Pre-analysis Plan for Study of Conjoint Design: A Follow-up Experiment

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This experiment is a follow-up study for Bansak, Hainmueller, Hopkins and Yamamoto (2016, hereafter BHHY), which examined how the number of attributes shown to respondents in a conjoint survey affected response quality. Like in BHHY, the experiment consists of two stages. Stage 1 is designed to identify a set of "filler" attributes which respondents perceive to be unassociated with the fixed set of attributes of main interest. Stage 2 investigates whether the addition of those filler attributes changes the effects of the main attributes on conjoint choice and rating tasks.

The key difference between BHHY and the current study is the substantive domain. In this experiment we investigate respondents' preferences about hotel characteristics. The rest of the design and analysis specifications are identical to what is described by BHHY. The details omitted from this document can therefore be found in their pre-analysis plan.

Stage 1:

The design is identical to the corresponding stage of BHHY, except that respondents are asked about a hypothetical free stay at a luxury hotel in a tropical island location and make inferences about the following attributes.

Fixed attributes:

- View: mountain view, ocean view
- Floor: top floor (20^{th}), club lounge floor (10^{th}), gym and spa floor (5^{th})
- Bedroom furniture: 1 king bed and 1 small couch, 1 queen bed and 1 large couch
- In-room wireless internet: free standard bandwidth wireless, Pay for high bandwidth wireless

Filler attributes:

- Material in bed pillows: Feather, Down, Cotton, Memory Foam
- Television channels: Free cable channels, pay-per-view movie and event channels, Free Direct TV channels
- Lamp lights: All fluorescent, All incandescent, Mix of fluorescent and incandescent
- Additional service provided: Free laundry, Free dry cleaning, Free bottled water, Free hot breakfast
- Room color scheme: Light green and blue, Light green and yellow, Beige and light grey, Sky blue and white
- Shower design: Bathtub shower with curtain, Walk-in shower with clear door, Walk-in shower with opaque door, Open walk-in shower with no door
- Bathroom sinks: 2 sinks with limited countertop space, 1 sink with extra countertop space
- Balcony options: 40 sq. ft. balcony, 40 sq. ft. of extra interior space and no balcony
- Closet options: 1 walk-in closet, 2 separate reach-in closets
- Amount of in-room decor: Minimal decor, Moderate decor, Elaborate decor

- Theme of in-room decor: Local artwork, Modern art, Landscape art
- Hallway decor: Paintings, Photographs, Both paintings and photographs
- In-room coffee/tea: Drip coffee machine, Automatic espresso machine, Water heater for tea
- In-room office furniture: Large desk with desk chair but no reading lounge chair, Small desk with desk chair plus reading lounge chair
- Bathroom soap and shampoo scent: Lavender, Mint, Citrus
- In-room kitchen equipment: Refrigerator/freezer, Refrigerator/freezer and microwave, Only refrigerator
- Wake-up calls performed by: Automated voice system, Live operator
- Parking options: Valet parking, Self-parking in indoor garage, Self-parking in outdoor lot
- Bathroom towel options: Towels replaced daily, Towels replaced every other day, Towels not replaced during guest's stay
- Bed linen options: Linens replaced daily, Linens replaced every other day, Linens not replaced during guest's stay
- Flooring material: Carpet, Hardwood, Tile
- In-room lights: Turn on automatically upon entry, Must be turned on manually
- 24/7 access to: Gym, Pool, Club lounge
- Proximity to elevators: Close, Far
- Hotel restaurant type: American, Italian, Chinese, Mexican
- On-site hotel car rental service: Large national chain, Small local company, None
- Mini-bar contents: alcoholic beverages, non-alcoholic beverages, non-alcoholic and alcoholic beverages
- Television location: In front of bed, In front of couch
- Bathroom door type: Hinged door with knob, Hinged door with lever handle, Sliding door
- Windows: Do open, Do not open
- Ceiling fan location: Above bed, Above couch
- Default temperature (F) on thermostat: 68, 70, 72, 74
- Valet to bring bags to room: Yes, No
- Hours room service menu is available: 8am - 11pm, 4pm - 11pm, 24 hours
- Room service menu: Same as hotel restaurant, Different than hotel restaurant
- Complimentary chocolate on pillow: Milk chocolate, Dark chocolate, White chocolate, Mint chocolate
- Hotel room window has view of (attention check 1): Sailboats, Trees
- Bedroom pillow size (attention check 2): King size, Queen size, Standard size

The survey will be fielded to 3,300 respondents on Amazon's Mechanical Turk (Mturk). Eligibility to take the survey will be restricted to U.S.-based MTurk Workers who have at least an 80% HIT approval rate. Each respondent will evaluate three sets of the fixed attributes.

Our analysis will follow the procedure identical to what is described by BHHY. We expect all of the filler attributes to be identified as unassociated fillers, except the last two on the above list which are included as attention checks.

Stage 2:

The design will be identical to BHHY's second stage, except that respondents will see a series of tables composed of a pair of hypothetical hotel room options and will be asked to choose and rate the two options. Each hotel room profile will consist of the four fixed attributes and a set of filler attributes that are randomly drawn from the list of the unassociated fillers identified in Stage 1.

Each respondent will be asked to rate 15 pairs of hotels. We will use 200 respondents for each number of filler attributes.

We will follow BHHY in our data analysis. That is, we will calculate for each number-of-attributes condition (1) R^2 for the four fixed attributes and (2) regression-based estimates of the average marginal component effects (AMCEs) for those four attributes, and compare the results across the experimental conditions. See BHHY for additional details.

Reference:

Bansak, Kirk; Hainmueller, Jens; Hopkins, Daniel; Yamamoto, Teppei, 2016, "Pre-analysis Plan for Study of Conjoint Design", doi:10.7910/DVN/WX5UXL, Political Science Registered Studies Dataverse.