

An abstract painting of a horse's head and neck in shades of blue, teal, and gold. The horse is depicted in profile, facing right. The background consists of swirling, expressive brushstrokes in various shades of blue and gold.

Toy Horse Conjoint Experiment Case Assignment

MSBA Cohort 2 Group 22

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Benefit Segmentation

Decision-oriented Analysis

□ Context

- Underperforming product set
- Fierce competition
- Undefined consumers

□ Tool

- Conjoint Analysis

□ Analytical Goals

- Benefit segmentation
- Product revitalization

□ Data

- Survey data
 - 200 respondents

□ Method

- A priori segmentation
 - Demographic information
- Post-hoc segmentation
 - Individual part-utilities

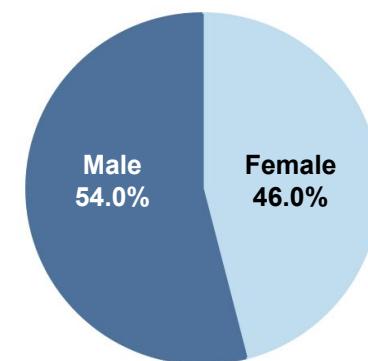
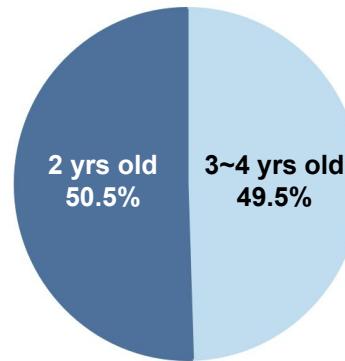
Product Profiles

Price	Height	Motion	Style
\$139.99	18"	Rocking	Glamorous
\$119.99	26"	Bouncing	Racing

4 attributes

16 profiles

Demographic Information of Respondents



- A **quota sample**
- Equal weight on the **age range**
- Can **represent the population** of buyers

Source: respondentData

Market Segmentation

Priori Segmentation

Age & Gender

Coefficient	P-Value
price:factor(seg)2	0.008761 **
price:factor(seg)3	0.866651
price:factor(seg)4	0.334917
size:factor(seg)2	0.047452 *
size:factor(seg)3	0.025311 *
size:factor(seg)4	4.04e-05 ***
motion:factor(seg)2	0.001331 **
motion:factor(seg)3	0.271504
motion:factor(seg)4	0.835281
style:factor(seg)2	0.000225 ***
style:factor(seg)3	0.888958
style:factor(seg)4	0.005487 **

Gender

Coefficient	P-Value
price:factor(seg)2	0.01454 *
size:factor(seg)2	0.00293 **
motion:factor(seg)2	0.00520 **
style:factor(seg)2	1.91e-05 ***

Age

Coefficient	P-Value
price:factor(seg)2	0.37977
size:factor(seg)2	0.00239 **
motion:factor(seg)2	0.02310 *
style:factor(seg)2	0.9502

Findings:

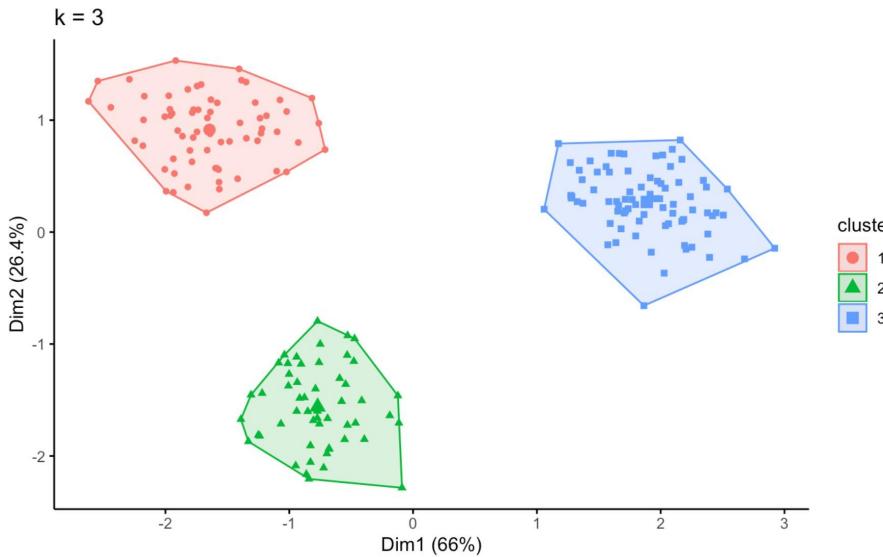
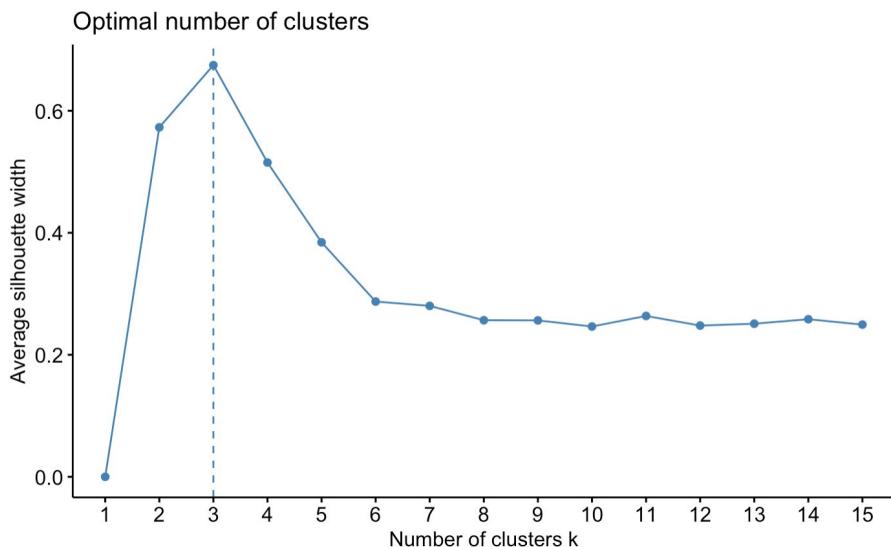
1. Age & Gender Segmentation **insignificant**.
2. Age Segmentation **insignificant**.
3. Gender Segmentation is **significant**.



Gender Segmentation

Market Segmentation

Benefit Segmentation



Optimal Number of Segments: 3

highest average silhouette width

three clear, discrete group

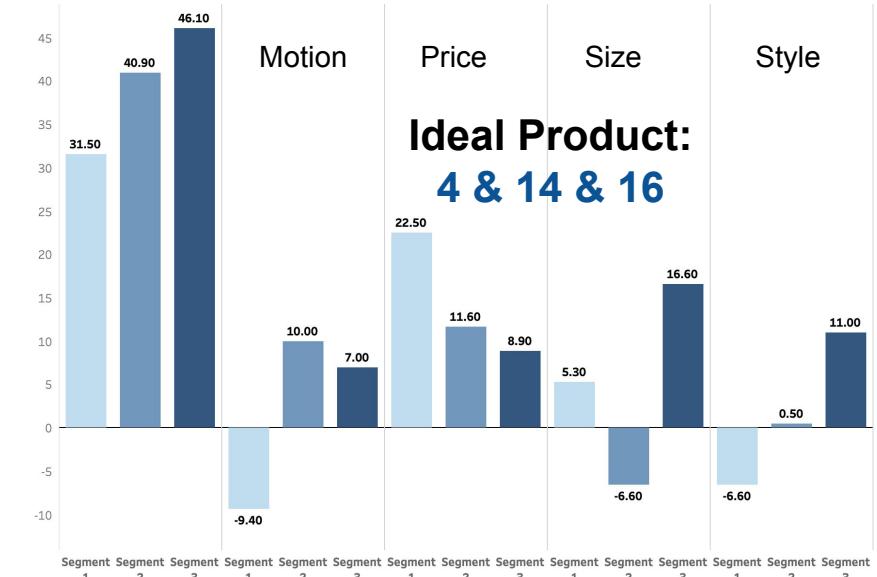
Market Segmentation

Conclusion

Priori Segmentation



Benefit Segmentation



The optimal product set from two segmentation are **mostly consistent**.
These products are **recommended inputs** for the scenarios in **Market Simulation**.

Market Simulation

Methodologies

Simulate **market share** and **profitability** in 4 scenarios, in which we launch product:

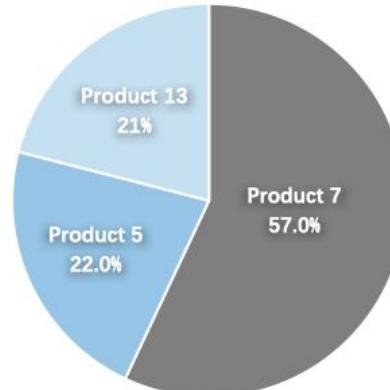
- (1) **5 and 13** (current market)
- (2) **4, 14 and 16** (ideal products from post-hoc analysis)
- (3) **4 and 16** (ideal products from priori segmentation)
- (4) **14 and 16**

Competitor's response: lower their price to \$119.99 to keep market share.

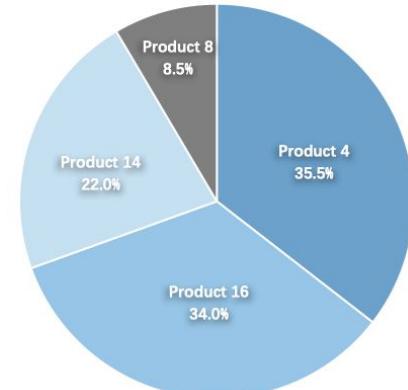
Findings:

In **Scenario 2** with product 4, 14 and 16, we yield the largest market share.

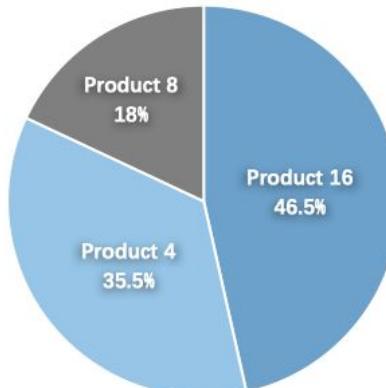
Market Share



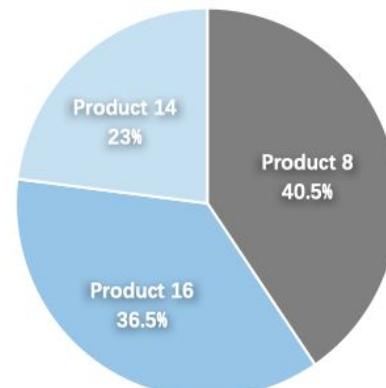
Scenario 1



Scenario 2



Scenario 3



Scenario 4

Market Simulation

Scenario 1 (current market)

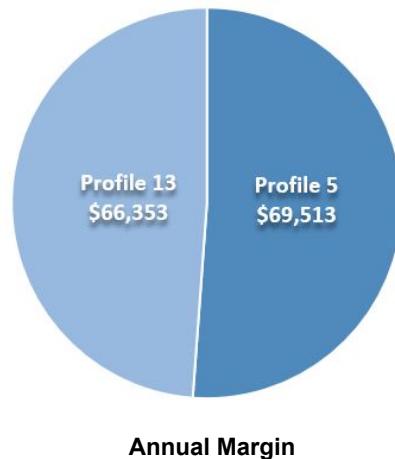
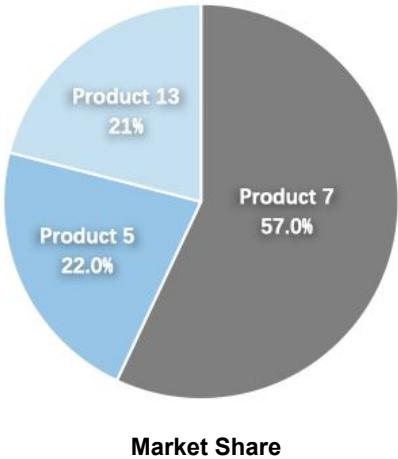
Our Products:

profile 5: 18" Glamorous Rocking Horse at \$139.99

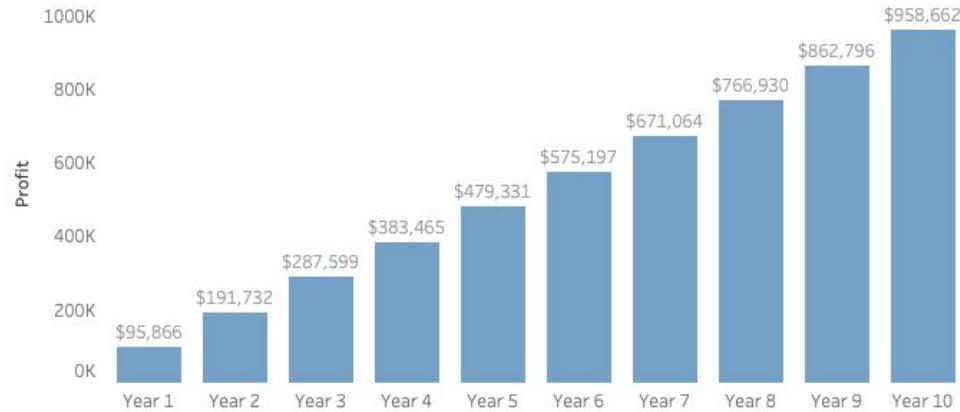
profile 13: 18" Racing Rocking Horse at \$139.99

Competitor's Product:

profile 7: 26" Racing Rocking Horse at \$139.99



Profitability over 10 years



Findings:

1. Competitor currently takes up the largest proportion of market share (57%).
2. Profile 5 and profile 13 has an annual margin of \$69,512 and \$66,353 respectively.

Market Simulation

Scenario 2 (ideal products from post-hoc analysis)

Our Products:

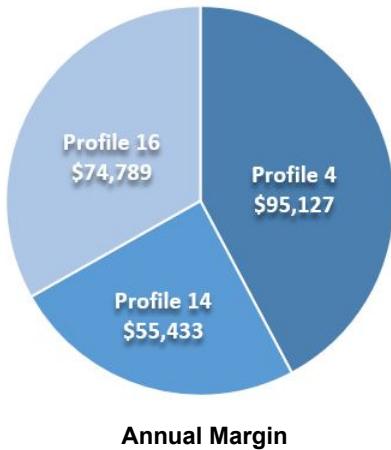
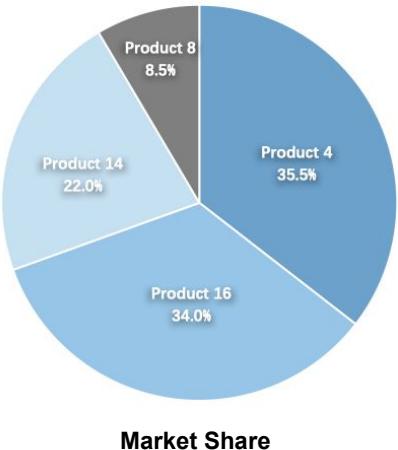
profile 4: 26" Racing Bouncing Horse at \$119.99

profile 14: 18" Racing Bouncing Horse at \$119.99

profile 16: 18" Glamorous Rocking Horse at \$119.99

Competitor's Product:

profile 8: 26" Racing Rocking Horse at \$119.99



Profitability over 10 years



Findings:

Profile 4 accounts for the largest market share (35.5%), and the greatest proportion of profit annually, with a total margin of \$95,127.

Market Simulation

Scenario 3 (ideal products from priori segmentation)

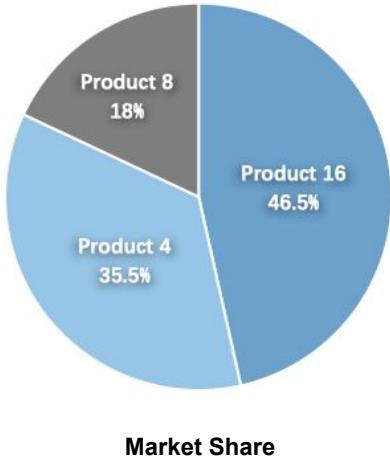
Our Products:

profile 4: 26" Racing Bouncing Horse at \$119.99

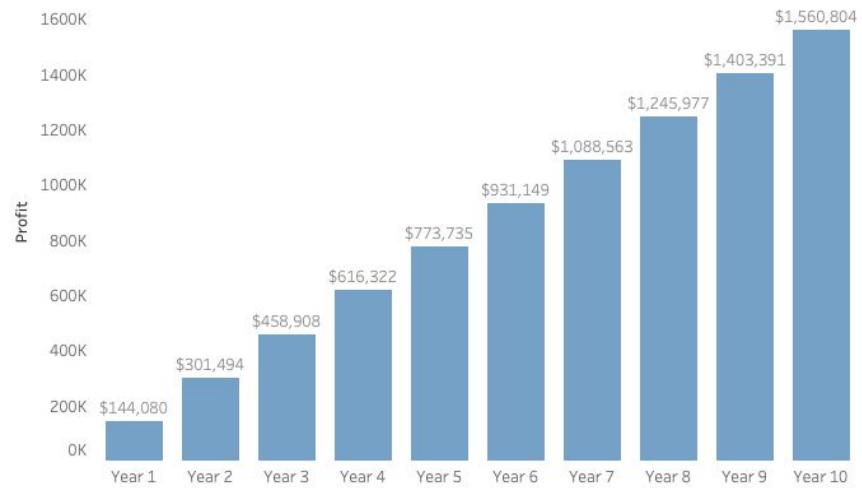
profile 16: 18" Glamorous Rocking Horse at \$119.99

Competitor's Product:

profile 8: 26" Racing Rocking Horse at \$119.99



Profitability over 10 years



Findings:

Profile 16 accounts for the largest market share(46.5%), and the greatest proportion of profit annually, with a total margin of \$102,285.

Market Simulation

Scenario 4:

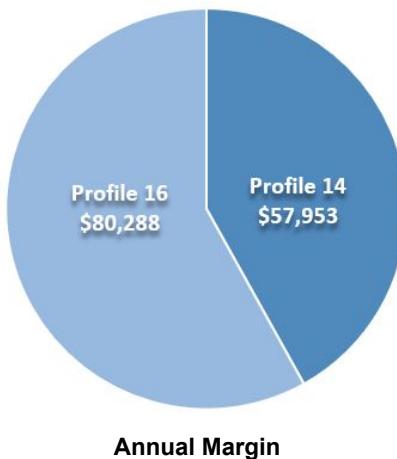
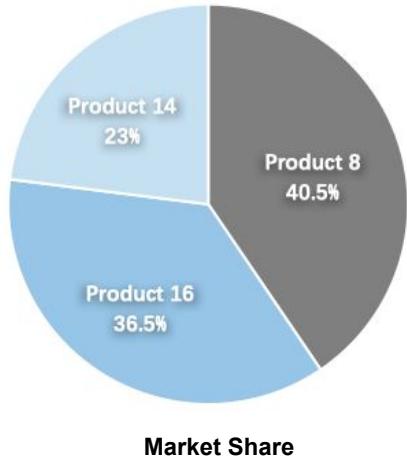
Our Products:

profile 14: 18" Racing Bouncing Horse at \$119.99

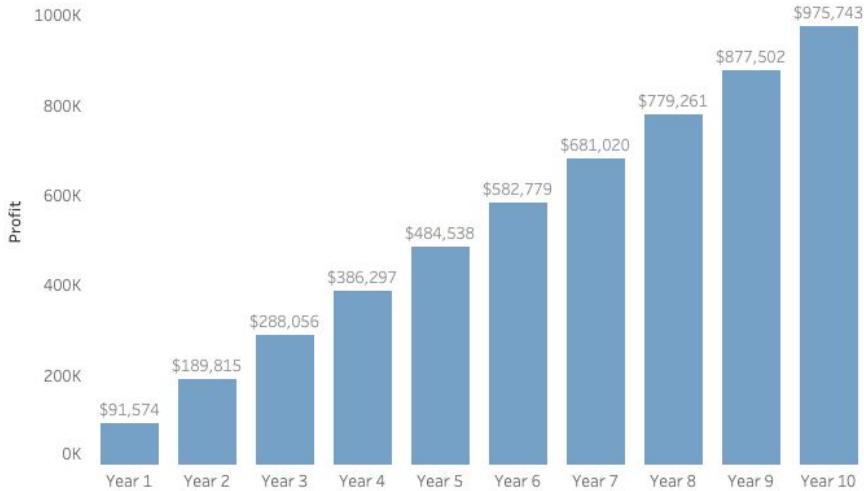
profile 16: 18" Glamorous Rocking Horse at \$119.99

Competitor's Product:

profile 8: 26" Racing Rocking Horse at \$119.99



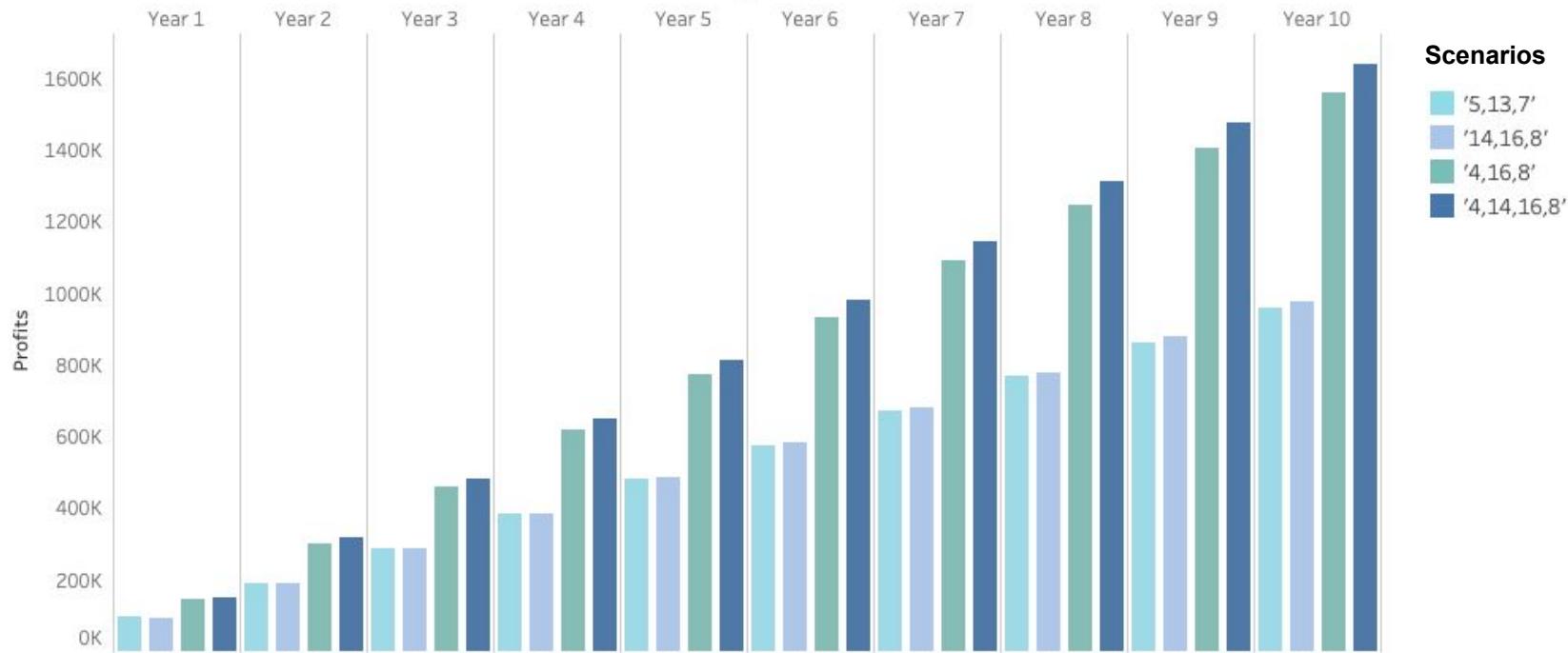
Profitability over 10 years



Findings:

1. Competitor's product takes up the largest proportion of market share (40.5%).
2. Profile 16 and profile 14 has an annual margin of \$80,288 and \$57,953 respectively.

Comparison for Profitability



Offering profile 4, 14 and 16 yields the highest profitability!

SUMMARY

Market Segmentation

Priori Segmentation

2 Customer Segments

Preferred Product:
4 & 16

Benefit Segmentation

3 Customer Segments

Preferred Product:
4 & 14 & 16

Market Simulation

Scenario Combination
Competitor Response

Market Share
Profitability
(short-run, long-run)

Recommended Product Line

Most Profitable Scenario

Competitor: 8
Our Products:
4 & 14 & 16

\$119.99

26" Racing Bouncing Horse

\$119.99

18" Racing Bouncing Horse

\$119.99

18" Glamorous Rocking Horse