Toy Horse Analysis Case

Conjoint Analysis

■ Why conjoint analysis

1. Data Availability: Experiment-like technique to collect data and control external variables

2. Provide Insight: Identify segments based on preferences for each attribute (price, height, motion, style) and tailor products to segments

3. Market Prediction : Evaluate competitive responses and pricing decision

■ Conjoint Analysis Task Details

1. Attributes

– **A-Price:** $139.99 (0) or $119.99 (1)

– **B-Height:** 18" (0) or 26" (1)

– **C-Motion:** Bouncing (0) or Rocking(1)

– **D-Style:** Racing (0) or Glamorous (1)

– **Attributes not included:** stability, total floor footprint, quality of construction, and color/colorfulness

2. Method

Completed by parents with paper & pencil on play locations

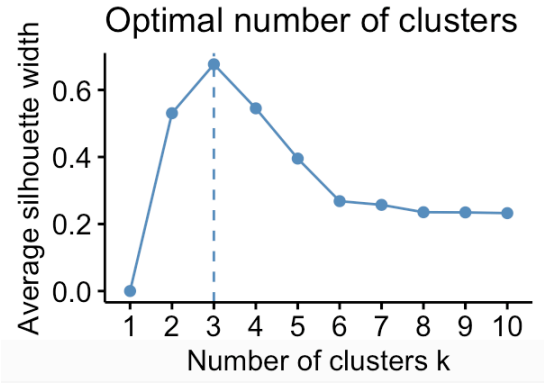
Analysis-Segmentation

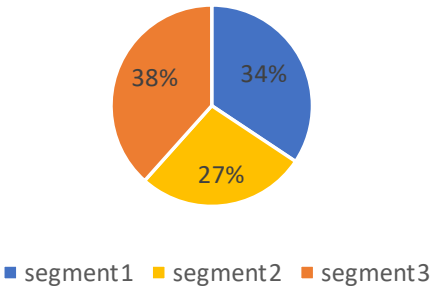
■ **Priori segmentation:** subset the sample by gender

Variables	Coefficients for boys	Coefficients for girls
Price	2.9	2.72
Size	**-0.05**	**0.59**
Motion	-1.44	-0.70
Style	**-0.65**	**0.24**

Segment girls : lower price, tall size, bouncing, glamour (profile 2)
Segment boys: lower price, small size, bouncing, racing (profile 12)

■ **Post-hoc segmentation:** 3 clusters





Segment 1: lower price, tall size, bouncing, racing (profile 4)
Segment 2: lower price, tall size, rocking, glamour (profile 16)
Segment 3: lower price, small size, bouncing, glamour or racing (profile 10 or profile 2)

Market Share Simulation with the Ideal Products

■ **Under competitor's current choice:** 26" Racing Rocking Horse at **$139.99** (P7)

Scenario	Offering		Market Share	
	EarlyRiders	Speed Gliders	EarlyRiders	SpeedGliders
1 (Original market)	P5,P13	P7	53%	47%
2	P2,P12	P7	98%	2%
4	P4,P10	P7	95%	5%
6	P4,P16	P7	100%	0%
8	P2,P16	P7	100%	0%
10	P2,P4	P7	96%	4%
12	P10,P16	P7	100%	0%

■ **Competitor lower its price:** 26" Racing Rocking Horse at **$119.99** (P8)

Scenario	Offering		Market Share	
	EarlyRiders	Speed Gliders	EarlyRiders	SpeedGliders
1 (Original market)	P5,P13	P7	53%	47%
3	P2,P12	P8	76%	24%
5	P4,P10	P8	75%	25%
7	**P4,P16**	**P8**	**91%**	**9%**
9	**P2,P16**	**P8**	**87%**	**13%**
11	P2,P4	P8	78%	22%
13	P10,P16	P8	70%	30%

Competitor will **drop its price** to gain more market share (P7→P8).
Offering **P4 & P16**, or **P2 & P16** will enable us to gain the largest market share.

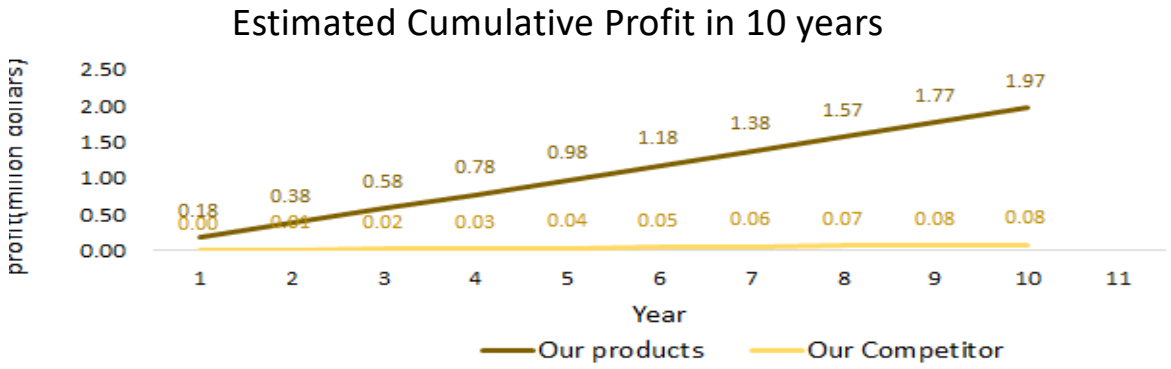
Short Term and Long Term Expected Profit

the original scenario

```
> profitMatrix
        scenario1 scenario3 scenario5 scenario7 scenario9 scenario11 scenario13
year 1   126146.5  165589.1  160635.8  174831.0  184622.2   168898.4   134377.6
year 2   252293.0  345178.2  335271.7  363662.1  383244.5   351796.8   282755.2
year 3   378439.5  524767.4  509907.5  552493.1  581866.7   534695.2   431132.8
year 4   504586.0  704356.5  684543.4  741324.2  780489.0   717593.6   579510.4
year 5   630732.5  883945.6  859179.2  930155.2  979111.2   900492.0   727888.0
year 6   756879.0 1063534.7 1033815.0 1118986.2 1177733.4  1083390.4   876265.6
year 7   883025.5 1243123.8 1208450.9 1307817.3 1376355.7  1266288.8  1024643.2
year 8  1009172.1 1422713.0 1383086.7 1496648.3 1574977.9  1449187.2  1173020.8
year 9  1135318.6 1602302.1 1557722.6 1685479.4 1773600.2  1632085.6  1321398.4
year 10 1261465.1 1781891.2 1732358.4 1874310.4 1972222.4  1814984.0  1469776.0
> apply(profitMatrix, 1, which.max)
 year 1  year 2  year 3  year 4  year 5  year 6  year 7  year 8  year 9 year 10
      5       5       5       5       5       5       5       5       5       5
```

We **sell profile 2, 16 and the competitor sell profile 8** (Scenario 9), yields the highest profit both in short term and long term

Scenario 9 is expected to have a profit **46% higher** than the original scenario in a year, and **56% higher** in 10 years



The profit gap between our products and our competitor are expanding in the long run

Executive Summary

- From the priori segmentation on gender, we found different preferences for size and style
  - Girls prefer **tall size and glamour style**
  - Boys prefer **small size and racing style**
- Considering the changes in market share and profitability, we anticipate that SpeedGliders will **lower down its price** in response to our product switch
- Based on two ways of segmentations, we picked out **13 ideal scenarios (include the status quo)** for market simulation. Since **profile 2 and 16** yield the highest profit in short and long run under the assumption that our competitor will decrease its price, we recommend EarlyRiders to switch to these two profiles by lowering down its price and updating on the motion, size attributes