such rapid growth in VCR penetration levels, there is concern that its increased usage will come at the expense of broadcast TV viewing. And, since the VCR allows viewers to watch telecast programs at their own convenience, there is a fear that commercials will be deleted during recording or skipped during playback.

To date, the research has dealt with VCR users as one undifferentiated mass. The purpose of this study was to demonstrate that the VCR has reached a level of penetration where users should no longer be regarded as a single, homogeneous group. Rather, there is a variety of different types of people who own VCRs, and these individuals have very different motives for acquiring their machines and very different patterns of usage. By segmenting VCR owners according to current usage patterns, advertisers and broadcasters will be able to arrive at more accurate predictions about how the VCR will change the audience for programming and commercials.

Source Shifting

One of the primary motives for acquiring a VCR is to give users a means to bypass telecast material (broadcast and cable programming). The level of "source shifting" (the playing of rented or purchased prerecorded tapes) is of grave importance to telecasters and telecast advertisers, because source shifting results in a direct loss of viewers (or at least viewing hours) to telecasters, who are worried with good reason. In 1984, A. C. Nielsen reported that 22 percent of VCR owners had bought and 68 percent had rented at least one prerecorded cassette in the previous 12 months (Butterfield and Irvin, 1984), while Harvey and Rothe (1986) report that 20 percent of VCR owners say they rent as many as four or more tapes a month. In 1985 alone, consumers spent an estimated $2.3 billion on tape rentals and purchases (O'Malley, 1986).

Moreover, source shifting appears to be growing. For example, in his 1979 sample, Levy (1980a) found that 3.6 percent of television set usage was accounted for by the viewing of prerecorded cassettes. But by the mid-1980s, Nielsen reported that 7 percent of television set usage is spent playing videotapes

(Frank, 1985). This increase in the use of prerecorded tapes translates into large sums of money; Wilkovsky Gruen Associates predict that videocassette rentals alone will total $4 billion by 1995 (Forkan, 1986).

Time Shifting

Time shifting is even more popular than source shifting. Time shifting refers to the practice of using a VCR to record a telecast program for playback at another time. An early study of VCR usage indicates that while the average household played back 3.4 homemade tapes, it played back only 0.5 prerecorded tapes (Levy, 1981). A 1983 study conducted by Benton and Bowles indicates that five hours of programming are recorded on average each week, while a 1984 Nielsen study puts the figure at a more conservative 3.3 hours (Butterfield and Irvin, 1984). Nielsen also reported that about 75 percent of home taping is for time-shifting purposes.

Even though a great deal of telecast material is recorded for time-shifting purposes, the research indicates that a substantial percentage of these recordings are never viewed. Levy (1980b) reported that 25 percent of the VCR households did not play back a single tape. Levy and Fink (1984) estimate that only 58 percent of all recordings made for time shifting are ever replayed.

Zipping and Zapping

Television advertisers are most concerned over the VCR's effect on commercial avoidance both through "zapping" (deleting ads during the recording process) and "zipping" (the viewer fast forwards past commercials during playback). The data from A. C. Nielsen indicate that about 65 percent of all broadcast material that was played back after having been recorded had some commercials deleted (skipped or not recorded) (*Broadcasting*, 1984).

Zapping of commercials appears to be less prevalent than zipping. Levy (1980b) reports that, in 1979, he found that programs were rarely taped with the commercials deleted and that in only 15 percent of all playbacks were commercials zipped. Metzger (1986) found that 50 percent of VCR owners surveyed indicated they fast forward past commercials, but only 1 percent said they deleted commercials during recording.

The popularity of zipping appears to be growing dramatically. The 15 percent figure in 1979 (Levy, 1980b), when the penetration level of VCRs was about 1 percent, appears to have grown to 50 percent in 1985 (Metzger, 1986) when the VCR penetration level had grown to 35 percent. Other recent studies have also found rates of commercial avoidance via zipping ranging from 50 to 70 percent of VCR owners (Papazian, 1986; Reiss, 1986; Forrest, Sapolsky, and Smith, 1986).

Industry Impact

The implications of source shifting, time shifting, and zipping for the broadcasting and advertising industries are significant. As VCR use replaces traditional broadcast viewing, there will be a lower reach for broadcast vehicles, especially those of the networks. The total network share of the viewing audience has already declined from 92 in 1977 to 74 in 1984 (Leavitt and Zoglin, 1984).

Estimating the future effect of the VCR has been the goal of many media analysts. Some have used the standard adoption curve as a basis for prediction. Beville (1984) mentions the classic product-life-cycle curve of adopters which begins with the "innovators" comprising 2.5 percent of the population. Next comes the "early adopters" consisting of the next 13.5 percent followed by the "early majority" of 34 percent. The cumulative total of these three groups is 50 percent which was the anticipated level of penetration by the end of 1987. The next group of adopters, called the "late majority," comprises an additional 34 percent of the population. Each of these groups of people are very different in their motivations for adoption and in their usage patterns. But how are they different when it comes to VCRs? Beville does not say.

A. C. Nielsen refers to an adoption curve when it says that the early adopters of VCRs tended to watch more TV than non-VCR households since these early adopters were already heavier viewers than the general population. Now that the heavier users of television have already been reached, the addition of newer VCR households will not make a great impact on viewing. "It's almost to the point now where it's the worse it's going to be in terms of impact" (Reitman, 1985). This point of view is based on a static assumption that viewers' behavior will not change after they have adopted an innovation as major as a VCR.

Some work has been conducted to determine the characteristics of the changing audience for new technologies such as the VCR, but this effort has been limited to the use of demographics. For example, Trost (1986) observes that the VCR is changing from a leisure class plaything to a necessary appliance throughout the middle class. The early adopters were the mid-age (35 to 49 years old), upper income (over $32,000),

well-educated males living in urban or suburban areas. He believes that, by 1990, the demographics of VCR users will be broadened to also include the younger (ages 18 to 34 years old), lower income ($27,000 to $32,000), single adults.

The quest for more accurate predictions about how VCR use will impact on broadcasters and advertisers is an important one. A great deal is at stake. However, the literature by-and-large regards VCR owners as a one-dimensional category. Attempts have been made to describe them in terms of demographics and user patterns, but the perspective is always to describe them as a group, as if the average of their behaviors is indicative of all people in the group.

Purpose of This Study

It was the purpose of this study to determine if VCR owners can be segmented into meaningful groups on the basis of their attitudes and behaviors regarding VCRs and television exposure. The current literature presents widely differing figures on VCR penetration level predictions, frequency of home recording, amounts of playback of different kinds of videotapes (self-recorded, rentals, purchased), zapping and zipping. Media analysts' conflicting views on VCR adoption and usage may result from concentration on only one portion of the VCR user audience. They make the assumption that all VCR users are alike. But perhaps this user population is composed of very different subgroups of users, each of which has different motives for using VCRs and different behaviors of use. The present study is an initial attempt at a VCR segmentation scheme.

Five segments were constructed and then analyzed separately to provide answers to the following six major questions. First, do different kinds of VCR users have different attitudes about using their machines? Second, are there different patterns of behavior in terms of time spent with VCRs, such as taping telecast programs, playbacks, using prerecorded tapes, and amount of television viewing? VCR studies have treated users as a general homogeneous group, but perhaps different types of people use their machines for very different purposes. Third, are there different patterns of TV ad avoidance within the general mass of VCR users? Fourth, do people who have owned their VCRs longer exhibit different usage behaviors than do those people who have recently purchased a VCR? This question addresses the issue of whether VCRs are merely a passing fad or whether they are serving a growing need in the user group. Fifth, can different types of VCR users be identified by demographic variables? Sixth, are the different segments distinguished by psychographic variables?

Methodology

Sampling. Members of a large videotape rental club in a southeastern city were used as the sampling frame. Every third name on the club's membership list was drawn for the sample (n = 1,100). After initial contact by telephone, 735 members agreed to participate in the study. They were sent a copy of the questionnaire, along with a postage-paid return envelope. Ten days after the questionnaire mailing, telephone followups to nonrespondents were conducted. A total of 415 completed questionnaires were returned for a response rate of 38 percent. Those respondents completing the mail survey received free videotape rentals as payment for their participation.

Questionnaire. The questionnaire collected data in four areas: the demographics of the sample respondents, motives for buying a VCR, usage of VCRs, and psychographics. Demographic measures included gender, marital status, number of children in the household, education level, and income level. The motives were measured by asking respondents to react to a list of six motives by using a five-point Likert-type scale ranging from "not at all important" to "very important."

VCR usage measures included questions about the frequency of taping programs, playing back tapes (self-recorded, rented, and purchased), zapping and zipping. The psychographic measures consisted of two components. The first assessed respondents' general values as delineated by the terminal and instrumental value inventory of Rokeach (1973). The second consisted of a battery of 19 activity, interest, and opinion statements (AIO's) to which the respondent selected a reaction from a six-point Likert-type scale ranging from "strongly agree" to "strongly disagree."

Segmentation. Respondents were categorized as belonging to one of five segments: time shifter, source shifter, videophile, low user, and regular user. Respondents were assigned to membership in one of these five segments by using the following procedure. First, two indices were created. The time-shifting index is the sum of responses to the items "How often do you record programs while watching TV?" and "How often do you record programs while using a timer?" The source-shifting index was the sum of responses to the following two questions, "How often do you view rented prerecorded tapes?" and "How often

do you view purchased prerecorded tapes?" Respondents were then arrayed on each index according to their scores. The arrays were divided into three categories: heavy use, medium use, and light or no use. "Time shifters" were those respondents who were high (at least one standard deviation above the mean) on the time-shifting index and low on the source-shifting index. "Source shifters" were those people who were high on the source-shifting index and low on the time-shifting index. Respondents who were high on both indices were labeled as "videophiles." People who were low on both indices were regarded as "low users." The remaining subjects were categorized as "regular users."

As a validation check, the variables used to segment the respondents were examined to determine if their means differed across groups. Significant differences were found among the VCR owner groups on all five segmenting variables (see Table 1). Videophiles were found to record the highest number of programs with viewing per month at 7.8, while source shifters and low users recorded very little at 1.3 and 1.6 programs per month, respectively. The time shifters used their timers most frequently at 9.5 times per month, while the source shifters (1.2 times) and low users (1.7) rarely used their timers to record programs. Also, as expected the two groups who played back their self-recorded tapes most frequently were the time shifters (9.7) and the videophiles (9.3). As for the viewing of rented tapes, the videophiles (8.7) and source shifters (7.5) displayed the highest frequencies. None of the groups viewed many purchased tapes, but the videophiles had the highest frequency in a relative comparison.

Three types of statistical analyses were used to generate the information presented in the following section. First, a series of one-way analyses of variance was run to determine if there were differences across the segments on motives for buying and attitudes about using VCRs, time spent with their VCRs, ad avoidance behaviors, and demographics. Second, Pearson product correlation coefficients

Table 1
Validation of Segments, Motivations, and Attitudes

	Video-phile	Time shifter	Source shifter	Low user	Regular user	F
Segmentation variables						
Recording while viewing	7.8d	5.5c	1.3a	1.6a	4.1b	65.5*
Recording on timer	7.9c	9.5d	1.2a	1.7a	4.2b	114.2*
Viewing recorded tapes	9.3c	9.7c	1.7a	1.8a	4.5b	193.4*
Viewing rented tapes	8.7d	2.6a	7.5c	2.6a	4.8b	117.8*
Viewing purchased tapes	2.5b	1.1a	1.8ab	1.1a	1.4a	7.9*
Motivations to buy a VCR[1]						
Record programs off air	4.5b	4.6b	2.9a	3.6ab	4.2b	23.8*
Rent prerecorded tapes	4.6b	3.4a	4.6b	4.0ab	4.2b	13.9*
Save movie expense	3.5b	2.6a	3.2b	3.0b	3.2b	4.6*
Save premium cable cost	2.2	2.0	2.5	2.2	2.1	1.5
Purchase recorded tapes	1.8	1.7	2.2	2.0	1.9	1.4
Avoid commercials	2.9	3.0	3.0	2.7	2.6	1.3
Attitudes about VCRs[2]						
Use more than expected	2.4b	2.5b	2.8b	3.3a	3.0ab	12.6*
Use more than at first	2.3b	2.6b	3.1ab	3.4a	2.8b	10.4*
VCR worth price	1.3b	1.4b	1.6b	2.0a	1.6b	6.7*
Would repurchase	1.1b	1.2b	1.4ab	1.5a	1.3ab	4.6*

The results of one-way analyses of variance on segment means appear above. Means with the same letter do not differ significantly from each other at the .05 alpha level using the Scheffe test for multiple comparisons.
* $p < .001$
[1] The scale ranged from 1, "not at all important," to 5, "very important."
[2] For these five-point scales, a lower number is associated with more use or a more favorable assessment.

were computed between the length of VCR ownership and measures of TV exposure as well as ad avoidance. And finally, two discriminant analyses were conducted in order to profile the segments psychographically. The first of these examined the key differences between the time shifters and the source shifters, while the second determined the important differences between the videophiles and the low users.

Results

A total of 415 responses were used in this analysis. Subjects were assigned to a segment according to the rule explained above in the methodology section. The segments and the number of respondents categorized in each are as follows: videophile, 61; time shifter, 74; source shifter, 50; low user, 58; and regular user, 128.

Motives and Attitudes. There are some interesting differences across the groups in terms of their original motivations for purchasing the VCR. First, it was found that source shifters are significantly less likely to have bought their VCR in order to record programs off the air when compared to the time shifters, the videophiles, and the regular users. The source shifters and the videophiles were significantly more likely to buy their VCR to rent prerecorded tapes than were the time shifters. On the motive to save movie expense, time shifters were less likely to have had this motive than were people in the other segments. There were no significant differences among the groups on the motives of saving the cost of premium cable channels, purchasing prerecorded tapes, or to avoid commercials.

Attitudes about VCRs were very positive from all groups, but some groups were even more positive in a relative comparison (see lower portion of Table 1). The videophile, the time shifter, and the source shifter felt they were using their VCRs more now than they had first expected, while the low users were not utilizing them up to the level they had first expected. The videophiles, the time shifters, and the regular users are using their VCRs more now than when they first bought them; source shifters say they are using them about the same; and low users are using their VCRs less. While all segments appear to have very positive attitudes about their VCRs, the low users are relatively less positive about their VCRs being worth the price or about wanting to repurchase a machine if they had it to do over again.

Table 2
Differences in TV Viewing and Ad Avoidance Behaviors

	Video-phile	Time shifter	Source shifter	Low user	Regular user	F
Amount of TV viewing[1]						
Viewing prerecorded tapes	16.8d	5.6a	13.3c	5.5a	9.4b	143.7*
Own recordings made	15.7c	15.0c	2.5a	3.3a	8.2b	187.0*
Own recordings playback	9.3c	9.7c	1.7a	1.8a	4.5b	193.4*
% own recordings played	61.6	66.1	67.5	59.9	57.8	2.0
Total TV viewing/month	82.2	89.4	57.5	72.0	82.7	2.0
Total VCR viewing	26.1c	15.3b	15.0b	7.3a	13.8b	184.3*
Total telecast viewing	56.2	74.1	42.5	64.7	69.0	2.1
% VCR viewing/total	31.8b	17.1a	26.1ab	10.1a	16.7a	4.4*
Ad avoidance behaviors[2]						
Zipping during playback	2.6b	1.8a	3.4b	2.9b	2.8b	5.4*
Deleting while recording	3.5	4.2	3.8	4.0	3.8	1.0
Leave room during ads	3.1	3.4	3.3	3.6	3.3	1.7
Remote control switching	3.5	3.9	4.3	4.0	4.0	1.5

The results of one-way analyses of variance on segment means appear above. Means with the same letter do not differ significantly from each other at the .05 alpha level using the Scheffe test for multiple comparisons.
* $p < .001$
[1] Means refer to the number of hours viewed during an average month (four-week period) unless otherwise noted.
[2] Scales ranged from 1, "almost always," to 7, "never."

Table 3
Relationships between Length of Ownership of VCR and Viewing Behaviors

	Total sample	Video-phile	Time shifter	Source shifter	Low user	Regular user
Amount of TV viewing[1]						
Viewing prerecorded tapes	−.09	−.02	−.12	.11	−.07	−.19*
Own recordings made	.03	.04	−.04	−.10	−.02	−.19*
Own recordings playback	.00	−.11	−.26*	.07	.20*	.14
Total TV viewing/month	.11*	.01	.05	.30*	.11	.03
Total VCR viewing	−.06	−.02	−.24*	.11	−.02	−.17*
Total telecast viewing	.11*	.02	.06	.28*	.11	.04
% VCR viewing/total	−.07	−.02	−.24*	.08	−.08	.07
Ad avoidance behaviors[2]						
Zipping during playback	−.02	−.11	.44*	−.28*	−.04	−.06*
Deleting while recording	.00	−.19	.17	.01	−.02	−.08
Leave room during ads	.04	.01	.04	−.02	.10	.00
Remote control switching	−.01	−.08	.12	−.30*	.25*	−.09

[1] Means refer to the number of hours viewed during an average month (four-week period) unless otherwise noted.
[2] Scales ranged from 1, "almost always," to 7, "never."
* $p < .001$

Time Spent with the VCR. There were also some significant differences in television viewing across the groups (see Table 2). Videophiles viewed 16.8 hours per month of prerecorded tapes (both rented and purchased). This was significantly higher than source shifters (13.3 hours), which is significantly higher than regular users (9.4 hours), which was also higher than time shifters (5.6) and low users (5.5). Videophiles and time shifters were found to make significantly more recordings of telecast material and to spend significantly more time playing back self-recorded tapes. However, people in these two segments are no more likely to play back a higher percentage of their self-recorded tapes.

There is no significant difference across the groups in terms of the number of hours they spend watching all forms of television. However, the portion of their TV viewing time which is from their VCR does differ across the segments. Videophiles use their VCRs more than any other segment, i.e., over 26 hours per month or 31.8 percent of their total TV viewing time. Time shifters and source shifters spend about the same amount of time with their VCRs but for different purposes.

Ad Avoidance Behavior. The amount of zipping behavior during playback is significantly different across groups (see lower portion of Table 2). The time shifters said they almost always zipped, while subjects in the other groups were less likely to report doing so. No significant differences were found among the groups on the other ad avoidance behaviors.

Zipping is the most frequently used ad avoidance behavior. This is true of all segments except the source shifters who said they were about as likely to leave the room during commercials as they were to zip them during playback.

Influence of Length of VCR Ownership. There is no evidence of a "fad effect" of the VCR at the sample-wide level of analysis, i.e., when all types of users are lumped together (see Table 3). The correlation coefficients range from .00 to .11 in strength. Given this sample size, the .11 coefficients are large enough to attain *statistical* significance, but *substantively* they are very weak.

Interesting differences do emerge when the coefficients are computed for each segment. Time shifters show a negative relationship with playbacks, total VCR viewing, and percent of VCR viewing. Source shifters show a positive relationship with telecast viewing and total viewing. The low users have a positive relationship with playbacks. With regular users, length of ownership has a relatively strong negative relationship with making recordings, playbacks, and with total VCR usage. With videophiles, there are no significant relationships.

As for ad avoidance behavior, time shifters were significantly

Table 4
Demographic Differences Among Segment Groups

Demographic	Video-phile	Time shifter	Source shifter	Low user	Regular user	Chi square	df	p
% Male	39.3	50.0	42.0	50.0	53.9	4.5	4	.34
% Married	78.7	81.3	72.0	77.6	78.7	1.6	4	.81
% College grad	44.3	64.1	64.1	61.5	63.2	2.1	4	.76
% Single adult	1.6	8.0	10.2	13.8	7.1	6.5	4	.16
% Household w/child	44.3	44.0	32.0	37.9	48.4	4.7	4	.32
Income								
% Over $75,000	8.2	13.3	14.9	12.1	14.2	13.8	16	.61
% $50,000–$75,000	19.7	26.7	29.8	20.7	26.8			
% $40,000–$50,000	29.5	24.0	19.1	22.4	22.8			
% $30,000–$40,000	27.9	22.7	17.0	15.5	22.0			
% Under $30,000	14.8	13.3	19.1	29.3	14.2			
(N)	(61)	(74)	(50)	(58)	(128)			

more likely to zip while source shifters were significantly less likely to do so. Also, there was a difference in remote-control switching for ad avoidance with the source shifters less likely and the low users more likely to do so the longer they owned their VCR.

Demographics. There were no significant differences on demographic characteristics across the five segments (see Table 4).

Psychographics. Interesting differences were found between the time shifters and the source shifters in terms of psychographic descriptors (see Table 5). The time shifters are more likely than source shifters to be self-controlled. They value their freedom and personal happiness a great deal, and they like to try new and different things. In contrast, the source shifters enjoy solving complex problems, seek pleasure and inner harmony.

Table 5
Stepwise Discriminant Analysis Comparing Time Shifters and Source Shifters

Step	Variables entered	Standardized coefficients	Wilks' lambda
1	Enjoy complex problems	.7202	.9420*
2	Self controlled	−.4355	.9105
3	Pleasure oriented	.5544	.8740
4	Computers should serve, not control	.3716	.8393
5	Value freedom	−.4126	.8142
6	Value inner harmony	.3565	.7929
7	Value happiness	−.3201	.7780
8	Imaginative	.3324	.7641
9	Like to try new and different things	−.3193	.7512

Wilks' lambda = .7512; Chi square = 33.91; df = 9; p value < .0001
Canonical correlation = .4988
Grouped cases correctly classified = 72.8%

* All of the lambda coefficients have p values < .001

Table 6
Stepwise Discriminant Analysis Comparing Videophiles and Low Users

Step	Variables entered	Standardized coefficients	Wilks' lambda
1	Ambitious	.4185	.9417*
2	Capable	.5226	.8952
3	Intellectual	−.4299	.8557
4	Do things on spur of the moment	.6196	.8176
5	Courageous	.2331	.7816
6	Helpful	−.4182	.7510
7	Like to try new and different things	−.4260	.7290
8	Pleasure oriented	.3795	.7084
9	Friends ask me for advice	.2968	.6906

Wilks' lambda = .6906; Chi square = 40.53; df = 9; p value < .0001
Canonical Correlation = .5562
Grouped cases correctly classified = 74.2%

* All of the lambda coefficients have p values < .001

They are imaginative and believe computers should serve people but too often end up controlling people. The discriminant function equation includes nine terms which together are able to correctly classify 72.8 percent of the respondents.

Some interesting psychographic differences were also found between the videophiles and the low users (see Table 6). Compared to the low users, the videophiles have a psychographic profile of the upwardly mobile lifestyle, i.e., they feel they are ambitious, courageous, capable, pleasure seeking, and adventuresome (they like to do things on the spur of the moment). They are also opinion leaders. In contrast, the low users express a preference for an intellectual rather than a pleasure-seeking life, and they say they like to try new and different things. The discriminant equation uses nine terms and has a classification rate of 74.2 percent.

Discussion

This study clearly demonstrates that a rather demographically homogeneous group of VCR users is not at all homogeneous on many important VCR usage patterns nor on many fundamental lifestyle characteristics. This finding is in direct contrast to the perspective in the VCR literature which treats all VCR owners as a uniform group which can accurately be described through the use of simple averages.

This study demonstrates that the segmentation of VCR owners along broad demographic lines is not useful. Instead, the segmentation should be based on an amalgam of variables which might be best referred to as "technographic." A technographic segmentation scheme focuses on the motivations, usage patterns, and attitudes about a technology (in this case VCR usage, TV ad avoidance behaviors, and general media styles) as well as measures of a person's fundamental values and lifestyle perspective. This combination of technographic variables can be seen as forming useful sets of descriptors which clearly distinguish among five segments of VCR users. Each segment tends to possess its own distinct profile, and these profile differences can be traced back to the owners' initial motivations for purchasing their machines (see Table 7).

Time Shifters. Time shifters clearly knew why they wanted a VCR, i.e., to record telecast programs and to replay them at their convenience. Least important was the ability to purchase or rent prerecorded tapes or save the expense of premium cable or movies. The time shifters feel very positive about their expectations being met. They record about 15 hours of telecast material each month, but they only play back about 10 of those hours. Time shifters value their personal freedom and being in control and this relates to their TV behavior also. They are careful about consulting the TV guide listings and planning their viewing schedules. Of all VCR owners, those in this group are most likely to zip past TV ads during playback; and this group plays back more taped telecast material than any other group.

The time shifters who have owned their VCRs longer are even more likely to zip through commercials; however, they also spend less time playing back tapes.

Source Shifters. Source shifters like telecast material the least. They bought a VCR primarily to avoid typical televised fare and to allow themselves to view prerecorded tapes. Accordingly, they spend a great deal of time viewing such tapes (over 13 hours per month) and little time viewing their own recordings of telecast shows (less than two hours per month). Source shifters report that they are using their VCRs less than when they initially purchased them, but they are *not* using their VCRs less than they had initially expected. Of all five user segments, source shifters invariably registered the lowest levels of television viewing across all dayparts. Interestingly, the longer the source shifters have had their machines, the more time they spend watching TV, especially telecast TV. These people are seekers of challenges and pleasure.

While differing in their overall amount of use, the remaining segments of users (videophiles, low and regular users) are similar in their intentions and patterns of use. That is, each of these segments indicated that the ability to time shift and source shift were of importance in their decision to purchase a VCR. And, each segment continues to register a fairly balanced pattern of use between playback and rental of prerecorded tapes. However, each of these segments registers a significantly different level of VCR use, and the reasons for these differences can be traced to differences in their values and lifestyles.

Videophiles. The videophile is the major user of the VCR. These people had high expectations when they purchased their VCRs and these expectations were fully met. They spend over 36 hours per month viewing both time-shifted and source-shifted material. Their use of the VCR is not associated either negatively or

Table 7
Profile of Segments

	Video-phile	Time shifter	Source shifter	Low user	Regular user
Motivation to buy VCR					
Record programs off air	High	High	Low	Medium	High
Rent prerecorded tapes	Very high	Medium	Very high	Medium	Medium
Attitudes					
Use more than expected	More	More	More	Less	Same
Use more than at first	More	More	Same	Less	Same
Time spent taping and viewing					
Viewing prerecorded tapes	Very high	Low	High	Low	Medium
Viewing self-made tapes	Very high	Very high	Low	Low	Medium
Total VCR viewing	Very high	High	High	Low	High
Ad avoidance behaviors					
Zipping during playback	Medium	High	Medium	Medium	Medium
Relationship with length of ownership					
Viewing prerecorded tapes	None	None	None	None	Less
Viewing self-made tapes	None	Less	None	More	None
Total VCR use	None	Less	None	None	Less
Telecast viewing	None	None	More	None	None
Total TV viewing	None	None	More	None	None
Zipping during playback	None	Much more	Less	None	None
Psychographics	Ambitious, Impulsive, Seeks pleasure	Planner	Seeks challenges and pleasure	Intellectual Tries new things	

This table displays a qualitative summary of the most important quantitative data presented in the previous tables.

positively with the length of time they have owned their machines. Videophiles are ambitious, capable, courageous, adventuresome, and seekers of pleasure.

Low Users. In sharp contrast to the videophile, the low users had more modest expectations for their VCR use, and these people do not feel that those expectations are being met. They spend less than eight hours per month using their VCRs. Low users describe themselves as willing to try new and different things, but they are also intellectual and they like to reflect on things.

Regular Users. Regular users in general bought their machines more for time shifting than for source shifting and their expectations were met. They use their VCRs to a moderate degree, and they engage in a moderate amount of zipping. The longer they own their machines, the less time they spend with their VCRs, mainly because their interest in source shifting declines while their time-shifting behavior remains about the same.

Limitations of This Study. The results of this study are generated from a convenience sample, and as such they are subject to some limitations. The findings should be treated as being in one of three categories according to how much confidence we can have in their generalizability to other populations of VCR owners. In a relatively high confidence category would be the finding that not all VCR owners are alike and that there are important differences in their attitudes about usages of VCRs. Ironically, it is the limitation of the sample which gives us a high degree of confidence in generalizing this finding. The respondents in this sample were all members of one video club located in one neighborhood and they were relatively uniform on the demographics of age, education level, and household income. It would seem that if there are large differences of attitudes and behaviors in such a limited sample, these differences should be at least as large in other samples which also included much older and younger subjects, people with lower levels of education, and poorer people.

Thus, we say with a relatively high degree of confidence that the most accurate assessment of the impact of the VCR technology on either the media industry or the media consumer requires an appreciation of the variation among VCR users with respect to their different intentions and use patterns. Moreover, these different motivations and patterns of use are better explained by first measuring an individual's "technographic" dimensions—as defined by not only ownership of any given technology (or set of technologies) but by patterns of use (both amount and type of use) as well as attitudes toward that technology (as measured both prior to purchase and after varying periods of ownership). When such technographic profiles are then augmented with traditional demographic and psychographic dimensions, a clear and more fully developed picture of the ramifications of the VCR (or other new communications technologies) can be derived.

A second set of findings is presented with less confidence, but these findings are still important for their suggestive nature. These findings deal with the structure of the five segments and their descriptors. Within the limitations of this sample, the five segments are clearly defensible. However, it cannot be ascertained at this time if these five are generalizable as the only five segments in the U.S. population of VCR owners. If a nationwide probability sample of VCR owners were gathered, we feel that these five segments would appear; however, we also feel that there may be additional segments. Also, the analysis of such a data set may reveal a different set of descriptors for some of the segments. For example, we would expect demographic variables to be more important as descriptors than they were in this study. The lack of importance of demographics in this study may be traced to the relatively low amount of variation among subjects on most demographic variables.

In a third category, we would place findings of questionable generalizability. Prominent in this category would be the percentage figures of VCR owners in each segment. Because of the limitation of the convenience sample, we have no way of projecting the size of each segment in our sample to estimate the size of each segment in the U.S. population.

Future Research Directions. The segmenting of VCR owners is a very important line of research. Additional study is now needed to examine how these segments exist in the general population of VCR owners and to determine if other important segments also exist. Also, it is essential that this work be conducted in a time-series manner to assess the degree to which each segment grows and to determine if the members of a segment show a shift in attitude and/or behavior as their experience with the VCRs lengthens.

The findings of this line of research will have important implications for media analysts who attempt to forecast the future impact of VCRs on the telecasting and advertising industries. If the next generation of new VCR buyers are primarily time shifters, then the audience for

telecasters will increase dramatically. However, since time shifters are frequent zippers of TV ads, the exposure to TV ads will not increase along with the ratings of the telecast programs. In contrast, if the next generation of buyers are primarily source shifters, then the audience for telecasters will dramatically decrease, while the revenues of video stores will dramatically increase. If new VCR buyers are mostly videophiles, then the telecasters and video store owners will both be beneficiaries. However, if the new buyers are mostly regular or low users, then the current figures of telecast ratings, ad avoidance, and prerecorded tape usage will most likely be the best prediction for future figures.

In conclusion, whether or not the VCR is extending or eroding the network audience; what the exact nature and magnitude of commercial avoidance happens to be; and whether or not there is a "novelty" effect, depends upon what segment one examines. By recognizing the fact that there are different types of VCR users, one can begin to speculate on the differential impact that each segment will have on the communication industry. The problem of lost audiences is multifaceted, and its solution requires the recognition of differential effects. The industry needs to recognize that there are different personalities of VCR users and to deal with that fact in designing their strategies for the future, as each will probably have a different impact on the future of VCR sales, tape sales, tape rentals, time-shifting patterns, and commercial avoidance. ■

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