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ระเบียบวิธีวิจัยและสถิติประยุกต์สำหรับ การวิจัยเศรษฐศาสตร์ธุรกิจ

Conjoint Analysis and Discrete Choice Modeling

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สำนักงานเศรษฐกิจการคลัง

กระทรวงการคลัง

Conjoint Analysis & Discrete Choice Experiment

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

Conjoint Analysis & Discrete Choice Experiment

What is Conjoint Analysis

Conjoint Analysis

- Trade-Off Analysis
- Analysis of Joint Attribute
- Find Relative Importance
- **⇒** Find Preference/Utility

Conjoint Analysis & Discrete Choice Experiment

What is Conjoint Analysis

Conjoint Analysis Approach

- Ranking
- Rating
- Choice

4

WHAT WHY HOW WHO

Conjoint Analysis & Discrete Choice Experiment

What is Conjoint Analysis



Exercise: Smartphone Choice

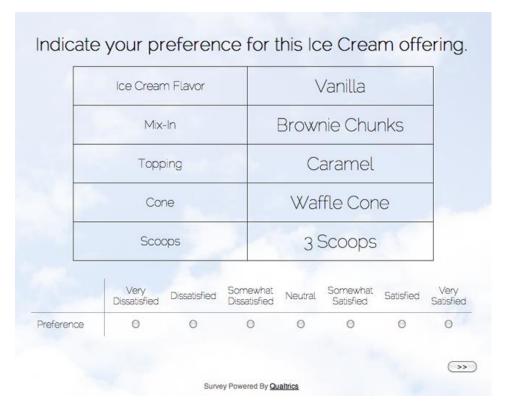
Brand	Memory	Price	Ranking (Utility)	
Apple	20	150	8	
Samsung	20	150	7	
Apple	10	150	6	
Apple	20	200	5	
Samsung	10	150	4	
Samsung	20	200	3	
Apple	10	200	2	
Samsung	10	200	1	

^{• 8=}Most Preferred; 1=Least Preferred

Conjoint Analysis & Discrete Choice Experiment

What is Conjoint Analysis





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:

Conjoint Analysis & Discrete Choice Experiment

What is Conjoint Analysis



Option 1	Option 2	Option 3	Option 4
SHOW!	Sheoi.	TANGLES	Qumitos
MAD ANGLES	MEN		S. A.
Mad Angles	Tedhe Medhe	Tangles	Yumitoes
100 gm	125 gm	150 gm	200 gm Rs.20
Rs.7	Rs.10	Rs.15	
	0		

WHAT WHY HOW WHO

Conjoint Analysis & Discrete Choice Experiment

What is Conjoint Analysis

Which one you prefer?

- Ranking
- Rating

Conjoint Analysis & Discrete Choice Experiment

What is Discrete Choice Modeling

- Many Choices
- Many Choice Sets
- One Decision Per Set

Conjoint Analysis & Discrete Choice Experiment

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

Conjoint Analysis & Discrete Choice Experiment

Why Discrete Choice Modeling

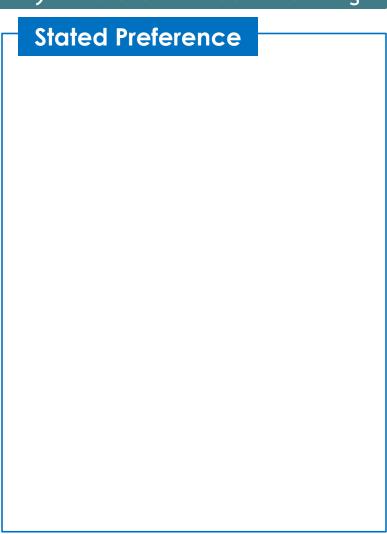


Does not require as much effort by the respondent



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Why Discrete Choice Modeling



Revealed Preference

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Theories of Individual Choice Behavior

Rational Choice

Conventional Theory

Behavioral Theory

Conjoint Analysis & Discrete Choice Experiment

How to Design Discrete Choice Experiment

- Selection of Attributes
- Choice Set Design
- Collect Data/ Platform
- Analyze







Conjoint Analysis & Discrete Choice Experiment

How to Design Discrete Choice Experiment



Selection of Attributes

Attributes



Level

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How to Design Discrete Choice Experiment



Selection of Attributes

Characteristics/ Physical Properties/ Tangible



Beneficial/ Functional/ Intangible



Image/Intangible/ **Abstract**



Conjoint Analysis & Discrete Choice Experiment

How to Design Discrete Choice Experiment



Choice Set Design

Full Factorial

Fractional Factorial

Sample Size?

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How to Conduct Discrete Choice Experiment

- Collect Data/ Platform
 - Paper
 - Card
 - Online
- QuestionPro

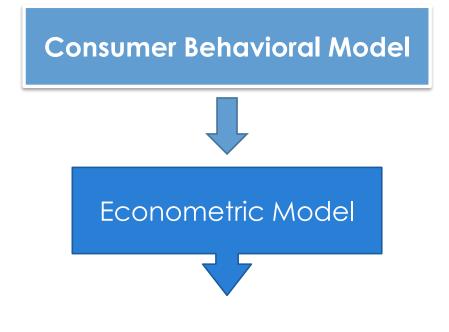




Conjoint Analysis & Discrete Choice Experiment

How to Interpret Discrete Choice Experiment





Probit

Logit

<u>Multinomial Logit</u>

WHO

Conjoint Analysis & Discrete Choice Experiment

How to Interpret Discrete Choice Experiment



Multinomial Logit: Model

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Conjoint Analysis & Discrete Choice Experiment

How to Interpret Discrete Choice Experiment



Multinomial Logit: Estimate

Conjoint Analysis & Discrete Choice Experiment

How to Interpret Discrete Choice Experiment



Multinomial Logit: Interpret

HOW

Conjoint Analysis & Discrete Choice Experiment

How to Interpret Discrete Choice Experiment



Conjoint Analysis & Discrete Choice Experiment

Users and Application

Marketing Researcher

Economist

Public Policy Maker

Neuro-Scientist

Conjoint Analysis & Discrete Choice Experiment

Practice



OATION

Conjoint Analysis & Discrete Choice Experiment

Q&A

