

Communications Strategies and Associated Return on Investment
For the United States 2010 Census
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The 2010 Census is quickly approaching. Communications are integral to our strategy of eliciting the broadest possible participation to ensure an accurate count. This is particularly vital, given the nation's increasingly diverse and rapidly growing population. The decennial census is the largest peacetime activity our federal government undertakes. Its success depends on our ability to motivate individuals to respond to the census questionnaire. Our mandate is to count everybody, count them only once, and count them in the right place. To accomplish this goal and to contain costs, the census has dramatically changed over the years. In 2010, for the first time, we will have a short-form only census asking residents for name, sex, age, race, ethnicity, relationship, and housing tenure.

Let me begin the discussion on 2010 by going back to our extensive preparations for Census 2000. First, the Census Bureau had to face the fact that the mail response rate to our questionnaire had been declining since 1970. The Census 2000 Partnership and Marketing Program was established to help us reverse the trend. We did so by combining promotion and marketing campaigns with an expanded outreach program that included five major components.

The first component was a \$167 million paid advertising campaign. Up until Census 2000, we had relied on free "public service announcements."

The second component was community outreach. The Census 2000 Partnership Program consisted of 690 partnership staff throughout the 12 Census regions and headquarters; 140,000 partners nationwide, including 600 partners from national organizations and corporations; and 73 federal agencies.

The third component – promotions and special events – was implemented through programs such as Census in Schools and initiatives like the Census 2000 Road Tour. Twelve Road Tour

vehicles made 1,948 stops and reached more than 1.8 million people.

The fourth component of the Partnership and Marketing program was an earned media relations campaign. Positive and educational census messages were relayed to the media to generate free publicity for Census 2000.

And finally, a direct mail package, consisting of a questionnaire, advance letter, and reminder card, was also undertaken to increase the mail response rate.

So, did our efforts work? Absolutely. Overall, Census 2000 was a huge success. For the first time in history, our mail response was higher than the previous census – moving from 65 percent in 1990 to 67 percent in 2000. Increasing the self-response rate is by far the most cost-effective way to conduct a census. To send an enumerator to each household that does not return a questionnaire is obviously very expensive and time-consuming. In 2010, we hope to further decrease the number of enumerators by continuing to improve public cooperation. But how do we improve upon the Census 2000 effort?

Evaluations and analyses conducted during and after Census 2000 did not provide the Census Bureau with specific information about how a dollar's worth of advertising affected public cooperation or translated into dollar savings...or, of course, how this played out by market segment.

Neither did the Census 2000 Partnership Program seem to lend itself to such analysis.

Evaluation reports by the U.S. Department of Commerce Office of the Inspector General (IG), and by the Government Accountability Office (GAO), did assume that both programs positively affected mail response. The IG wrote that “Census conducted a two-part publicity campaign: (1) national paid advertisements began 6 months before census forms were mailed out; and (2) partnerships between the Bureau and state and local organizations developed community-specific initiatives to publicize the decennial...The 2000 response rate of 67% surpassed that of 1990 and

far exceeded the projected rate of 61 percent. Considering the general downward trend in return rates from one census to the next, we commend the Bureau for having done an excellent job in motivating the American public to participate. The higher-than-expected response rate reduced the cost of the decennial.”

The GAO wrote that “Overall the Bureau made an extraordinary effort to fulfill the goals of the partnership program over a relatively short period. More significantly, based on our observations, it is quite likely that key census-taking activities, such as recruiting temporary census workers and encouraging people to complete their questionnaires, would have been less successful had it not been for the Bureau's aggressive partnership efforts.”

Our own internal evaluations were not as definitive about assuming a relationship between improved response and the advertising and partnership campaign. One noted that “The Census Bureau was able in Census 2000 to reverse the downward trend in mail return rates and reduce the differential undercount. The combination of several major evaluation efforts for the Census 2000 Partnership and Marketing Program (PMP) provides much insight into the effects of the PMP, and the connection between the PMP and the other successes is intuitively compelling. However, the grand prize of the evaluation activities, a direct connection between the PMP interventions and return rates, remains elusive.”

We know this isn't peculiar to the Census Bureau. Understanding the return on investment (ROI) “has been missing from the traditional mix of ad campaign management,” and “the quest for ROI is littered with many roadblocks that make the task difficult, at best,” including management skepticism of the process and measurements, insufficient data, and the inability to link advertising or marketing campaigns with certainty to consumer decision making.

Still, it is incumbent upon us to try and develop such business models. In some ways, we are better situated to do this, and to understand our market segments, than any contractor we will hire. Further, federal procurement regulations will ask us to quantitatively express the dollar benefits of our major 2010 communications contract.

An ideal solution would allow us to estimate the effects of communications spending, perhaps for media buys only, perhaps for other components of communications including the partnership program, on mail response to the census questionnaire. Those can then be converted to dollars based on the expected savings from each percentage point improvement in mail response. It might also let us examine such effects separately for market segment. In an effort to get at this, we are considering several approaches.

First, to inform our communications campaign, but also to identify variations among potential market segments, the U.S. Census Bureau plans to sponsor a number of focus groups throughout the fall of 2006. These will include Arab-American, African-American, Hispanic, and Asian populations, and quite a few ethnicities within each of those broader categories. This qualitative research will examine general knowledge about the census, personal experience with Census 2000, motivations to respond and potential barriers to cooperation, beliefs about how individual census information is kept confidential, and understanding about the Census Bureau as an agency.

Next, we are trying several approaches to building return on investment models. One method -- being looked at by our mathematical statisticians -- would use logistic regression models that relate the probability of a mail return to a linear function of demographic variables and variables for the awareness of the census promotional communications. This approach would utilize results of a Census 2000 evaluation survey that measured the public's awareness of the census and related promotional communications, and linked the results to census data to determine if the survey respondent returned the census questionnaire. The survey questions concerned whether the respondent had seen or heard of the census through each type of communication, such as television, radio, or promotional material children brought home from school. The response to these questions were used to define a variable describing the respondents' awareness of the communications.

It is possible as well that this approach may yield information by market segment. For example,

we might use the logistic regression model to estimate the probability of returning a form for those who have not seen any of the communications. Then we could estimate the probability for those who have “average” or “variant” scores on seeing communications. If we then multiplied the difference in the probabilities by the population size, we would have an estimate of the number of additional returns. We then could estimate the difference by the demographics in the model, such as white renters who speak English, and sum them within and across market segments.

Another approach would look at the downward trend line in mail response from 1970 to 1980 to 1990, and project what Census 2000 mail response would have been if this trend had continued. As part of a meta-analysis of evaluations and studies from the last census, actual response rates can be compared to the projection. Then the various improvements the Census Bureau utilized—including mailing treatments such as first class postage, “required by law” notifications, reminder cards, questionnaire design enhancements—could each be attributed to part of the response rate improvement. Data from panel testing before the census could be used to make these attributions. Remaining improvement could be attributed to advertising and partnerships, weighting the impact of each through managerial assessment or other non-quantitative approaches.

Finally, industry media mix models that seek to optimize product awareness by market segment, utilizing fixed advertising budget approaches, might be “run backwards” perhaps using market segments defined by the Census Bureau and separately defined assumptions about media consumption, to estimate the costs by segment by media type for increasing census awareness.

Finally, much work has been done by the Census Bureau to identify the barriers to enumeration, the demographic and geographic attributes of non-response, and how to use the data to target these populations in advance of the census. In addition, some interesting demographic and statistical studies have been done that look at the correlates of variations in response rates.

One tool the Census Bureau uses is called the Planning Database, developed in the late 1990s,

which borrowed from the pioneering Census Bureau work earlier in the decade that helped systematically categorize barriers to enumeration. The Planning Database assembled a range of demographic, housing, and socioeconomic data at the tract level in an effort to quantify these barriers and enable the targeting of potentially difficult areas. The Planning Database includes a hard-to-count (HTC) score, which is an index that sorts tracts and neighborhoods on a difficulty-of-enumeration continuum. Analysis has clearly shown the high correlation of response rates with HTC scores, and in turn the variables underlying the HTC score inform us about the characteristics associated with high or low response rates. Key findings include:

- Response rates vary dramatically within race and ethnic origin groups, depending on the characteristics of the population.
- Response rates continue to vary with each additional layer of stratification--by race, then by tenure within race, then by type of household within given race and tenure groups, and finally, by type of structure within given race-origin-and household type groups.
- These differentiated groups may get at the underlying attributes that influence participation in the census. In understanding patterns of response, the demographic specification is important. For example, while Non-Hispanic Whites tend to have low nonresponse rates (22 percent in 1990), the rate is as low as 13.2 percent for Non-Hispanic White homeowners who are married and living in a single family home or apartment (not mobile homes). However, for Non-Hispanic Whites who rent their home or apartment and are not married, the nonresponse rate jumps to 40.8 percent. This group comprised 10.4 million households in 1990.

We hope to repeat these analyses with Census 2000 data and perhaps with our American Community Survey data. If we can then attribute media consumption characteristics to these segments, we could also use media mix modeling techniques to look at optimal market approaches for these groups.

We believe these approaches, if successful, might help us to best use limited resources for our

marketing campaign.

In 2010, our task is not a small one. We will need to count over 300 million people living in all 50 states, the District of Columbia, Puerto Rico and the Island Areas. That's 130 million households, across 4 different time zones, and a dramatically rising number of languages spoken by respondents. In addition, we need to do so accurately in less than 6 months, while at all times working to contain costs.

In preparation for 2010, we also have to recognize the vastly changed media environment since 2000, as we try to reach all market segments. The advent of blogging, podcasts and TIVO, for example, have led to a dramatic change in traditional market communication methods. In addition, concerns over privacy have increased dramatically. Add in the diversity of the resident populations, language barriers, geographic barriers, and a declining trust of the federal government, and you can see the challenges we face.

The Census Bureau will embark on one of the largest and most ambitious communications campaigns in the public sector in support of our once-a-decade population count. This campaign must allow us to reach the right people, at the right time, with the right messages, and through the right communications channels, as we undertake the largest, most diverse and technically complicated census in the history of our country.