

# Monte Carlo Simulation Report

All 7 Strategies - Comprehensive Analysis

## Simulation Configuration

Total Simulations: 3,500  
Unique Matchups: 35  
Simulations per Matchup: 100  
Rounds per Game: 8  
Teams per Game: 4

## Strategy Performance Rankings

Strategy	Win Rate	Wins/Games	Avg Revenue	Brand Value	Avg Rank
brand	100.0%	2000/2000	\$1467.8M	41.2%	1.00
balanced	50.0%	1000/2000	\$1468.7M	40.7%	1.50
premium	20.0%	400/2000	\$1448.3M	37.2%	2.00
rd-focused	5.0%	100/2000	\$1436.1M	35.3%	2.50
volume	0.0%	0/2000	\$1432.4M	35.5%	3.00
automation	0.0%	0/2000	\$1427.3M	34.1%	3.50
cost-cutter	0.0%	0/2000	\$1400.0M	30.1%	4.00

# Head-to-Head Win Rates

(Row strategy beats Column strategy)

	VOL	PRE	BRD	AUT	BAL	R&D	CUT
VOL	-	0%	0%	100%	0%	0%	100%
PRE	100%	-	0%	100%	0%	100%	100%
BRD	100%	100%	-	100%	100%	100%	100%
AUT	0%	0%	0%	-	0%	0%	100%
BAL	100%	100%	0%	100%	-	100%	100%
R&D	100%	0%	0%	100%	0%	-	100%
CUT	0%	0%	0%	0%	0%	0%	-

## Balance Assessment

[FAIL] Max Win Rate: 100.0% (target: <60%)  
[FAIL] Diversity Score: 0.528 (target: >0.7)  
[PASS] Viable Strategies: 4/7 (target: >=4)  
[PASS] Revenue Spread: 1.05x (target: <2.0x)  
[FAIL] All Strategies Can Win: No

## Strategy Tier List

S-Tier (>40%): brand, balanced  
A-Tier (25-40%): None  
B-Tier (15-25%): premium  
C-Tier (5-15%): None  
D-Tier (<5%): rd-focused, volume, automation, cost-cutter

# Strategy Descriptions

## **Volume**

High production, competitive pricing, Budget/General focus

## **Premium**

High quality products, premium pricing, Professional/Enthusiast focus

## **Brand**

Heavy marketing investment, sponsorships, brand building

## **Automation**

Early automation upgrade, factory efficiency focus

## **Balanced**

Moderate investment across all areas, diversified approach

## **Rd-focused**

Maximum R&D budget, continuous product improvements

## **Cost-cutter**

Minimal expenses, heavy discounts, conservative spending

# Simulation Parameters

## Brand Mechanics

Decay Rate: 6.5% per round  
Max Growth/Round: 2.0%  
Score Formula:  $\sqrt{\text{brandValue}} * \text{weight}$

## Segment Scoring Weights

Budget: Price=50, Quality=22, Brand=8, ESG=8, Features=12  
General: Price=32, Quality=28, Brand=10, ESG=10, Features=20  
Enthusiast: Price=20, Quality=40, Brand=10, ESG=10, Features=20  
Professional: Price=15, Quality=42, Brand=10, ESG=16, Features=17  
Active Lifestyle: Price=25, Quality=32, Brand=12, ESG=10, Features=21

## ESG Mechanics

High Tier: Score 700+ = +5% revenue  
Mid Tier: Score 400-699 = +2% revenue  
Low Tier: Score <400 = 1-8% penalty