Assessing the Link Between Environmental Concerns and Consumers’ Decisions to Use Clean-Air Vehicles

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A consulting contract with the California Air Resources Board led to a project examining how California drivers’ and fleet managers’ perceptions, attitudes, and consumer behavior regarding Clean Vehicle Technologies influenced their own energy choices when it came to purchasing vehicles. The consultants examined archival research, conducted focus groups, and collected survey data to analyze participant attitudes and behaviors. Key to the success of the project was the use of instructional communication theory and practice, which enabled the consultants to work productively with the client in carrying out valid research and to evoke meaningful responses from the participants.

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Readers may be aware of the nationwide educational program that we developed called “Life Skills®” which was designed to assist students with debt management in college and beyond (Plax, Kearney, Allen, & Ross, 2006; see also USA Funds Life Skills, n.d.). This multiyear project, contracted with USA Funds, began with 39 focus-group interviews with financial aid professionals, current and former student borrowers, parent borrowers, and collections staff from a large guarantor agency. Later on, these interviews were extended to include another 20 or more focus-group

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interviews with graduate and professional students, too. Data obtained from these interviews and associated surveys served as a basis for the development of a series of modules and minimodules that are now used nationwide by financial aid officers in private and public colleges, universities, and graduate and professional educational institutions. A more detailed analysis of what we did and what we learned is available elsewhere (Plax & Kearney, 2001, 2003; Plax et al., 2006).

In addition to our work in the area of financial literacy, we consult agencies involved in environmental causes, including California's Air Resources Board, California's Integrated Waste Management Board, the City of Fremont's Environmental Services Division, and the City of Folsom's Hazardous Materials Division. For our purposes here, we have chosen to tell the story of our work with California's Air Resources Board where we identified potential barriers to consumers’ acceptance of clean, advanced vehicle technologies and offered recommendations for a statewide campaign to encourage mass public acceptance and utilization of nontraditional, clean-air vehicles.

Client

California boasts some of the strictest standards in the world for air quality. California's Air Resources Board (ARB) whose mission is clean air for all of its residents, recognizes that motor vehicles play a major role in influencing air quality. Anxious to reduce toxins and emissions, as well as our dependence on foreign oil, the ARB posted a call for proposals to conduct a statewide research project focusing on California drivers’ beliefs, attitudes, and behaviors regarding the use of clean-air and alternative-fuel vehicles. Because of our history in doing environmental research for California agencies statewide, we initiated preliminary discussions with representatives from the ARB. Discovering that we were well suited to their project needs and timeline, we submitted a written proposal that responded to the particulars of their request for proposal or RFP.

Our consulting team includes a group of experts whose help and services we can rely on (Plax, 2006). As President of Ross-Campbell, Inc., Ross generally handles the entire contracting and billing process. Both Kearney and Plax typically operate as the principal researchers for these projects responsible for survey design, protocols, data analysis, and report writing. As the expert in focus groups, Plax also serves as facilitator. Ross arranges for focus-group facilities, manages all recruiting/sampling, and does all video-taping, editing, and production. Jolly provides all secondary, archival research support and report writing. As a team, this core group works well together, bringing necessary and complementary strengths to each project.

Goals and Objectives of the Project

Long overdue was research examining the relationship between individuals’ environmental concerns with their energy choices and consumption behaviors. In general, previous studies show a positive relationship between people’s environmental
concerns and attitudes toward fuel efficiency, tough emission standards, and support for alternative-energy technologies. Missing from that research was how California drivers’ and fleet managers’ perceptions, attitudes, and consumer behavior influenced their own energy choices when it came to purchasing and using cars, trucks, and other vehicles. Important to any project of this type is the clear specification of project outcomes. In other words, we need to ask and answer the question, “As a result of this project, what does the client want to know or learn?” (Beebe, Mottet, & Roach, 2004). After consultation with the ARB, we settled on five research objectives (Plax, Kearney, Jolly, & Ross-Campbell, Inc., 2006):

1. Explore the attitudes, opinions, and perceptions of target individuals regarding car purchases, clean vehicles, and related environmental issues.
2. Assess individuals’ personal experiences regarding their purchase or planned purchase of clean vehicles.
3. Identify individuals’ preferences for specific messages, communication channels, and media techniques important to their car purchase decisions.
4. Determine potential historical trends in individuals’ attitudes, opinions, and preferences regarding clean vehicle technologies.
5. Identify potential similarities and differences in perceptions, opinions, and preferences based upon geographic location and demographic attributes.

Research Plan

In order to meet the client’s objectives, we triangulated data from archival resources, focus-group interviews, and supplemental surveys. Along with materials obtained from more traditional library and Internet searches, the ARB provided us with research documents obtained primarily from the Public Policy Institute of California. These archival resources gave us the background and understanding of the issues required for the project as well as a basis for framing and meaningfully interpreting the data obtained from our surveys and interviews.

Focus-group interviews were conducted in cities regionally across the state. Participants included fleet managers and general consumers and both women and men of driving age. The length of the focus-group interviews averaged approximately 70 minutes. Each group interview was designed to facilitate answers to a set of standardized questions derived from the research objectives. These questions were derived in consultation with the client. Each group interview was conducted and videotaped at a professional facility. After the interviews were completed, the tapes were transcribed, analyzed, and coded. The coding procedures involved three coders, separately (and then together) analyzing the transcriptions and documenting common, overlapping responses (“response themes”) to questions posed by the facilitator. When there was a question about either the genuineness or validity of a particular response theme, coders viewed the appropriate segments of the videotapes again. Following these coding procedures, conclusions and interpretations were drawn.
Survey instruments were also developed in consultation with the client. These surveys were administered to each of the focus-group participants prior to the interviews. These surveys served two purposes: to stimulate participants’ responses to the facilitator’s probes and to supplement, reinforce, and extend the interviews. Responses to the survey were tabulated and analyzed in order to summarize participants’ response. These summaries were integrated into the findings of the focus-group interviews.

Overview of the Findings

The results of our study revealed that California drivers generally agree that global warming is a serious problem, and that vehicle emissions affect the environment negatively. However, concerns about the environment do not appear to influence their purchase decisions. Consumers were not all that familiar with the new fuel and vehicle technologies, and yet, they seemed favorable toward the technologies. Overall, they remained skeptical about the new technology and worried that the new vehicles would be too small and lack both power and style. With the increase in gasoline prices, however, these consumers indicated a general willingness to purchase advanced technology or alternative fuel vehicles.

Fleet managers were very familiar with the new fuels and vehicles, with many of them having used all but hydrogen cars in their fleets. They enjoyed setting an “environmental example” to the community by using clean-technology vehicles. Fleet managers in our sample were all obligated to use these technologies to meet regulatory standards. Unlike general consumers, fleet managers were fully aware of the impact of vehicle emissions on the environment, indicating that they want to be clean; they no longer want to rely on dirty fossil fuels; and they would like to lessen our dependence on foreign oil. Other specific issues were also revealed in the data analyses. For a more complete discussion of these and additional findings (the full report is available online at http://www.arb.ca.gov/msprog/zevprog/fg/clean techfg.pdf).

Deliverables

The client requested a number of deliverables. First, representatives from the ARB wanted to observe each of the focus-group interviews as they were being facilitated. All of the professional facilities were designed with a sound-proofed and unobtrusive viewing room for observers to watch group facilitations. Second, a written final report summarizing the archival research, results of the focus-group interviews and survey responses, and profiles of California drivers and fleet managers was required. (This report is available online at http://www.arb.ca.gov/msprog/zevprog/fg/clean techfg.pdf) Third, we produced and edited a client video highlighting participant responses to each of the interview questions. The video provided a visual and audio representation of consumers’ attitudes and thoughts about both the environment and
their energy choices regarding the use and purchase of clean-air or alternative-fuel vehicles.

Evaluation and Assessment

The client responded favorably to the project, both in process and in product. Client representatives were involved in all phases of the project, building and ensuring understanding in all that we did or intended to do. We were careful to adjust our efforts to their feedback without sacrificing the integrity of the research design and the data. Perhaps most pertinent to the client’s reaction to the project is their decision to launch a “coordinated statewide communications campaign to address barriers to consumer acceptance of clean, advanced vehicle technologies” (Air Resources Board, 2006). Moreover, the specific strategies recommended for the campaign emerged, in large part, from the findings of this and similar projects.

Reflections

Instructional communication theory and research directed and informed our project in several ways. Not so unlike articulating learning objectives for instruction, formulating specific objectives for this project was an essential prerequisite for designing and executing the research. Whereas clients often have a good idea of the big picture or project goals, they often need assistance in refining their thinking to include specific objectives. We spent quite a bit of time working with the client in identifying exactly what it is they wanted to learn. Measurement or assessment was yet another critical part of this project. We drew upon our skills as instructional technologists to provide valid and reliable assessments of the participants’ attitudes, beliefs, and consumer decisions. Our applications included focus-group interview protocols and supplemental surveys. Moreover, being able to conduct focus-group interviews involved effective facilitation skills grounded in the theory and research on immediacy, question-asking, listening, and audience analysis. Taken together, these communication skills contributed to a comfortable environment for the collection of meaningful data. Finally, and very important to moving beyond classroom interactions, we drew upon our interpersonal and organizational skills to initiate and maintain a successful working relationship with our client. The ultimate measure of our success at applying all of these skills will depend on whether we are asked to do more work.

In conclusion, the success of this project relied heavily on the incorporation of best practices in instructional communication into our approaches in working with both the client and the participants. We not only used our interpersonal and organizational skills in working with the client, but also educated them in research methods and assessment. We assisted them in developing project objectives that could provide substantive insight into important public communication issues. In addition, due to the client’s “hands-on” involvement in much of the research, we had to provide some degree of education about the qualities of good research design in order to assure
data objectivity. Finally, group facilitation required us to use many of the same skills that we use to assess, communicate with, and evoke meaningful responses from our students (Beebe, 2007). Key to successful consulting work is the effective use of research, communication, and instructional skills.

References


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