ระเบียบวิธีวิจัยและสถิติประยุกต์สำหรับการวิจัยเศรษฐศาสตร์ธุรกิจ

Conjoint Analysis and Discrete Choice Modeling

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Outline

What

- What is Conjoint Analysis (CA)
- What is Discrete Choice Modeling (DCM)

Why

- Why is CA and DCM
- Theory Behind

How

- How to design Discrete Choice Experiment
- How to conduct Discrete Choice Experiment
- How to interpret Discrete Choice Experiment

Who

- Users and Application

What is Conjoint Analysis

Conjoint   Analysis

➡ **Trade-Off Analysis**

➡ **Analysis of Joint Attribute**

➡ **Find Relative Importance**

➡ **Find Preference/Utility**

What is Conjoint Analysis

Conjoint Analysis Approach

➡️ **Ranking**

➡️ **Rating**

➡️ **Choice**

What is Conjoint Analysis

⇨ **Ranking**

Exercise: Smartphone Choice

Brand	Memory	Price	Ranking (Utility)
Apple	20	150	8
Samsung	20	150	7
Apple	10	150	6
Apple	20	200	5
Samsung	10	150	4
Samsung	20	200	3
Apple	10	200	2
Samsung	10	200	1

• 8=Most Preferred; 1=Least Preferred

What is Conjoint Analysis

➡ **Rating**

Indicate your preference for this Ice Cream offering.

Ice Cream Flavor	Vanilla
Mix-In	Brownie Chunks
Topping	Caramel
Cone	Waffle Cone
Scoops	3 Scoops

Preference	Very Dissatisfied	Dissatisfied	Somewhat Dissatisfied	Neutral	Somewhat Satisfied	Satisfied	Very Satisfied
	○	○	○	○	○	○	○

Survey Powered By Qualtrics

How likely are you to purchase this computer?
(Use a scale from 1-10, with 1 being "not at all likely"
and 10 being "would definitely purchase")

3 GHz Processor
100GB Hard Drive
512MB RAM
$1,000

Your Score: _____

What is Conjoint Analysis

➡ **Choice**

What is Conjoint Analysis

Which one you prefer?

➡️ **Ranking**

➡️ **Rating**

➡️ **Choice**

What is Discrete Choice Modeling

➡ **Many Choices**

➡ **Many Choice Sets**

➡ **One Decision Per Set**

Why Conjoint Analysis

➡️ **Break-down large number of attributes into smaller bundles for evaluations and comparison**

➡️ **Evaluate their products and services, and determine how consumers perceive them**

➡️ **Gives more insightful understanding of customer behavior and their preferences**

Why Discrete Choice Modeling

➡️ **Similar to real market situations, where consumers face two or more goods characterized by similar attributes, but different levels**

➡️ **Does not require as much effort by the respondent**

➡️ **Revealed Preference**

Conjoint Analysis & Discrete Choice Experiment

Why Discrete Choice Modeling

Stated Preference

Revealed Preference

Theories of Individual Choice Behavior

Rational Choice

Conventional Theory

Behavioral Theory

How to Design Discrete Choice Experiment

➡ **Selection of Attributes**

➡ **Choice Set Design**

Design

➡ **Collect Data/ Platform**

Conduct

➡ **Analyze**

Interpret

How to Design Discrete Choice Experiment

⇨ **Selection of Attributes**

Attributes

⬇

Level

How to Design Discrete Choice Experiment

➡ Selection of Attributes

Characteristics/ Physical Properties/ Tangible	Beneficial/ Functional/ Intangible	Image/ Intangible/ Abstract

How to Design Discrete Choice Experiment

➡ Choice Set Design

Full Factorial

Fractional Factorial

Sample Size?

How to Conduct Discrete Choice Experiment

➡ **Collect Data/ Platform**

　　➡ **Paper**

　　➡ **Card**

　　➡ **Online**

QuestionPro   conjoint.ly

➡ **Analyze**

How to Interpret Discrete Choice Experiment

➡️ **Analyze**

Consumer Behavioral Model

⬇️

Econometric Model

⬇️

| Probit | Logit | Multinomial Logit |

How to Interpret Discrete Choice Experiment

Multinomial Logit: Model

How to Interpret Discrete Choice Experiment

Multinomial Logit: Estimate

How to Interpret Discrete Choice Experiment

➡️ **Multinomial Logit: Interpret**

How to Interpret Discrete Choice Experiment

⇨ **Example**

Users and Application

Marketing Researcher

Economist

Public Policy Maker

Neuro-Scientist

Practice

In-Class Discussion

Q&A

Q & A