Discrete Choice Experiment in Health

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>
> **This required an extraordinarily complex questionnaire design that presented all possible combinations of all possible responses as described by each questionnaire. Each scenario had to be presented a certain number of times in order to achieve statistical efficiency.**
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> **The chances of this occurring in a randomly generated design were very small, simply due to the vast number of possible health scenarios."**

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MOFFITT CANCER CENTER

As a research lab within a cancer center, our objective is to estimate the value (or importance) of health outcomes (e.g.., pain, fatigue, physical limitations, etc.) for cancer survivors and members of the general population.

What was your business challenge?

We needed to value two health assessments using a discrete choice experimental design (e.g.., we showed each respondent a pair of scenarios describing health and asked which scenario the respondent would prefer to live in).

This required an extraordinarily complex questionnaire design that presented all possible combinations of all possible responses as described by each questionnaire. Each scenario had to be presented a certain number of times in order to achieve statistical efficiency. The chances of this occurring in a randomly generated design were very small, simply due to the vast number of possible health scenarios.

We investigated other companies that specialized in conjoint analysis and had software that could automatically generate the "optimal" questions; however, these companies were not willing to

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About:

H. Lee Moffitt Cancer Center & Research Institute has made a lasting commitment to the prevention and cure of cancer, working tirelessly in the areas of patient care, research and education to advance one step further in fighting this disease.

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provide us with the equations used to generate the data, nor would they provide us with the raw respondent data.

This prevented us from running specific statistical analyses that we were interested in. Since our methodology and results must stand up to the most rigorous scrutiny, it was essential that we worked with a company that would help us maximize the potential of our study without compromising its scientific integrity.

Which WorlAPP produce was used to meet your needs?

Key Survey.

What were the steps used to reproduce your scenario?

We had to create a matrix of all possible health scenarios and randomly assign respondents to answer a specific number of health scenarios. Our final matrix contained 5,000 unique sets of health scenarios; our ultimate goal was to collect 5,000 respondents (one to respond to each unique set of health scenarios).

Essentially, our matrix contained 5,000 unique "surveys" and each respondent who agreed to participate was randomly assigned to one of these surveys. Each time a survey was completed,

the corresponding line in the matrix was deactivated, making it impossible for multiple respondents to answer the same set of health scenarios.

In addition to recording answers to the survey questions, we also utilized a JavaScript code to collect paradata. Paradata refers to data about the data collection process, such as each subject's typing, scrolls, mouse clicks, and timing. This code had to be implemented throughout the survey, and the data collected had to be downloaded to file separate from the survey respondent data.

What was the result of using a World APP product?

Our study is unique in the sense that it required a lot of customized programming from the WorldAPP technical team, but the end result is an experimental design that we will be able to use multiple times for many different projects in the future.

The project manager and technical team were absolutely phenomenal in terms of brainstorming ideas, applying the solutions that were generated, and testing for the quality of the final product.

Despite having to spend several months in the development phase, this process has saved us

an extraordinary amount of time in regards to future projects and also enabled us to collect more than 1,000 responses in a very short amount of time (less than two weeks). In addition, the study design allowed us to maximize experimental control and evaluate the response patterns of all respondents, allowing us to remove poor quality data.

We recently discussed our study with other individuals at an academic conference and many were quite impressed with the level of control we were able to establish and the amount of data we were able to collect.

We are extremely excited about being able to use this method in our future academic pursuits!

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