Toy Horse Conjoint Analysis

Team Member

Yuheng Xiong

Yukun Gao

Xinyan Cai

Niklesh Kala

Jinzhou Lu

PowerPoint Redesign by Yukun Gao

ROAD MAP

Key Insight

- Optimal products to launch
- Change in market share
- Profit maximization

Benefit Segmentation

- Post Hoc Segmentation with optimal number of clusters and ideal products
- A priori segmentation on consumer demographic data

Market Simulation

- Short-term vs. long-term without competitor response
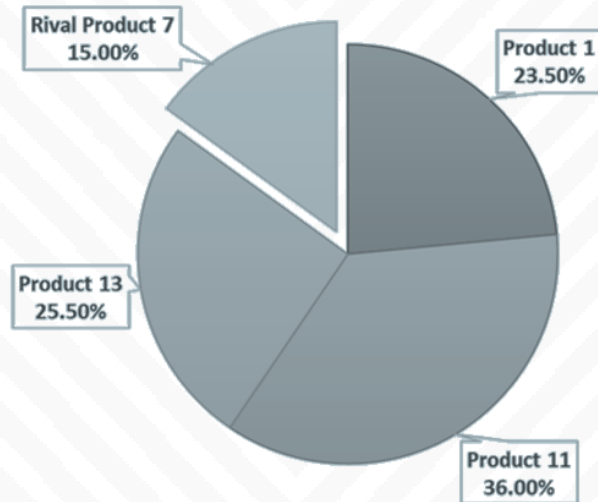- Short-term vs. long-term with competitor response

PART ONE

1

KEY INSIGHT & RECOMMENDATIONS

KEY INSIGHT
Recommendations

1 Launching 3 Products without Competitor Response

Rival Product 7
15.00%

Product 1
23.50%

Product 13
25.50%

Product 11
36.00%

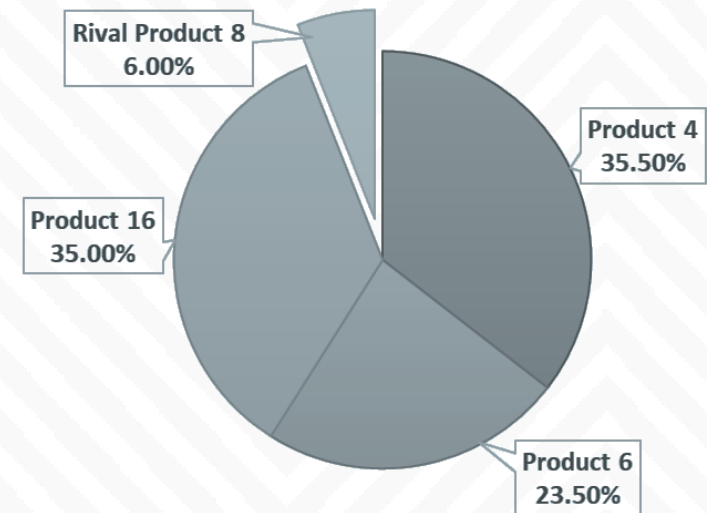Rival sells product 7 (remain unchanged)
- Our best strategy: launch product 1,11,13
- Maximized profit: $260,946
- Market share: increase from 43% to 85%

2 Launching 3 Products with Competitor Response

Rival Product 8
6.00%

Product 4
35.50%

Product 16
35.00%

Product 6
23.50%

Rival shifts to product 8
- Our best strategy: launch product 4,6,16
- Maximized profit: $171,322
- Market share: increase from 43% to 94%

Segment by Gender

Preference of Toy Horse Attributes

	Female	Male
Price	Less sensitive	More sensitive
Size	Larger size	Smaller size
Motion	Rocking	Bouncing
Style	Glamour	Racing

Segment by Age

Preference of Toy Horse Attributes

	2-year-old	3-4-year-old
Price	Indifferent	Indifferent
Size	Smaller size	Larger size
Motion	Rocking	Bouncing
Style	Indifferent	Indifferent
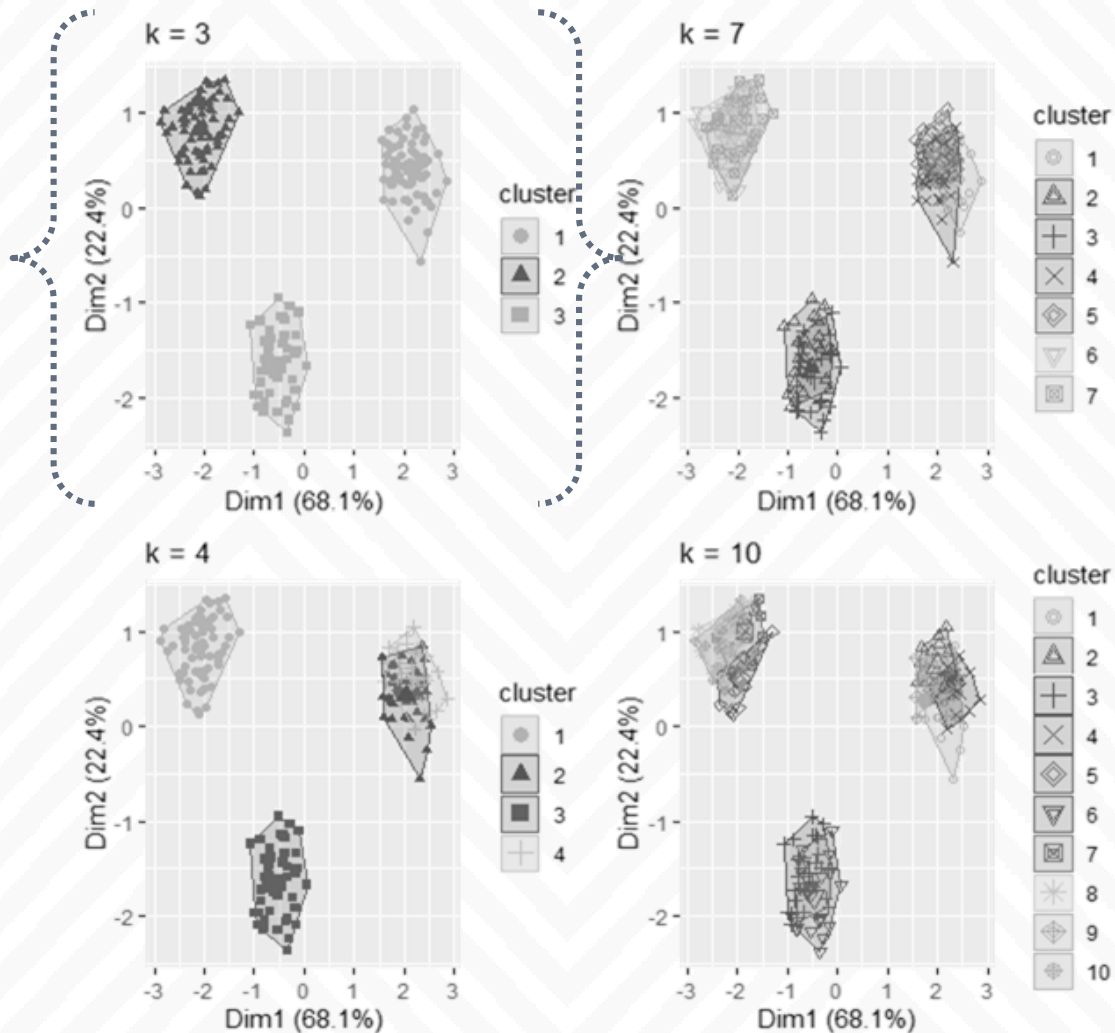
- Segmenting consumers into 3 clusters best classifies each group of consumer's preferences on the products

- As the number of clusters increases, the accuracy of classification decreases

- The first segment (●) has 80 consumers (40%)

- The second segment (∆) has 67 consumers (33.5%)

- The second segment (□) has 53 consumers (26.5%)

Impact of Variables on Segments

Based on segmentation of 3

- First segment prefers $119.99, 26 inches, bouncing, racing horse
- Second segment prefers $119.99, 26 inches, rocking, glamour horse
- Third segment prefers $119.99, 18 inches, rocking, glamour horse

3

PART THREE
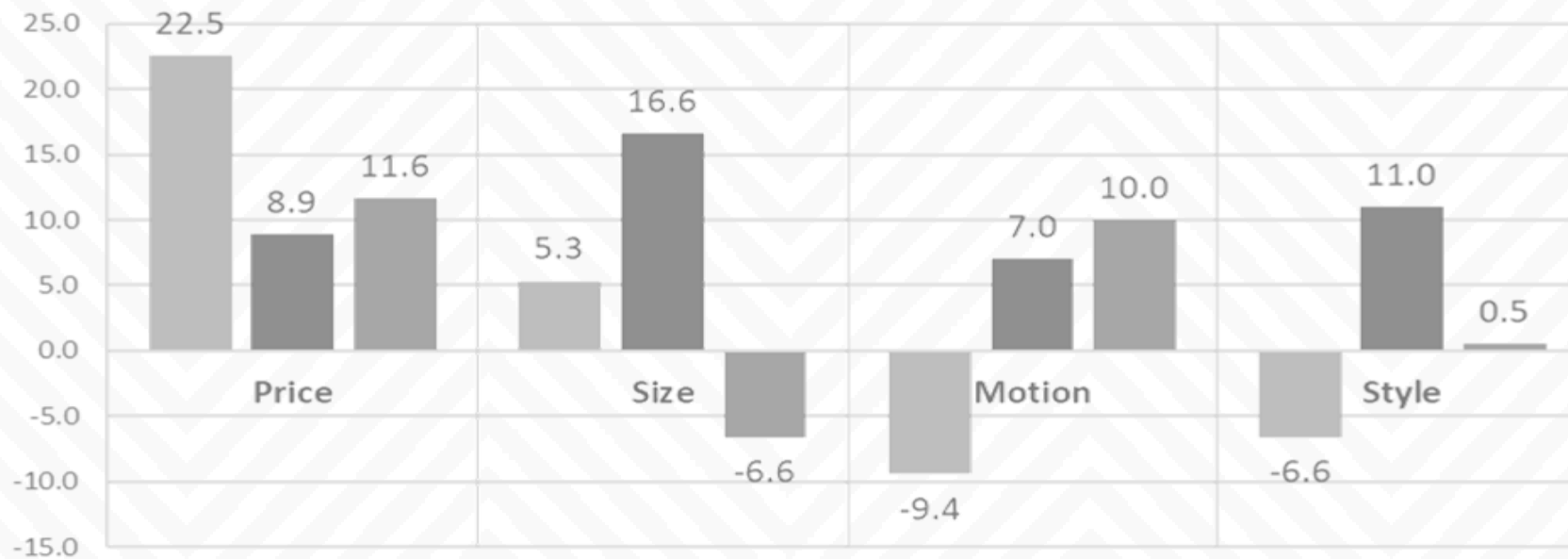
Market Simulation

- Best Strategy Selection
- Market Simulation

Short-run (w/o rival response)				Rival						
Profile	1	3	5	7	10	11	13	15	Profit	Overall Profitability
Original			22.00%	57.00%			21.00%			
Profile profitability			72.61%	85.19%			71.31%		102742.80	71.98%
Scenario 1				3.50%	63.00%			33.50%		
Profile profitability				-141.14%	85.89%			74.81%	241488.10	81.91%
Scenario 2	23.50%			15.00%		36.00%	25.50%			
Profile profitability	74.67%			43.73%		79.65%	76.37%		247612.70	77.15%
Scenario 3		38.50%	13.00%	4.00%			11.50%	33.00%		
Profile profitability		80.97%	53.66%	-111.00%			47.61%	74.42%	232388.30	71.35%

At Beginning

Market share: 53%

In SHORT Run

→

Include development costs

Launch product

1, 11, 13

✓ Best strategy

Market share: 85%

Profit: $247,612.7

Long-run (w/o rival response)				Rival					Profit	Overall Profitability
Profile	1	3	5	7	10	11	13	15	Profit	Overall Profitability
Original			22.00%	57.00%			21.00%			
Profile profitability			72.61%	88.89%			71.31%		102742.80	71.98%
Scenario 1				3.50%	63.00%			33.50%		
Profile profitability				-80.85%	89.42%			81.10%	254821.40	86.43%
Scenario 2	23.50%			15.00%		36.00%	25.50%			
Profile profitability	81.00%			57.80%		84.74%	76.37%		260946.00	81.31%
Scenario 3		38.50%	13.00%	4.00%			11.50%	33.00%		
Profile profitability		85.73%	53.66%	-58.25%			47.61%	80.82%	245721.60	75.44%

At Beginning

Market share: 53%

In LONG Run

⟶

Do not include development costs

Launch product

1,11,13

✓ Best strategy

Market share: 85%

Profit: $260,946

Short-run (w/ rival response)					Rival					
Profile	1	2	4	6	8	11	13	16	Profit	Overall Profitability
Original	0.00%				85.50%	8.00%	6.50%			
Profile profitability					85.82%	31.31%	7.31%		(9305.80)	-18.36%
Scenario 1			35.50%		18.00%			46.50%		
Profile profitability			71.97%		32.65%			73.93%	144073.90	72.98%
Scenario 2			35.50%	23.50%	6.00%			35.00%		
Profile profitability			71.97%	54.96%	-102.06%			65.36%	151322.40	65.42%
Scenario 3		9.50%	29.50%	22.50%	3.50%			35.00%		
Profile profitability		6.42%	66.27%	52.96%	-246.38%			65.36%	134554.70	55.78%

At Beginning

Market share: 14.5%
Losing money

In SHORT Run

→

Include development costs

Launch product

4,6,16

✓   Best strategy

Market share: 94%

Profit: $151,322.4

Long-run (w/ rival response)					Rival					
Profile	1	2	4	6	8	11	13	16	Profit	Overall Profitability
Original	0.00%				85.50%	8.00%	6.50%			
Profile profitability					89.37%	31.31%	7.31%		(9305.80)	-18.36%
Scenario 1			35.50%		18.00%			46.50%		
Profile profitability			78.98%		49.49%			80.45%	157407.20	79.74%
Scenario 2			35.50%	23.50%	6.00%			35.00%		
Profile profitability			78.98%	66.22%	-51.54%			74.02%	171322.40	74.06%
Scenario 3		9.50%	29.50%	22.50%	3.50%			35.00%		
Profile profitability		29.82%	74.70%	64.72%	-159.79%			74.02%	161221.40	66.84%

At Beginning

Market share: 14.5%
Losing money

In LONG Run →

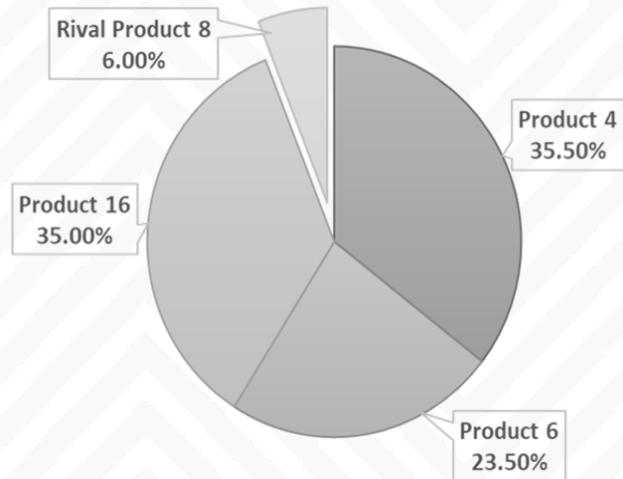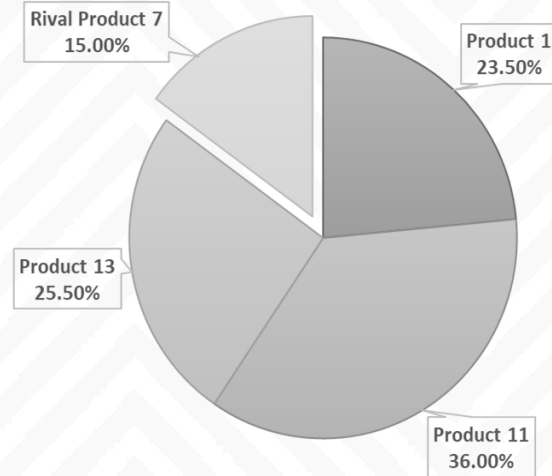Do not include development costs

Launch product

4,6,16

✓ Best strategy

Market share: 94%

Profit: $171,322.4

Long-term Simulation
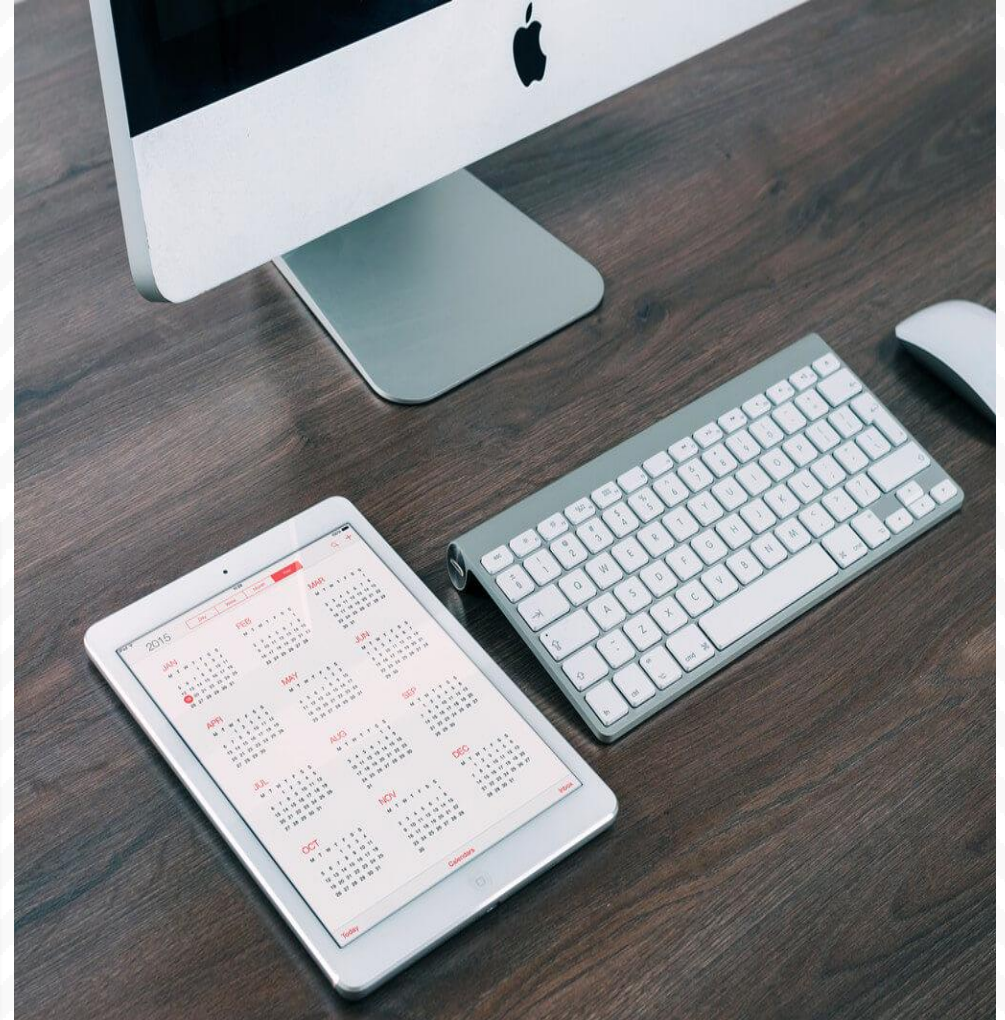
No rival response (rival sells No.7)

- Launch 3 products: 1,11,13
- Earning profit $260,946

Rival Product 7
15.00%

Product 1
23.50%

Product 13
25.50%

Product 11
36.00%

Rival Product 8
6.00%

Product 4
35.50%

Product 16
35.00%

Product 6
23.50%

Long-term Simulation

With rival response (rival sells No.8)

- Launch 3 products: 4,6,16
- Earning profit $171,322.4

Thank you