Avoiding Common Pitfalls in Conjoint Analysis

ABOUT ME

Section 1

SURVEY DESIGN PITFALLS

Backwards Marketing Research

- 1985 Harvard Business Review article by Alan Andreasen
  - https://hbr.org/1985/05/backward-market-research
- "Here are some things I don't know. When the results come in, I'll know more. And when I know more, then I can figure out what to do."
- "The research mostly told me things I already knew"
  - Brand preference
  - Price importance
  - Segmentation
  - Demographics

Backwards Marketing Research

- Begin with the end in mind
- Think about your simulations
- Can you come up with one-sentence questions the conjoint exercise is going to answer and how you will answer them?
  - "We want to figure out which features are important to our customers, what they are willing to pay for them"

Backwards Marketing Research

- "We want to figure out which features are important to our customers, and what they are willing to pay for them"
- We want to figure out which features are important to our customers, **so we are including features X/Y/Z as binary attributes so we can modify each feature independently and observe how demand changes**
- We want to investigate willingness to pay, **so we are going to to test +/- 20% price, allow all features to show up with each brand, and then see what kind of trade-offs people are willing to make**

The Goal of a Conjoint Analysis

- Build a generalized model of preference that fits a series of choices/ratings/rankings provided by a respondent
- Too many people approach conjoint analysis as product testing
  - Prohibitions
  - Complicated pricing
  - Not including proper competition or proper “none” choice

The Goal of a Conjoint Analysis

- Conjoint exercise builds the generalizable model
- Market Simulators make predictions of specific scenarios (here's where the product testing comes in)

Conjoint Design

- Keep it simple!
- Attributes and levels need to be mutually exclusive
- Better data on fewer price points is probably better

Section 2

TESTING PITFALLS

Test Your Survey!

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Test Your Survey!

- Test your survey yourself!
- Have someone not familiar with the project test your survey
- Mturk?
- Run through all the analysis with test data
- Run some simulations with test models

Section 3

ANALYSIS PITFALLS

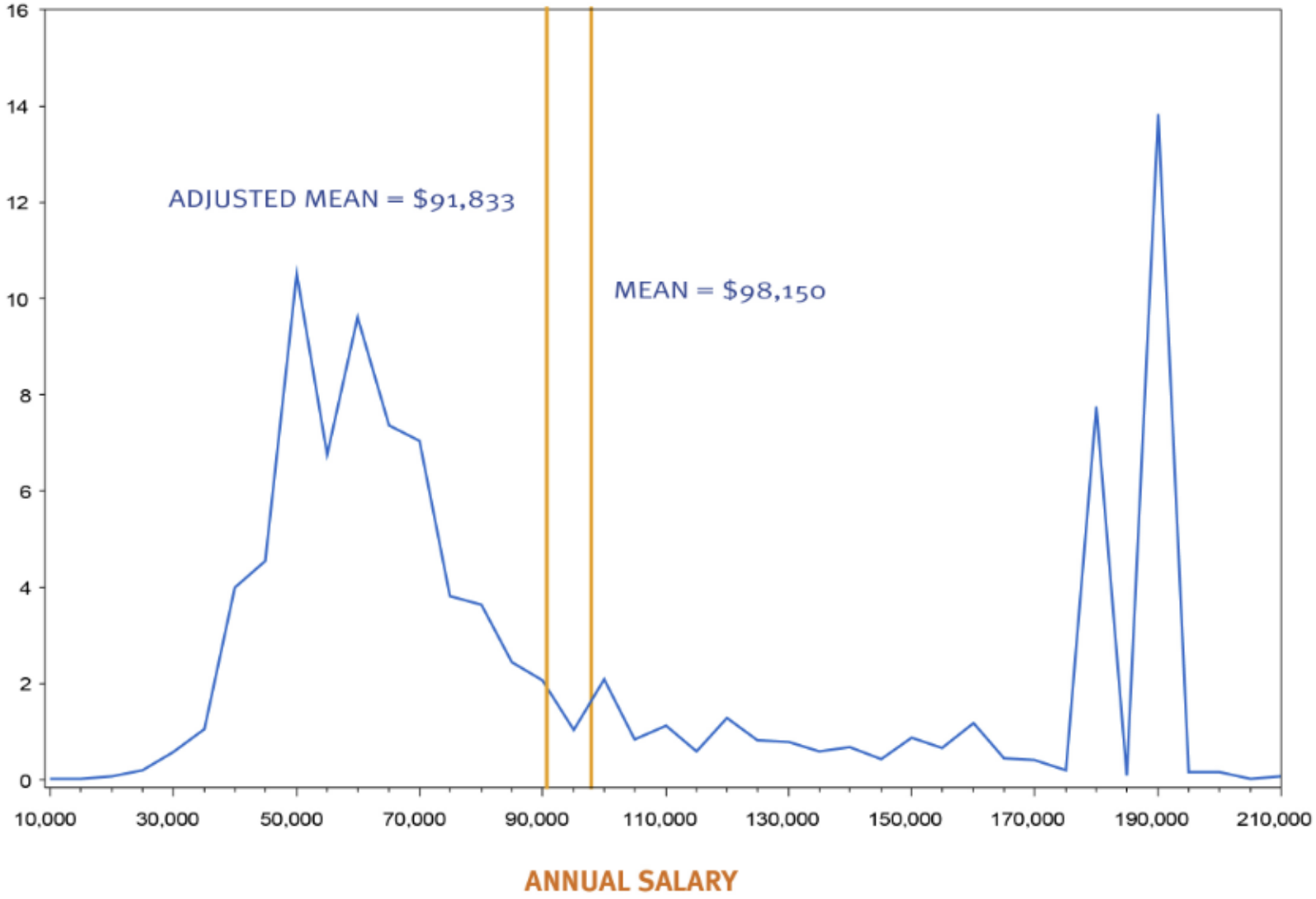
Average Utilities and Importances

- Averages can be misleading

Average Starting Salary Law School Graduates 2018

$98,150

Average Starting Salary Law School Graduates 2018



Average Utilities and Importances

Assume a situation where your population consists of opposites

	Prefer Coke	Prefer Pepsi
Coke	90	-100
Pepsi	-100	90
Sprite	10	10

Survey 50 people from each group
Calculate average utilities…

Level	Average Utility
Coke	-5
Pepsi	-5
Sprite	10

Design Repercussions Flow Into Analysis

- Brian would love to drive a Tesla
- Conjoint design reflects realistic pricing for Tesla
- Brian does not choose Tesla in the survey 
- How does the software model Brian's preference for Tesla?

Design Repercussions Flow Into Analysis

- Brian likes Tesla
- Conjoint design reflects appropriate pricing through prohibitions
  - Price: $25,000, $35,000, $55,000, $75,000, $85,000
  - Toyota shows at Prices 1-3, Tesla shows at prices 3-5
- Brian chooses Tesla often 
- How does the software model my preference on Price?

Section 4

MARKET SIMULATORS

Section 4

MARKET SIMULATORS ARE AWESOME

Why Conduct Market Simulations?

- Simulations better reflect real-world behavior
  - Represent idiosyncratic preferences of segments and individuals (remember, you don't have to appeal to the "fat" part of the market to carve out a profitable business)
- A "choice laboratory" for testing multitude of real-world possibilities
- Results expressed in terms that make sense to management and are actionable

Why Conduct Market Simulations?

- At what price do people switch to a competitor?
- Will new product cannibalize our own sales?
- Should we launch a high-end product or a budget model?
- How much more price sensitive are people this year than last?
- Is adding feature X worth it?

Conjoint Market Simulation Assumptions

- We have interviewed the right people
- Each person is in the market to buy
- We've used a proper measurement technique
- Respondents have answered reliably and truthfully
- All attributes that affect buyer choices in the real world have been accounted for

More Conjoint Market Simulation Assumptions

- Equal availability (distribution)
- Respondents are aware of all products
- Long-range equilibrium (equal time on market)
- Equal effectiveness of sales force
- No out-of-stock conditions

Market Simulators

- Not crystal balls!
- Still useful!
- Recognize weaknesses
- Shore up those weaknesses?

External Effects

- How we tap into that “other stuff”

Adjusting for Distribution

- Good
  - Respondent steps into “the market” each shopping trip and sees different products on “the shelf”
- Better
  - Respondents have a probability to walk into a specific store each shopping trip, each store has different products for sale
- Best
  - Each respondent has individual store visit probabilities based on survey data, each store has different products for sale

Adjusting for Awareness

- Typically done based on a survey question
  - Which of these brands would you consider?
  - Which of these brands have you heard of?
- Awareness adjustment effectively removes the product from an individual's choice set

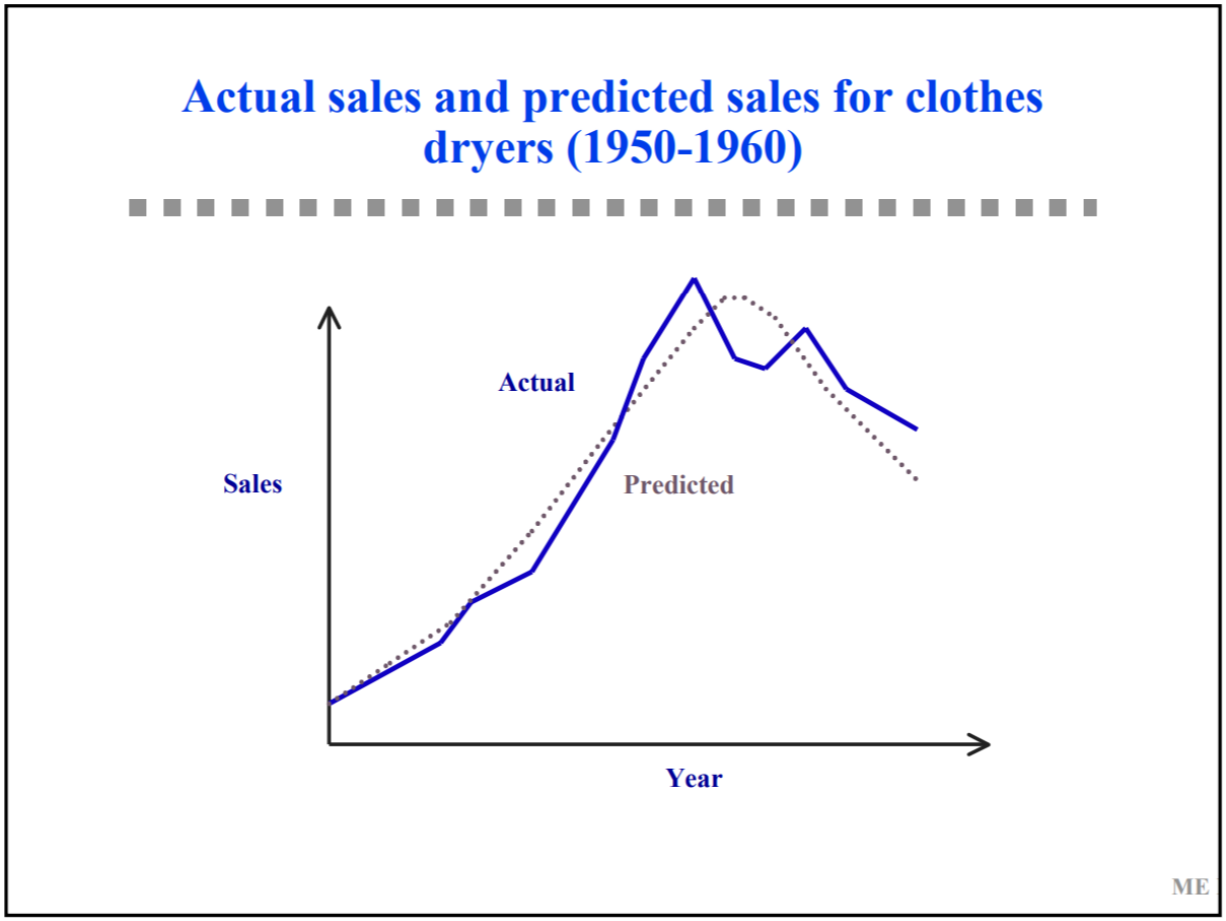
Other Adjustments?

- Top N simulation assumes people don't really consider all of the options in a simulation

Product Label	Utility	Traditional Share of Preference	Top 3 Share of Preference
Product 1	2.36	52.8	54.2
Product 2	1.98	36.1	37.1
Product 3	0.53	8.5	8.7
Product 4	-1.24	1.4	0.0
Product 5	-1.48	1.1	0.0
	Total:	100.0	100.0

Other Adjustments?

- Bass diffusion model?



Section 5

ASK QUESTIONS!

Thanks for attending!

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