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Gene R. Lacznia

Marquette University, eugene.lacznia@marquette.edu

Patrick E. Murphy

Marquette University

Richard Robinson

Marquette University, richard.robinson@marquette.edu

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Evaluating the Marketing of Energy Conservation by Utilities

by Gene R. Laczniak, Patrick E. Murphy
and Richard K. Robinson

One of the most pressing issues facing the United States is the energy situation and the necessity for energy conservation. In the past five years, the news media have been replete with stories analyzing the energy problem and suggesting possible conservation strategies.¹ The major debate of the past Congressional session has been the attempt of this Body to hammer out a comprehensive policy for energy use and conservation in the United States.² Business firms, particularly oil companies and utilities, have spent millions of dollars attempting to "demarket" the needless, wasteful or simple less than judicious use of energy.³ Moreover, most experts predict the questions of energy conservation will be even more important for business and the society in the coming years.⁴

Given the significance of energy conservation, many corporations, particularly those involved in the energy industry such as utilities, will likely continue to allocate substantial funds to communicate to the public the gravity of energy conservation. Despite the enormity and significance of the communication problem, few energy companies have attempted to systematically evaluate the perceptions and actions of their customers regarding energy conservation. This study deals with three aspects of this energy conservation and communication problem:

- (a) It suggests a general organizing and analytical framework that can be used by business firms

which are communicating with the public about energy problems.

- (b) It presents some initial findings from a limited scope study dealing with consumer and utility company perceptions and actions regarding energy conservation.
- (c) It discusses some implications for successful communication strategy based upon the model and the initial findings on the topic of energy use.

Promoting Energy Conservation

Before introducing the framework for better evaluation of energy program communications, the concept of "demarketing" needs to be reviewed, and its particular relationship to the marketing efforts of natural gas and electric utilities must also be discussed. According to Kotler and Levy, the originators of the idea, demarketing is defined as that aspect of marketing that deals with discouraging customers from consumption on either a temporary or permanent basis.⁵ Burgeoning demand for electricity and natural gas throughout the decades of the fifties and sixties due to a multitude of factors placed increasing pressures on utilities to provide adequate supply. With government restrictions on the building of additional power plants for electricity generation along with impending shortages of natural

GENE R. LACZNIK, PATRICK E. MURPHY, and RICHARD K. ROBINSON are all Assistant Professors of Marketing at Marquette University in Milwaukee, Wisconsin. The authors gratefully acknowledge the helpful comments of Professor Norman J. Kaye of Marquette University in the development of this manuscript.

¹"The Arab Oil Squeeze," *Newsweek*, (September 17, 1973), pp. 33-43; James Cook, "The Invisible Crisis," *Forbes*, (July 15, 1976), pp. 26-29; and "Yes There Is An Energy Crisis," *Time*, (October 10, 1977), pp. 61-62.

²"What Price Energy?" *Newsweek*, (May 2, 1977), pp. 12-31.

³"Public Service Ads to Push Business Energy Savings Tricks," *Industrial Marketing*, (February 1974), p. 8; Bruce Quale, "Communicating

the Energy Crisis," *Public Utilities Fortnightly*, (July 5, 1973); and "Solving Shortages — Shift Life Style, Reduce Demand," *Advertising Age*, (February 24, 1974), p. 160.

⁴John C. Sawhill, "Facing Some Domestic Realities," *Conference Board Record*, 81(January 1975), pp. 45-61.

⁵Philip Kotler and Sidney J. Levy, "Demarketing, Yes Demarketing," *Harvard Business Review*, (November-December 1974), pp. 74-80.

gas, the utilities turned to the practice of demarketing early in the 1970's.

Of the traditional marketing variables, *promotion* offered the most potential for discouraging demand. Since neither the *product* itself nor the *distribution system* could be easily altered and because *price* rates were set by regulatory agencies, the promotional elements of advertising, personal selling, sales promotion and publicity were the techniques utilized most often. Specifically, mass media advertising (i.e., television, radio, newspapers and magazines) has sought to inform consumers of the seriousness of the energy problem and to suggest possible avenues of conserving, such as reduced usage of electrical appliances and installation of insulation. Utility executives have performed the personal selling function by addressing consumer and industrial groups on the topic of energy conservation. Sales promotion activities have included sponsorship of TV shows about the energy crisis, bill inserts and the institution of "hot lines" for the purpose of answering questions about energy saving. Finally, the plethora of articles in newspapers and magazines about this issue provides evidence of the utilization of publicity. These promotional demarketing efforts may be successful in curbing growth in energy demand, but little systematic evaluation of such programs has occurred. Therefore, this project attempts to judge the impact of energy conservation promotion on consumers by applying the theoretical model discussed below.

The Coorientation Model And Energy Conservation

An analytical structure which might well be useful in analyzing the communications programs of energy companies is the *coorientation model*. This model was originally developed by two mass communications researchers at the University of Wisconsin-Madison.⁶

The coorientation model is a framework for analyzing the communication dynamics which exist between two parties and how they feel about a common subject. The basic elements of the model are: party A, party B and object X — the subject the two parties have in common. "Objects" can be anything that exist psychologically for a person. Thus, physical commodities like refrigerator-freezers as well as abstract concepts like democracy qualify as objects.

In this study, party A consists of *consumers*, party B consists of *utility companies* as represented by individuals in their public affairs or public relations office, and object X is *energy conservation*. The central variables of the coorientation model are *not* the party's

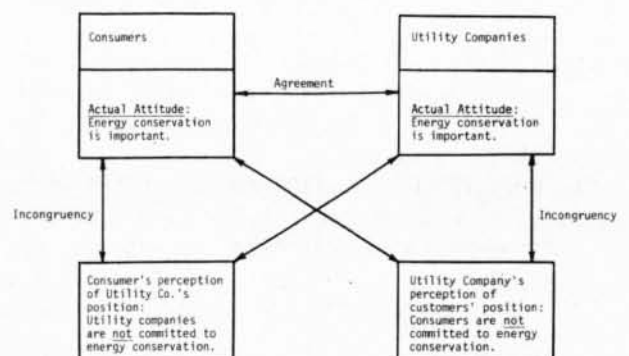
beliefs about object X as much as the relationship between what the two "cooriented" parties think. Three of these "key" relationships are *agreement*, *accuracy* and *congruency*.

Agreement is the extent to which the two parties feel the same way about object X. It is hypothesized here that utility companies and consumers are in agreement that energy conservation is important.

Accuracy exists when one party's perception of a second person's evaluation of object X is the same as that second party's true evaluation of X. We would hypothesize that *inaccuracy* exists between consumers and utility companies on the topic of energy conservation. That is, consumers perceive energy companies as not really committed to energy conservation; moreover, energy companies perceive consumers as not really committed to energy conservation even though both, in fact, may think it is important and are committed to it.

Congruency exists when one party's evaluation of object X is the same as their perception of the second party's evaluation of X. It is initially hypothesized that *incongruency* exists between consumers and utility companies because each believes the other party is *not* concerned about energy conservation, while they themselves hold energy conservation as important. (See Figure 1 for a summary.)

FIGURE 1
ENERGY CONSERVATION:
THE HYPOTHEZED SITUATION USING A COORIENTATION FRAMEWORK



The primary value of using the coorientation approach is that it takes into account the possible conflict in perceptions that two communicating parties might have. In other words, both utility companies and consumers may in fact be committed to the idea of energy saving, but if one of the parties mistakenly perceives the other as uncommitted, the reception of communication is distorted by this inaccurate perception. For example, suppose consumers falsely perceive utility

⁶Jack M. McLeod and Steven H. Chaffee, "Sensitizations in Panel Design: A Coorientational Experiment," *Journalism Quarterly*, (Winter 1968) pp. 661-669.

companies as uncommitted to energy conservation. When advertising messages advocating conservation are received, the honesty of the message sponsor is discounted and the suggested behaviors regarding conservation made in the message are ignored.

As captured in Figure 1, this study hypothesized both consumers and utility companies as mistakenly perceiving the other cooriented party as being uncommitted to energy conservation. Various writings which point out that a substantial percentage of the American public views the energy crisis as an issue contrived by energy companies constitutes the rationale for hypothesizing that many customers believe utility companies are uncommitted.⁷ Since some research findings suggest that the public is not willing to sacrifice comfort and convenience because of the energy situation,⁸ it was hypothesized that utility companies perceive that consumers are not really committed to energy conservation.

In summary, further reference to Figure 1 suggests the following five specific hypotheses to be explored.

- H₁: Consumers and utility companies will be in *agreement* that energy conservation is important.
- H₂: Consumers' actual attitude that energy conservation is important is *incongruent* with their perception that utilities are not committed to energy conservation.
- H₃: Utility company attitudes that energy conservation is important are *incongruent* with their perception that consumers are not committed to energy conservation.
- H₄: Consumers *inaccurately* perceive utility company attitudes because they falsely believe utility companies are uncommitted to energy conservation.
- H₅: Utility companies *inaccurately* perceive consumer attitudes because they falsely believe consumers are uncommitted to energy conservation.

If these initial hypotheses are confirmed, it would provide some empirical evidence that accurate communication between consumers and utility companies had broken down. In such a case, even if both parties see the reduction of energy use as a high priority goal, the efficient, coordinated implementation of energy policy (and specific energy conservation programs) will be hampered until this communication rift is repaired.

Methodology

To implement the coorientation approach, both energy companies and their customers were contacted and asked a similar set of questions. Two cities in a Midwestern state were selected as a testing ground for the study. Cooperation from the four utilities serving those cities were secured in advance. Four hundred residents of the larger city and 360 residents of the smaller city were selected at random from street address/telephone directories and sent a four-page mail questionnaire. The structured questionnaire, using 5 and 7 point response scales, probed consumers about their perceptions of the energy problem, the role of their utilities in dealing with this issue, and the consumer's own energy conserving behavior. A member of each utility's public relations or public affairs department completed a similar questionnaire which analyzed the firm's perception of the energy problem, its communications to customers about energy conservation, and its viewpoint regarding customer attitudes and behaviors. Forty-seven percent of the consumers (n=350) sampled returned completed questionnaires. Two-tailed t tests were used to examine the hypotheses where relevant. The four utilities were the universe of possible respondents in this study and were treated as such in the tests.

Results And Discussion

Hypothesis 1, that *consumers and utility companies will be in agreement that energy conservation is important*, was supported. As Table 1 shows, the mean scores are not significantly different. About 60% of the consumer respondents characterized energy conservation as an extremely important issue. In fact, over 10% of those surveyed opted to label energy as *the* most important problem facing the U.S. today. Not surprisingly, all of the utility companies perceived energy conservation as "extremely important." Thus, a high level of agreement exists between consumers and utility companies regarding the importance of energy conservation.

TABLE 1
COMPARISON OF MEAN ITEM SCORES
OF PERCEIVED IMPORTANCE OF ENERGY CONSERVATION
FOR CONSUMERS VERSUS UTILITIES

Importance of Energy Conservation- Mean Score	Consumers	Utilities	T Value
	2.18 ^b	2.00 ^b	.45 ^a

^a Not significant at p=.05

^b Actual score range = 1 (most important problem) to 5 (not important)

⁷David Gottlieb and Marg Matre, "Conception of Energy Shortages and Energy Conserving Behavior," *Social Science Quarterly*, 57 (September 1976), pp. 421-429; "People Still Wondering — Is the Energy Shortage for Real?" *U. S. News and World Report*, (May 9, 1977), pp. 28-30; and "Poll Indicates Public Confused on Energy," *Chemical and Engi-*

neering News, (January 24, 1977), p. 27.

⁸Jeffrey S. Milstien, "Attitudes, Knowledge and Behavior of American Consumers with Some Implications for Governmental Action," in William D. Perreault, Jr., ed., *Advances in Consumer Research*, (Atlanta: Association for Consumer Research, 1977), pp. 315-321.

Hypothesis 2, that *consumers' actual attitudes that energy conservation is important would be incongruent with their perceptions that utilities are uncommitted to energy conservation*, was not supported. Somewhat surprisingly, 62% of the respondents viewed their electric company as extremely or moderately committed and 56.5% perceived their natural gas company as extremely or moderately committed to energy conservation. The mean scores presented in Table 2 reflect these perceptions of commitment. Less than 7% of the respondents replied that they believed their utility companies to be moderately or extremely uncommitted to energy conservation. At least for these two cities, the findings go far in amplifying the notion that the average consumer perceives energy conservation advocacy by utilities as a sincere attempt to support a strong energy saving program.

TABLE 2
COMPARISON OF CONSUMERS' PERCEIVED IMPORTANCE OF ENERGY CONSERVATION VERSUS CONSUMERS' PERCEIVED COMMITMENT OF UTILITIES TO ENERGY CONSERVATION

Mean Score for Consumers	Perceived Commitment of Electric Company	Perceived Importance of Energy Conservation	T Value
	3.21 ^b	2.18 ^c	14.51 ^a
Mean Score for Consumers	Perceived Commitment of Gas Company	Perceived Importance of Energy Conservation	T Value
	3.29 ^b	2.18 ^c	15.23 ^a

^a Significant at $p=.001$

^b Actual score range = 1 (extremely committed) to 7 (extremely uncommitted)

^c Actual score range = 1 (most important problem) to 5 (not important)

Note: Scores for the two items were collapsed so that the ranges were similar for computation.

Hypothesis 3, that *utility company attitudes about energy conservation are incongruent with utility company perceptions that consumers are uncommitted to energy conservation*, was inconclusive in that it could not be meaningfully tested using statistical methods. Two of the utilities surveyed felt that the average consumer was moderately committed to saving energy. The other two utilities reported that they believed the average consumer was slightly committed.

Which of the two viewpoints is more accurate? A look at reported customer behaviors from the consumer survey sheds some light on this question, but is not definitive. An indication of some real customer commitment comes from the fact that:

- a noteworthy 38% claim they have purchased a more gasoline efficient car in the last four years because of the energy shortage;
- 52% of the consumers who own homes have taken steps to improve the general insulation of their residences;
- 74% say they keep their thermostats at 68° or below to save fuel.

Yet, 48% drive to work alone most of the time rather than utilizing mass transit, car pools or some other energy saving form of transportation.

In any event, the data suggest that at least some

utility companies may be formulating communication campaigns about energy conservation under the assumption that their customers are only slightly committed, whereas the majority of consumers report themselves to already be strongly committed to energy conservation.

Hypothesis 4, that *consumers inaccurately perceive utility company attitudes because they falsely believe utility companies are uncommitted to energy conservation*, was not supported. The findings mentioned in the discussion of H₂ are relevant here. That is, the average consumer in the sample *does* view utility companies as truly committed to energy conservation.

TABLE 3
COMPARISON OF CONSUMERS' PERCEIVED COMMITMENT OF UTILITIES TO ENERGY CONSERVATION VERSUS UTILITIES' ATTITUDES

Mean Score	Consumers' Perceived Commitment of Electric Company	Utility Attitudes	T Value
	3.21	2.00	2.44 ^a
Mean Score	Consumers' Perceived Commitment of Gas Company	Utility Attitudes	T Value
	3.29	2.00	2.52 ^a

^a Significant at $p=.02$

This is reflected in Table 3. An examination of the reported behaviors of the utility companies surveyed seems to suggest that consumers have a legitimate basis for believing that utility companies are sincere and forthright in their commitment. All four utilities claimed that over 50% of their promotion budget was allocated to messages stressing energy conservation. Two of the utilities noted that over 80% of their promotional expenditures could be classified as being spent to communicate the message of energy savings. The fact that most consumers perceive commitment by the utilities to this energy issue is also an indirect indication that some of the messages must be having an impact.

Hypothesis 5, which states that *utility companies inaccurately perceive consumer attitudes because they falsely believe that consumers are uncommitted to en-*

TABLE 4
COMPARISON OF UTILITIES' PERCEIVED COMMITMENT OF CONSUMERS TO ENERGY CONSERVATION VERSUS CONSUMERS' ATTITUDES

Mean Score	Utilities' Perceived Commitment of Consumers	Consumers' Attitudes	T Value
	3.50	2.18	3.31 ^a

^a Significant at $p=.001$

ergy conservation, was not supported. As Table 4 indicates, the utilities do not hold the hypothesized view of consumers' commitment. The discussion regarding H₃ is relevant here. That is, while utility companies do not see the average consumer as uncommitted, neither do they view the typical consumer as strongly committed to energy conservation as consumers view themselves.

Managerial Implications

The above discussion necessitates several additional comments. First, the presentation of the general model illustrates that a coorientational approach may be necessary to obtain an accurate picture of the dynamics at work in a communication campaign. Put another way, only by using a coorientation framework is it possible to find out if inaccurate perceptions are clouding accurate communication between two dialoging parties.

Second, in this particular situation, the data suggest that utility companies are perceived as truly committed to energy conservation. This perceived credibility should aid the believability and effectiveness of specific energy conservation messages formulated by these utilities. Thus, the effective communication of future information concerning energy savings should be easier.

Third, there is some discrepancy between utilities and customers regarding how committed to energy conservation customers really are. Reported behavioral data of customers are also indeterminate in establishing the actual level of commitment by consumers. If, in fact, most customers are as strongly committed to energy conservation as they claim, but utilities are formulating messages based on the supposition that the typical customer is only slightly committed, this has a substantial ramification. Specifically, utility companies may be unwisely spending promotional dollars to persuade customers to be committed to saving energy, whereas most customers already have this commitment. Instead, these funds could more properly be used to suggest specific informational strategies by

which customers can implement their current commitment to energy conservation.

To follow up on the last point, there seem to be some concrete proposals which may spur further energy conservation. Some utilities are experimenting with time of use rates (higher during daytime hours and higher during summer months) and the ramifications of this change need to be communicated to consumers. Such financial incentives for consumers can play a key role in promoting energy conservation.⁹ Specifically, statements on the consumer's bill regarding percentage increase or decrease from the same month last year and amount of energy used by appliances, such as a clothes dryer, offer consumers more incentive for conservation.¹⁰ Finally, the actual dollar savings in lowering the thermostat several degrees, running the dishwasher less often or turning down the water heater temperature need to be conveyed to the user.¹¹ In other words, consumers should have sufficient information available to conduct their own personal cost/benefit analysis.

Although this study did not specifically address what types of information would stimulate the highest levels of energy conservation, the method of analysis presented here appears to be the first step toward this objective. The model discussed can aid marketing managers working for utility companies to better understand how the consumers perceive their conservation programs. In conclusion, the pervasiveness of the energy problem in this country dictates that conservation is essential, but it will likely take a long time for the conservation ethic to develop. Therefore, the effective communication of energy related messages is of utmost importance.

⁹Richard T. Curtin, "Consumer Adaptation to Energy Shortages," *Journal of Energy and Development*, (Autumn 1976), pp. 38-59.

¹⁰J. Edward Russo, "A Proposal to Increase Conservation through Provision of Consumption and Cost Information to Consumers," *Proceedings*, (Fall Conference, American Marketing Association, 1977), pp. 437-442.

¹¹"Getting Individual Customers Involved in Energy Conservation," *Public Utilities Fortnightly*, (November 7, 1974), pp. 29-32; and Franklin Tobey, Jr., "The Citizens' Real 'Moment of Truth,'" *Public Utilities Fortnightly*, (June 6, 1974), pp. 31-33.