

Using conjoint analysis to shape the message

Michael Lieberman, Multivariate Solutions, shows how one flexible research technique can help political campaigners – and marketers – establish their priorities

CONJOINT ANALYSIS IS in the ‘trade off’ family of market research techniques. It has proven to be profoundly useful in the market research field to help marketers shape new products, determine maximum levels of product enhancement, and predict market share. In addition, conjoint analysis can be used to identify the best advertising message by revealing the features that are most important in product choice.

Essentially, trade-off analysis allows the researcher to throw all of his or her options – such as various product features, price ranges, brand names, and so on – into a carefully constructed questionnaire. Respondents are then asked a series of product purchase interest questions. The data are then run through the black box of conjoint procedures to yield mathematical results called utility scores. These models allow the researcher to simulate the marketplace in great detail with surprising accuracy.

In a real purchase situation, consumers do not make choices based on a

‘In a real purchase situation, consumers do not make choices based on a single attribute. Consumers examine a range of features or attributes and then make judgments or trade-offs to determine their final purchase choice’

TABLE 1
Scenario examples

Unemployment	Property taxes	Utopia state budget
Unemployment at 6%	High	Balanced budget
Unemployment at 2%	Medium	Budget deficit of \$10 billion
Unemployment at 6%	Low	Budget deficit of \$10 billion

single attribute. Consumers examine a range of features or attributes and then make judgments or trade-offs to determine their final purchase choice.

This is just as true for the ‘choice’ made in political situations, such as assessing the viability of a candidate, determining the underlying ‘roots’ of issue support – such as gun control, housing reform, or budgetary management – or choosing a tactical strategy when pushing legislation. This analysis, when used properly, can provide insight to the governor when he sets policy priorities or assesses main concerns dominating the voter’s mind as the election nears, or it can gauge the strength of the position ‘soup’ a given campaign will stir when it goes to press.

This article reviews two constructs of conjoint analysis that are specifically suited to political applications. These particular conjoint approaches can be administered over the phone or on the internet, which keeps costs and timing manageable (very important for a flash poll). Also, the results can easily be filtered by key voter groups in order to compare them to each other and assess the relative importance of issues within each group.

Assessing levels of preference

The first model looks at different levels of the day’s key issues. Its goal is to measure the preference between each issue, and then construct a simulation model that will allow political planners to find the optimum policy pie or the cost of circumstances on approval ratings. In this case we are going to be looking at three key voter groups across

three political issues in an imaginary US State named Utopia. These are summarised in Table 2.

For each issue, varying levels are tested, as follows.

Unemployment

- ▶ 2%
- ▶ 4%
- ▶ 6%

Property taxes

- ▶ Low
- ▶ Medium
- ▶ High

Utopia state budget

- ▶ Balanced budget
- ▶ State budget deficit of \$5 billion
- ▶ State budget deficit of \$10 billion.

In order for the conjoint analysis to work, a computer-generated plan for the survey is run, to make the outcome statistically viable. In the above case, with three issues each containing three levels, the respondent would be asked to rate nine choice scenarios. Table 1 shows examples of how a few choice scenarios might look.

The survey can be done in two ways. The first is to present the respondent with each of the nine scenarios, then ask him/her to rank them. However, this can be difficult over the phone – it is a ▶

TABLE 2
The voter groups and issues

Key voter groups	Issues
Young adults 18–24	State unemployment
Working adults 25–54	Property taxes
Adults 55+	Utopia state budget

challenge for any given person to hold nine concepts in his or her head – and requires special web programming in order for all nine scenarios to be seen on one screen.

The second, and more practical, method for administering the survey is to ask the respondent to rate the state government given the following conditions on a finite scale, say one to ten. A sample question would look like this: ‘On a one-to-ten scale, how would you rate the Utopia state government under Governor Bob Perfect if unemployment is at 2%, property taxes are high, and the budget deficit is at \$5 billion?’

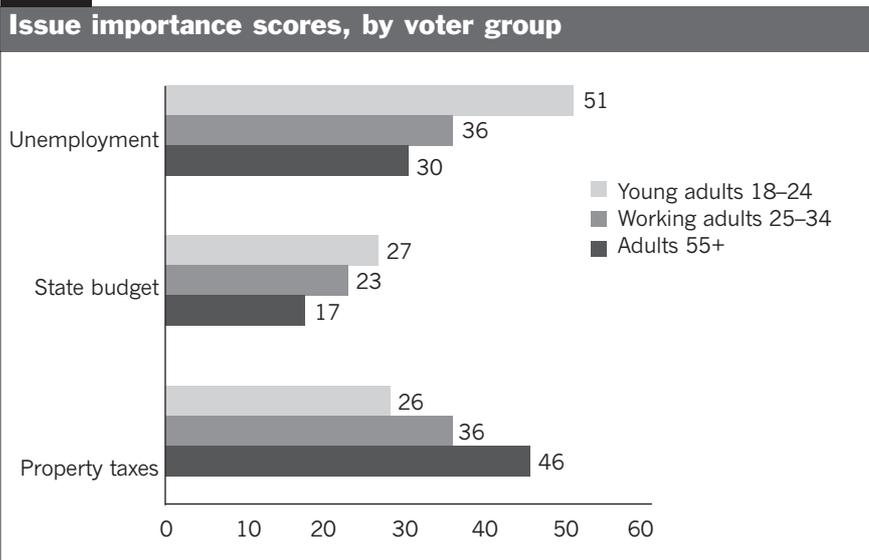
In our example, each respondent would be asked to rate nine similar questions.

The output has two levels: the first is an importance rating for each issue. Then, there is a utility score for each level of each attribute. The first gives us the relative importance of each issue, the second allows us to gauge how much support would drop if inflation went from 2% to, say, 6%.

Figure 1 summarises the aggregate results of the importance of each issue broken down by voter group.

Evidently, younger people are more concerned about finding work and have a relatively higher concern for balancing the state budget than older voters. For working adults, unemployment and property taxes are equally troubling,

FIGURE 1



while seniors want to pay low property taxes.

Table 3 shows the utility scores for each attribute for the entire population – the conjoint procedure also generates utility scores for each voter group though they are not shown here. There are two ways to use these numbers. The first is to eyeball them and assess the relative strength of each of the utility scores. Obviously, for the whole population, the incremental loss of utility due to higher property taxes is the primary concern.

Another useful measure is to see what the relative loss support would be given a certain event. For example, the top utility sum – 2% unemployment, balanced budget and low property taxes – is 9.38. If local property taxes rise from low to medium due to state budget cutbacks, the utilities sum drops to 7.23, a loss of about 23%. This translates directly into support lost for the governor.

Obviously, Governor Perfect does not want that to happen. If unemployment stays at 2%, property taxes stay low, but the governor has to operate with a \$5 billion deficit in order to help municipalities keep their taxes low, the scores goes to 9.06 – a loss of 5%. Clearly, the governor should undertake deficit spending in

order to keep property taxes down. He should also be sure to keep unemployment as low as possible. That affects him as well. A jump of 2% in unemployment means a drop in utility of around 18%.

Shaping the message

In the second variation on conjoint, all issues that are included have only two levels – either they are included in the campaign/speech/advertisement, or not. For example, a candidate has six campaign issues that he has identified: which of those should he emphasize in his campaign? Or, Governor Perfect is going to make his State of the State speech: in what order should he present the key challenges facing Utopia?

Below is a list of six issues that might appear in a gubernatorial/senate race or State of the State address.

1. Ending runaway development in Utopia
2. Reducing traffic congestion on Utopia’s highways
3. Improving the quality of teaching in Utopia’s classrooms
4. Gun control
5. Protecting Utopia’s environment
6. Improving Utopia’s economy and increasing the number of jobs in the state.

TABLE 3

Summary for total population

Unemployment	39.76
2%	3.46
4%	1.78
6%	0.46
State budget	22.33
Balanced budget	1.56
Deficit \$5 billion	1.24
Deficit \$10 billion	1.02
Property taxes	36.87
Low	4.36
Medium	2.21
High	1.90

Michael Lieberman is founder and president of Multivariate Solutions, a statistical and market research consulting firm that works with major advertising, public relations, and political strategy firms.



For six issues, the computer generates eight choice scenarios. An example question might be, 'If a candidate's main platform were gun control and protecting the environment, how likely are you to vote for him?' Or, 'In his State of the State address, Governor Perfect plans to emphasize: (1) Ending runaway development in Utopia, (2) Improving the quality of teaching in Utopia's classrooms and (3) Protecting Utopia's environment. How important would it be for you to hear his speech?'

The output would look like Figure 2, which is a summary of relative importance scores once the analysis is complete.

Here we are concerned only with the importance of each main attribute.

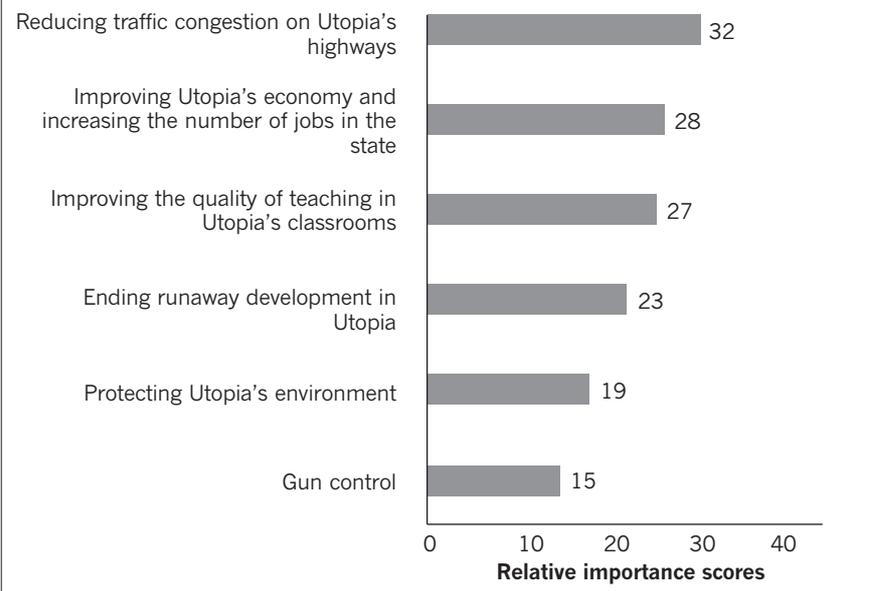
The conjoint analysis reveals that Utopians are concerned more about traffic, the state's economy and the quality of teachers. The environment and gun control, in an urban state like Utopia, are low down on the list.

These variables can also be filtered easily by key voter groups, so when the governor goes to speak, say, in front of a group of Democratic women, he can quickly filter the analysis, rerun the program, and get utility scores for this group's preference of issues. There have been times when a candidate is scheduled to speak in front of a group of, say, minority

'If one only knew beforehand which dollars to spend, and to whom they should be directed, success would be far more certain. Conjoint analysis can be that crystal ball'

FIGURE 2

Rating the issues



women. His campaign organizer would call me and ask if I could spin the numbers, which I turn around in an hour or two from the already completed database.

Applications to advertising research

The agile uses of conjoint analysis described above can easily be – and often are – used in advertising and marketing research. If one changes the label from 'candidate' to 'product', it is simple to apply the dual usage from political marketing to product design and sales.

In the first example, instead of using the conjoint analysis to set action plans for Governor Bob Perfect's Utopian State agenda, it can be used to plan project manager Bob Perfect's newest toothpaste. 'State unemployment' becomes 'Tube size', 'property taxes' become 'flavour', and 'state budget gap' becomes 'box design'. Set the preference for car seats, soup sizes or baby products. Conjoint analysis is used in many and varied ways.

The second application: instead of shaping the message for the governor's

re-election, design a magazine cover by testing the presence or absence of logos, colours, or article font sizes. Trumpet the preferred advantages of your bank's credit card based on what is important to the consumer. Or advertise your client's newest cellular telephone based on sound research.

Conclusion

Conjoint analysis is one of a number of statistical techniques that we offer to our clients in order to help add value to existing polls and allow strategists more information for their planning. Not every dollar spent in campaign advertising is equal – some of those dollars generate far more effect than others in advertising and communications efforts.

Indeed, it seems that if one only knew beforehand which dollars to spend, and to whom they should be directed, success would be far more certain. Conjoint analysis can be, in large measure, that crystal ball. ■

michael@mvsolution.com