Toy Horse
Case Assignment

Group 7

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2020/02/10

Executive Summary

- Cluster Analysis indicates that **three segments** is optimal for EarlyRiders：
  boy's group, girl's group and small size preference group.

- According to the result of priori analysis, **gender** is a significant factor to consider
  for segmentation.

- By developing new product lines, EarlyRiders can occupy **more than 80%** of the market.

- Overall, EarlyRiders can earn over $800,000 in five years.

Final Recommendation:
- Plan A: Launch profile 3 and profile 15 in Year1 and change to profile 4 and profile 16 in Year 2.
- Plan B: Gain market share step by step by changing product line every year from Year 1 to Year 4.

Segmentation

Post-hoc analysis shows three distinct groups considering size, style and motion.
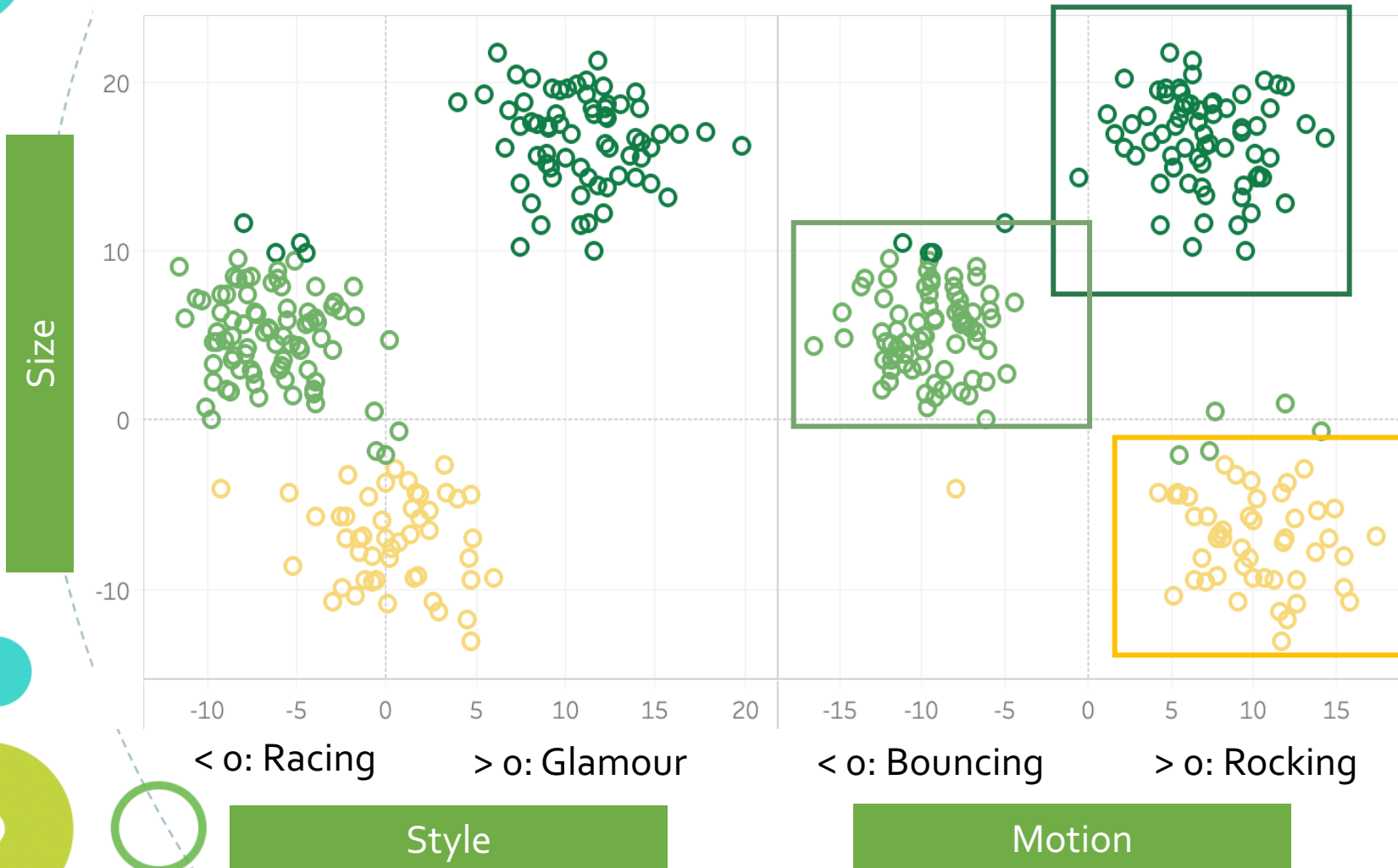
Segment 1

Price: Low   Size: Large

Motion: Bouncing

Style: Racing

Segment 2

Price: Low   Size: Large

Motion: Rocking

Style: Glamorous

Segment 3

Price: Low   Size: Small

Motion: Rocking

Style: No Preference

Segmentation

Boys and girls have different preferences, which represent *segment 1* and *segment 2* in post-hoc analysis.

Segments' Preference						
	Age	**Gender**	**Price**	**Size**	**Motion**	**Style**
A	2 years old	Boy	Low	Large	No Preference	Racing
B	3-4 years old	Boy	Low	Large	Bouncing	Racing
C	2 years old	Girl	Low	Large	Rocking	Glamorous
D	3-4 years old	Girl	Low	Large	Rocking	Glamorous

Segment 1	Segment 3	Segment 2

Ideal Product

Segment 1	Segment 3	Segment 2
Profile 2 Profile 6 Profile 10	Like Small Size Product (No gender/age difference)	Profile 6 Profile 10 Profile 14 Profile 15

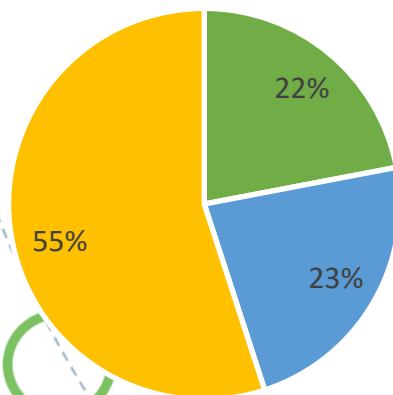* Ideal products do not include large but cheap horses.

Market Analysis

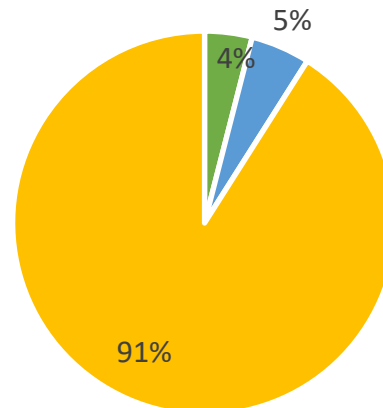EarlyRiders's current product lines do not meet market needs.

Current Situation

	EarlyRiders		Competitor
Price	$139.99	$139.99	$139.99
Size	18"	18"	26"
Motion	Rocking	Rocking	Rocking
Style	Glamorous	Racing	Racing

Market Share
(Current)

22%
23%
55%

Market Share
(If the competitor lower the price)

5%
4%
91%

■ Product 1   ■ Product 2   ■ Competitor Product   ■ Product 1   ■ Product 2   ■ Competitor Product

Strategy

Target both girls and boys groups. Launch 26" Bouncing Glamorous.

Provide small size horse, since the competitor do not sell small toy horse.

Price high first. If competitors lower its price, can respond by lowering prices as well.

Take over the market step by step. Competitors may not respond to the smaller change of market share.

Market Simulation: Plan A

Launch profile 3 and profile 15 in Year1 and change to profile 4 and profile 16 in Year 2.

Market Share Analysis

		Profile 3	Profile 4	Profile 5	Profile 7 (Competitor Origin)	Profile 8 (Competitor Respond)	Profile 13	Profile 15	Profile 16	Profit
Year 0	Current: 5 &13			0.22	0.570		0.21			
Year 1	Launch: 3 &15	0.385			0.17			0.445		$198,869.1
Year 2	Launch: 4&16		0.355			0.18			0.465	$152,231
Year 3	Launch: 4&16		0.355			0.18			0.465	$456,693
Year 4	Launch: 4&16		0.355			0.18			0.465	$456,693
Year 5	Launch: 4/16		0.355			0.18			0.465	$456,693

- **Competitor's Response:**   Year 2 Lower Price

- **Cannibalization:**   No cannibalization

- **Total profit for five years:** $807,793.1

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Market Simulation: Plan B

Gain market share step by step by changing product line every year from Year 1 to Year 4.

Market Share Analysis

		Profile 2	Profile 5	Profile 7 (Competitor Origin)	Profile 8 (Competitor Respond)	Profile 11	Profile 13	Profile 15	Profile 16	Profit
Year 0	Current: 5 &13		0.22	0.570			0.21			
Year 1	Launch: 7&11			0.425		0.575				$160,552.4
Year 2	Launch: 7&2	0.660		0.34						$170,365.8
Year 3	Launch: 2 &15	0.625		0.04				0.355		$234,621.9
Year 4	Launch: 2&16	0.325			0.255				0.42	$296,422.6
Year 5	Launch: 2&16	0.325			0.255				0.42	$296,422.6

- **Competitor's Response:**   Year 2 & Year 3: No response   Year 4 lower price
- **Cannibalization:**   No cannibalization
- **Total profit for five years:** $861,962.7

Market Simulation: Sensitivity Analysis for Plan B

The competitor may notice the decreasing trend of market share and respond earlier than expected.

Market Share Analysis

	Profile 2	Profile 5	Profile 7	Profile 8	Profile 11	Profile 13	Profile 15	Profile 16
Year 0		0.22	0.570			0.21		
Year 1			0.425		0.575			
Year 2	0.660		0.34					
Year 3	**0.335**			**0.445**			**0.22**	
Year 4	0.325			0.255				0.42
Year 5	0.325			0.255				0.42

Competitor's Response

Year 2: No response

Year 3: Lower price

Cannibalization

Cannibalization in Year 3

Profit

Year 1: $160,552.4   Year 2: $170,365.8   Year 3: $118,599.3   Year 4 & Year 5: $296,422.6

Total profit for five years: $745,940.1

Sensitivity Analysis

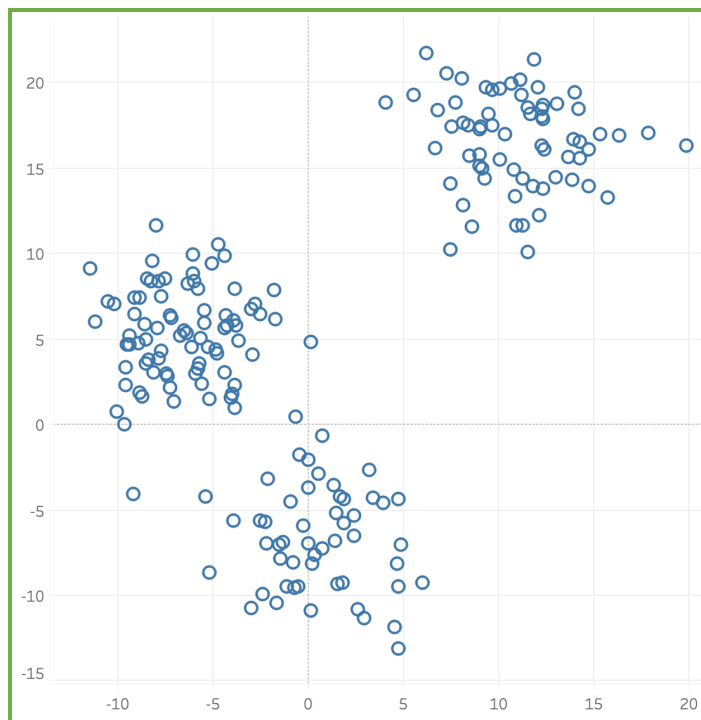**Uncertainty:** 60% probability that the competitor will not respond in Year 3; 40% probability otherwise.

Total profit for five years: $861,962.7*60%+ $745,940.1*40% = $815,553.7

Appendix: Post-Hoc Analysis

Appendix: Priori Analysis
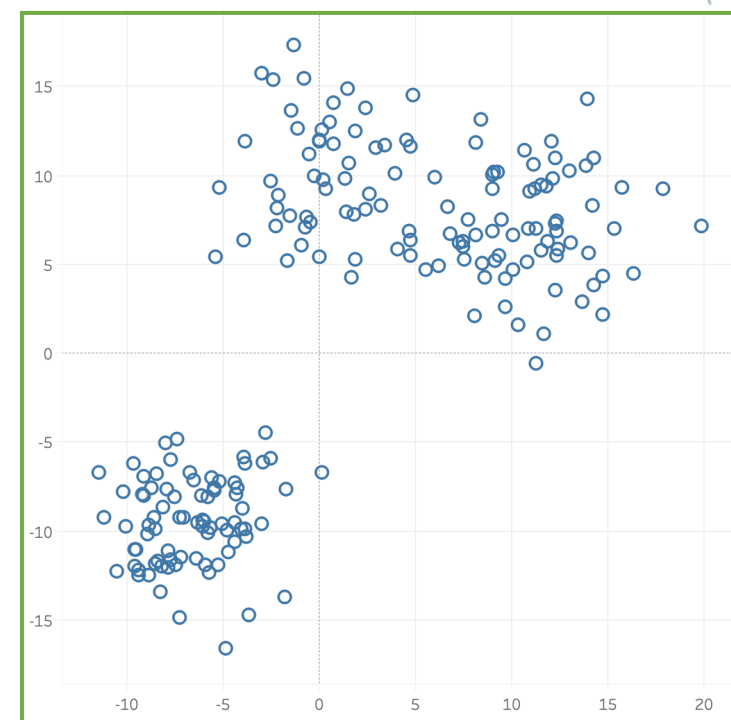
Segment Part-Utility Analysis

Segment	Age	Gender	Price	Size	Motion	Style
1	2 years old	male	16.1093	2.2297	0	-1.5307
2	3-4 years old	male	16.1093	5.9586	-3.654	-1.5307
3	2 years old	female	12.5368	5.6494	4.142	4.1931
4	3-4 years old	female	12.5368	9.3783	0.488	4.1931

- **Coefficient Summary**
  - Baseline: Price High, Size Small, Bouncing, Racing
  - Large than 0: prefer the opposite one
  - Smaller than 0: like the baseline

Appendix: Profit Calculation for Plan A

Profit Analysis for Plan A				
	Profit from Product 1	Profit from Product 2	Cost	Profit
Year 1	126,925.90	125,276.50	53,333.33	198,869.07
Year 2	93,094.07	99,136.90	40,000	152,230.97
Year 3	93,094.07	99,136.90	40,000	152,230.97
Year 4	93,094.07	99,136.90	40,000	152,230.97
Year 5	93,094.07	99,136.90	40,000	152,230.97
Total Profit				807,792.95

Appendix: Profit Calculation for Plan B

Profit Analysis for Plan B

	Profit from Product 1	Profit from Product 2	Cost	Profit
Year 1	187,219.10		26,666.67	160,552.43
Year 2	197,032.50		26,666.67	170,365.83
Year 3	187,103.80	94,184.75	46,666.67	234,621.88
Year 4	98,597.96	89,613.33	40,000	148,211.29
Year 5	98,597.96	89,613.33	40,000	148,211.29
Total Profit				**861,962.72**

Profir Analysis for Sensitivity Analysis

	Profit from Product 1	Profit from Product 2	Cost	Profit
Year 1	187,219.10		26,666.67	160,552.43
Year 2	197,032.50		26,666.67	170,365.83
Year 3	103,832.30	61,433.67	46,666.67	118,599.30
Year 4	98597.96	89613.33	40,000	148,211
Year 5	98597.96	89613.33	40,000	148,211
Total Profit				**745,940.14**