

FloraPark Simulation to Teach Supply Chain Contracts & Collaboration

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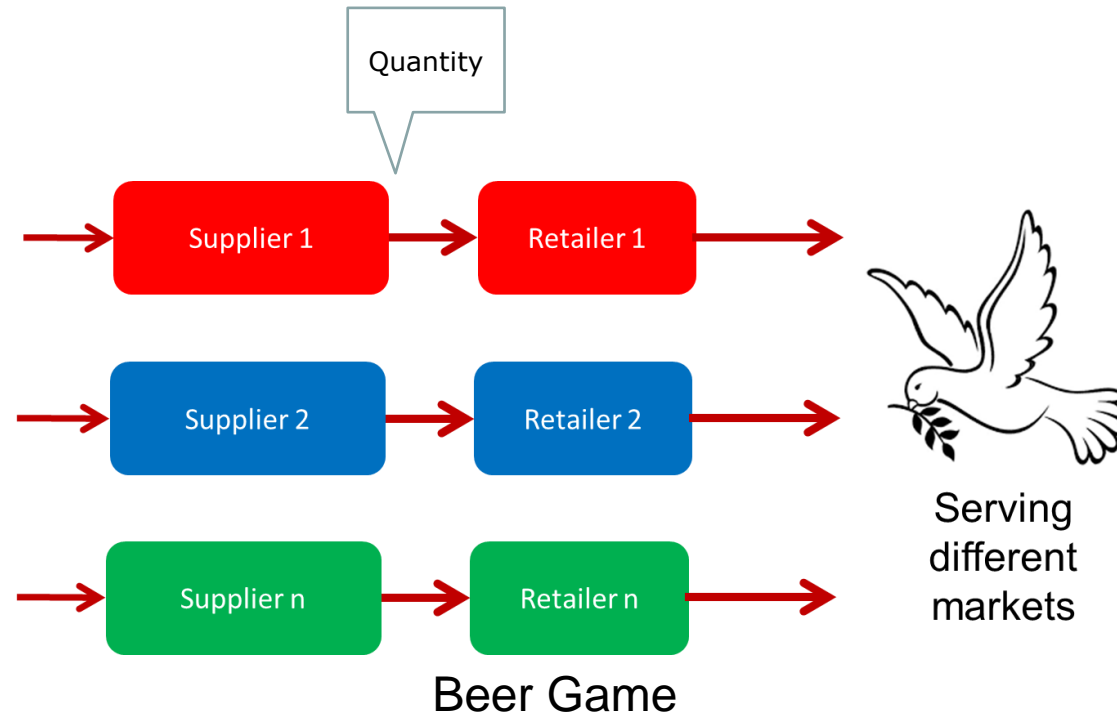
A Supply Chain **Strategy** Game

- A supply chain contracts simulation: **push, pull, advanced purchasing discount.**
- A **total business game**: Integrate supply chain and marketing decisions, strategic thinking, negotiation and competition.



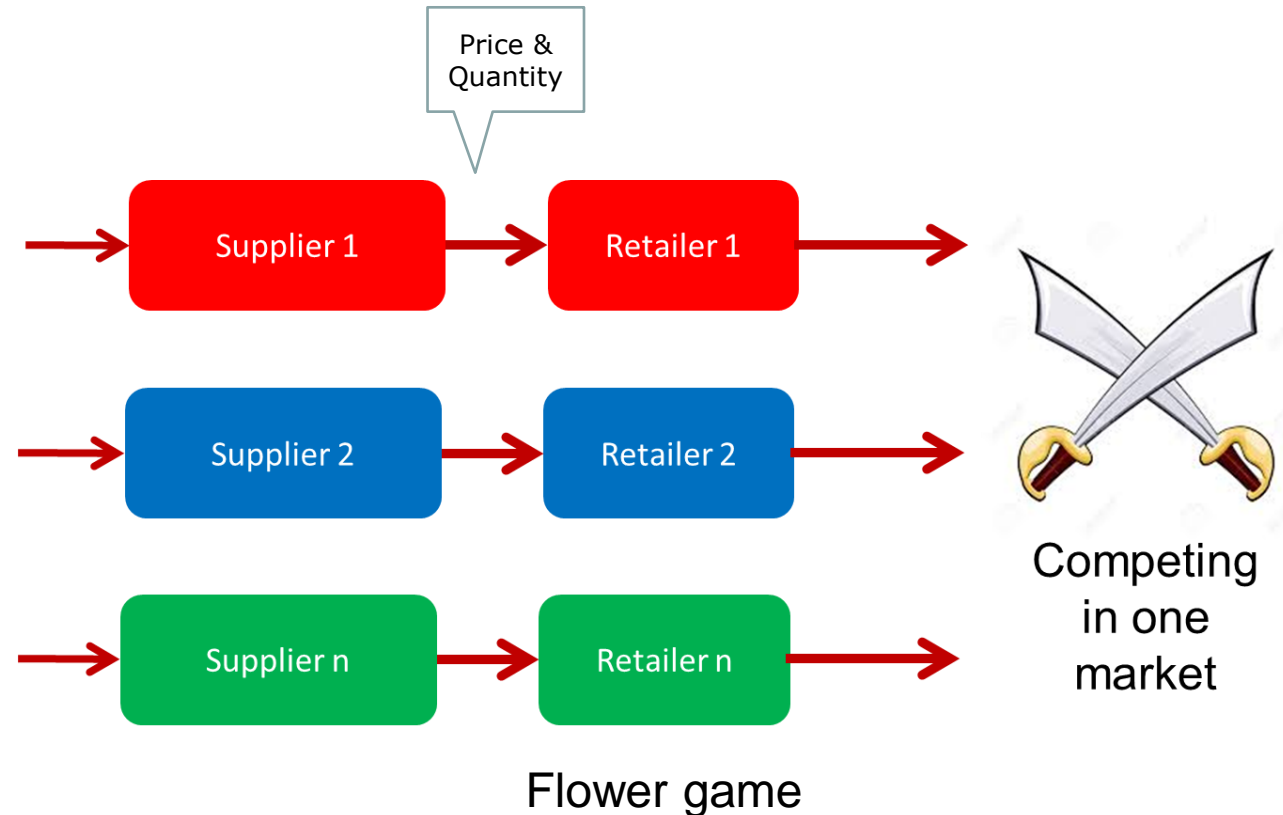
The Beer Game

- Beer game simulates **order quantities** in **isolated** supply chains.
- In practice, the trading partners in one supply chain negotiate not only quantities but also **prices**, which leads to a **conflict of interests**.



The Flower Game

- Flower game simulates both order quantities and prices in **competing** SCs.
- They must **collaborate with & fight against each other simultaneously!**





Beer Game



Flower Game

Teaching Objective

How to collaborate to win the competition against other supply chains while defending yourself against your “worst” enemy: your partner?

Key Lessons

- If you fight your partner, your supply chain cannot win.

Live as one or die as two



- Even if your supply chain wins, you may not.

**You may sacrifice yourself
for your partner's success**



Subjects / Topics Covered

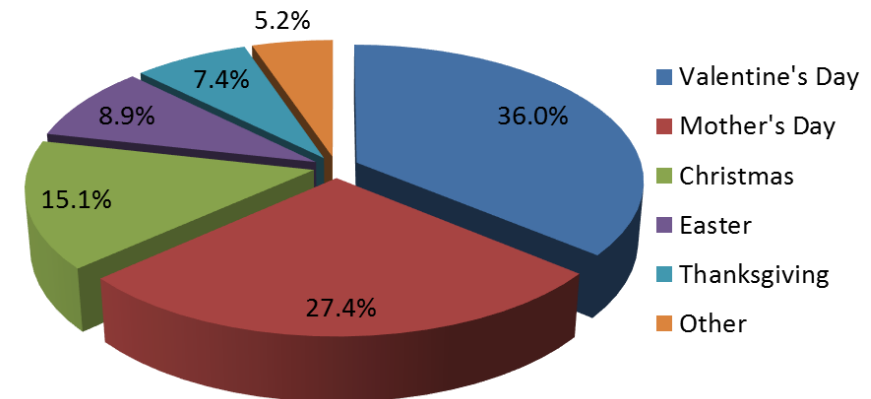
- Supply chain collaboration via contracts
- Supply chain and marketing interfaces
- Supply chain competitive strategies
- International supply chains
- Negotiation and teamwork
- Strategic thinking



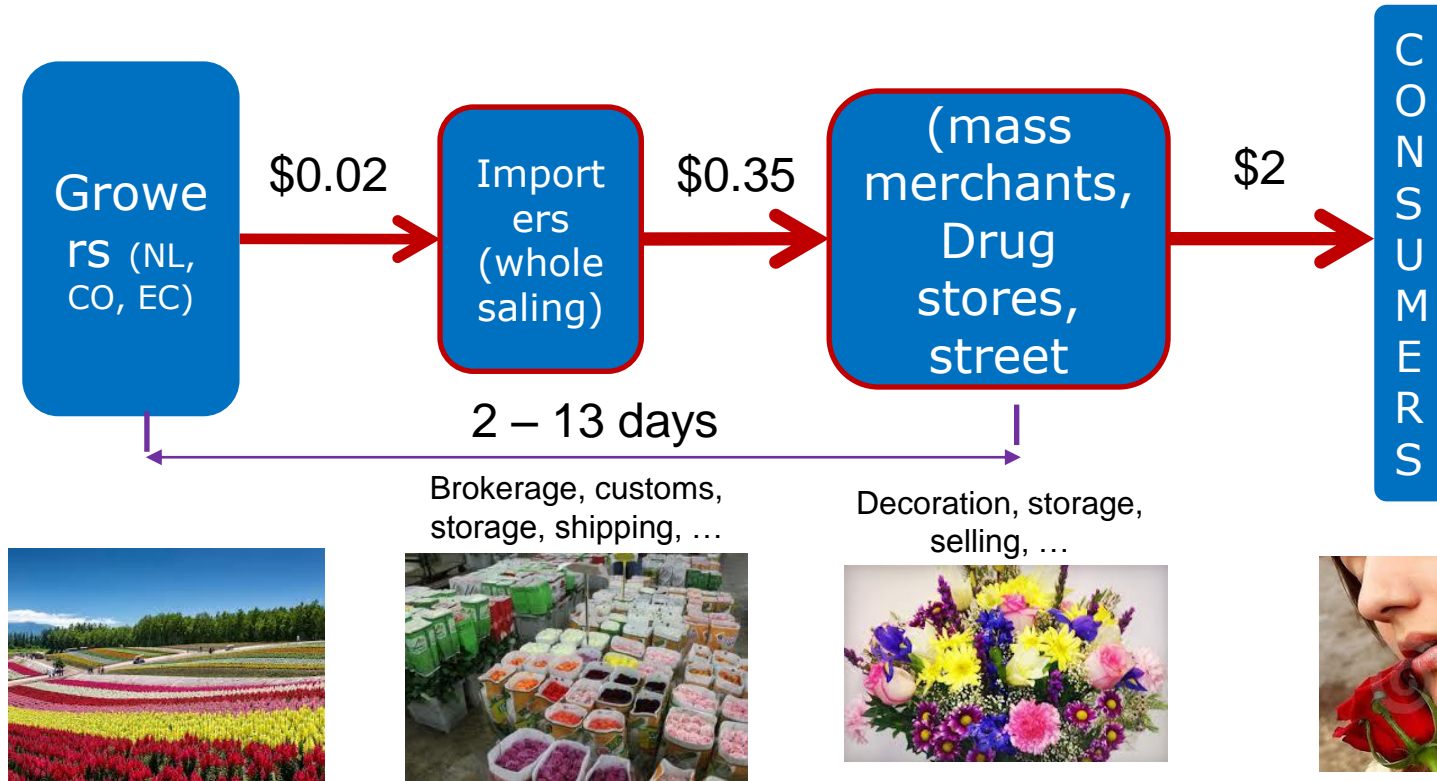
Simulate Int'l Fresh Flower Supply Chains

- Perishable items
- Long lead times and huge yield losses
- Highly seasonable and unpredictable demand

- Relates to everyone
- Intensive market competition



Fresh Flower Supply Chain



Game Setup: A Competitive Environment

Multiple fresh-cut
flower supply chains



Importer

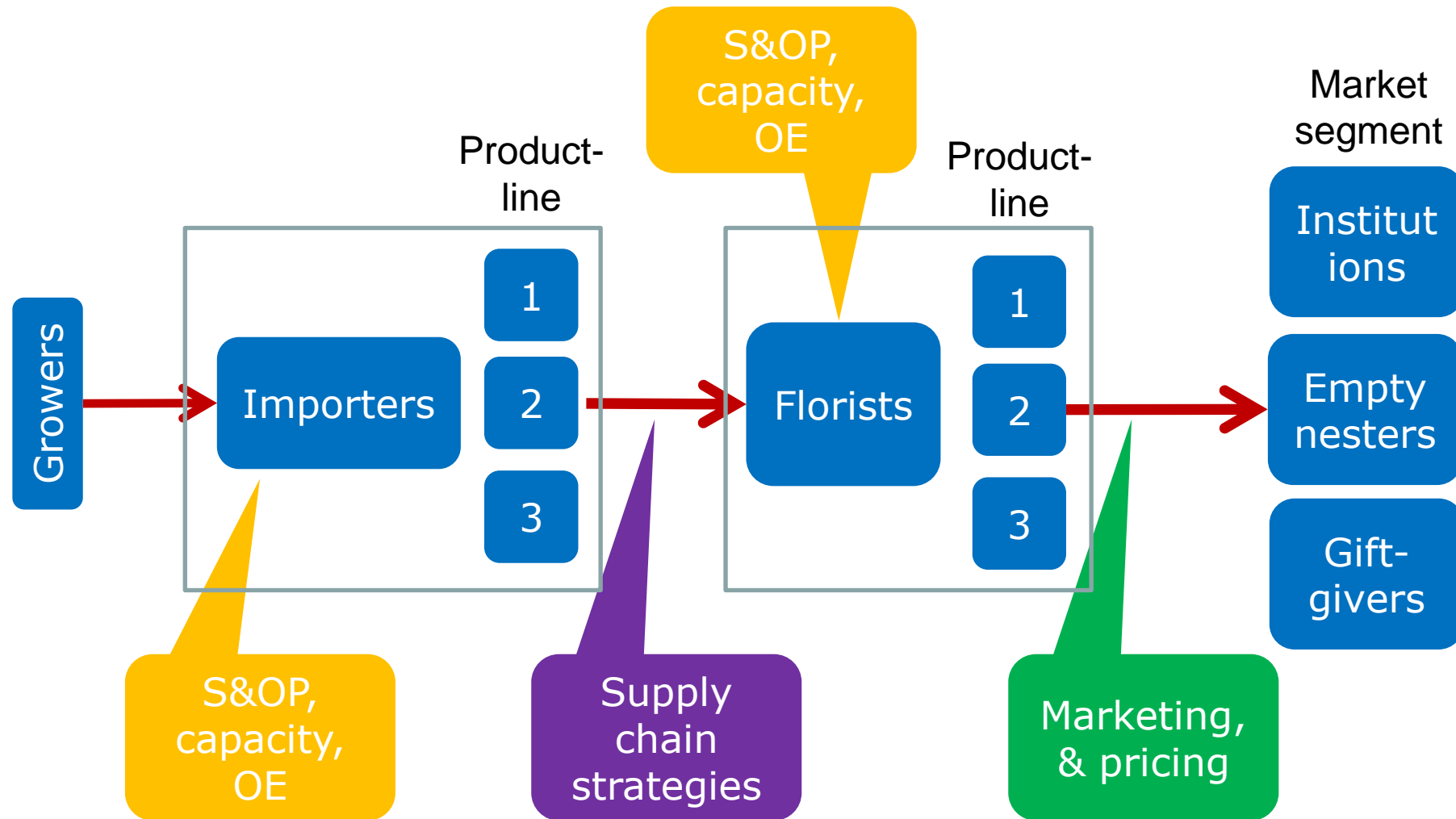


Florist

Importers **secure** supplies, florists
generate demand

Compete for a share
of the **same** market

Supply Chain Partners & Actions



Sequence of Events

Florist places the 1st order, x_1 , at price w_1 .
Importer then places an order to growers, y

Florist may place the 2nd order at price w_2 .
Importer fulfills as much as inventory is available



Supply Chain Contracts

- Advanced order (push contract): florist holds inventory and waits for demand
- Last-minute order (pull contract): florist pushes inventory to importer, orders as needed in season

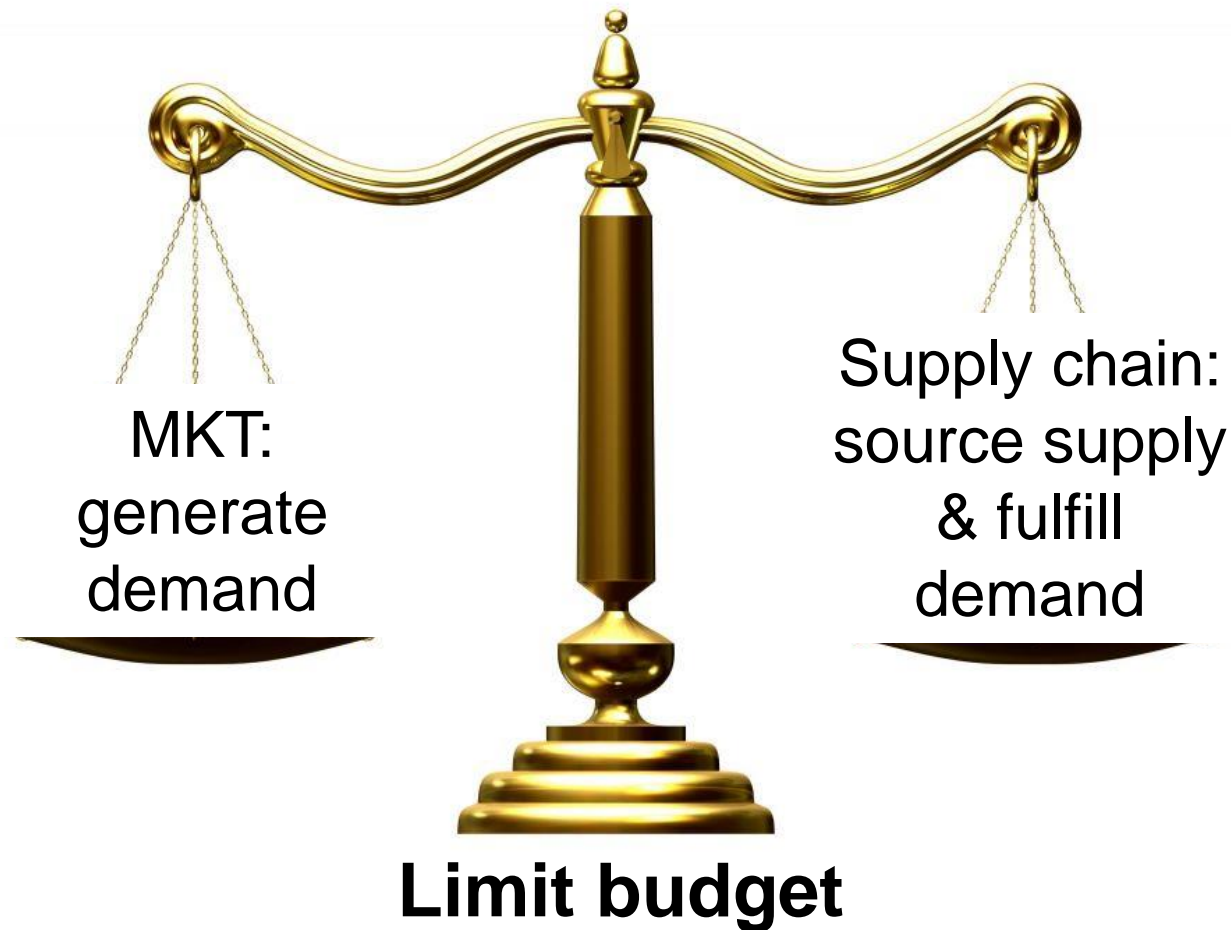
	Advanced order (Push)	Last-minute order (Pull)
Pros	Price discount & guaranteed supply	Less budget required, No inventory risk
Cons	High inventory risk, High budget requirement	Short supply & higher cost

- Hybrid strategy (Advanced-purchasing discount contract)

Screen Play (6-9 hours, In or Off-Class)

Lecture / Interactive Session	Before Game Round
Game intro. & supply chain challenges	1 st
Strategic thinking, supply chain and marketing interfaces	2 nd
Teamwork and group decisions	3 rd
Coordinate supply chain via price & quantity contracts	4 th
Competitive supply chain strategies	5 th
Negotiation, game trajectory	6 th
Reflections – From Game to Practice	Reality-show

Supply Chain & Marketing Interfaces





WELCOME TO FLORAPARK*

username

password

Login

[Forgot Password?](#)

* Designed by Dr. Yao Zhao, Professor of Supply Chain Management, Rutgers University, USA, for collaborative & competitive supply chain gaming.

Game Setup

Supply Chain "red"

Supply Chain "blue"

Number of Groups (Supply Chains):

Number of Rounds (Periods):

Florist E-mails (Seperated by ';'. To send login credentials to students. Check spam or trash if not received):

Importer E-mails (Seperated by ';'. To send login credentials to students. Check spam or trash if not received):

Budget Surplus For Florists (Extra budget on top of Period 0 spending, default = 32,000):

Budget Surplus For Importers (Extra budget on top of Period 0 spending, default = 16,000):

Period To Release Competitive Information to Players (default = 4):

Game Controls

Current Game (Refresh the Page If Necessary)

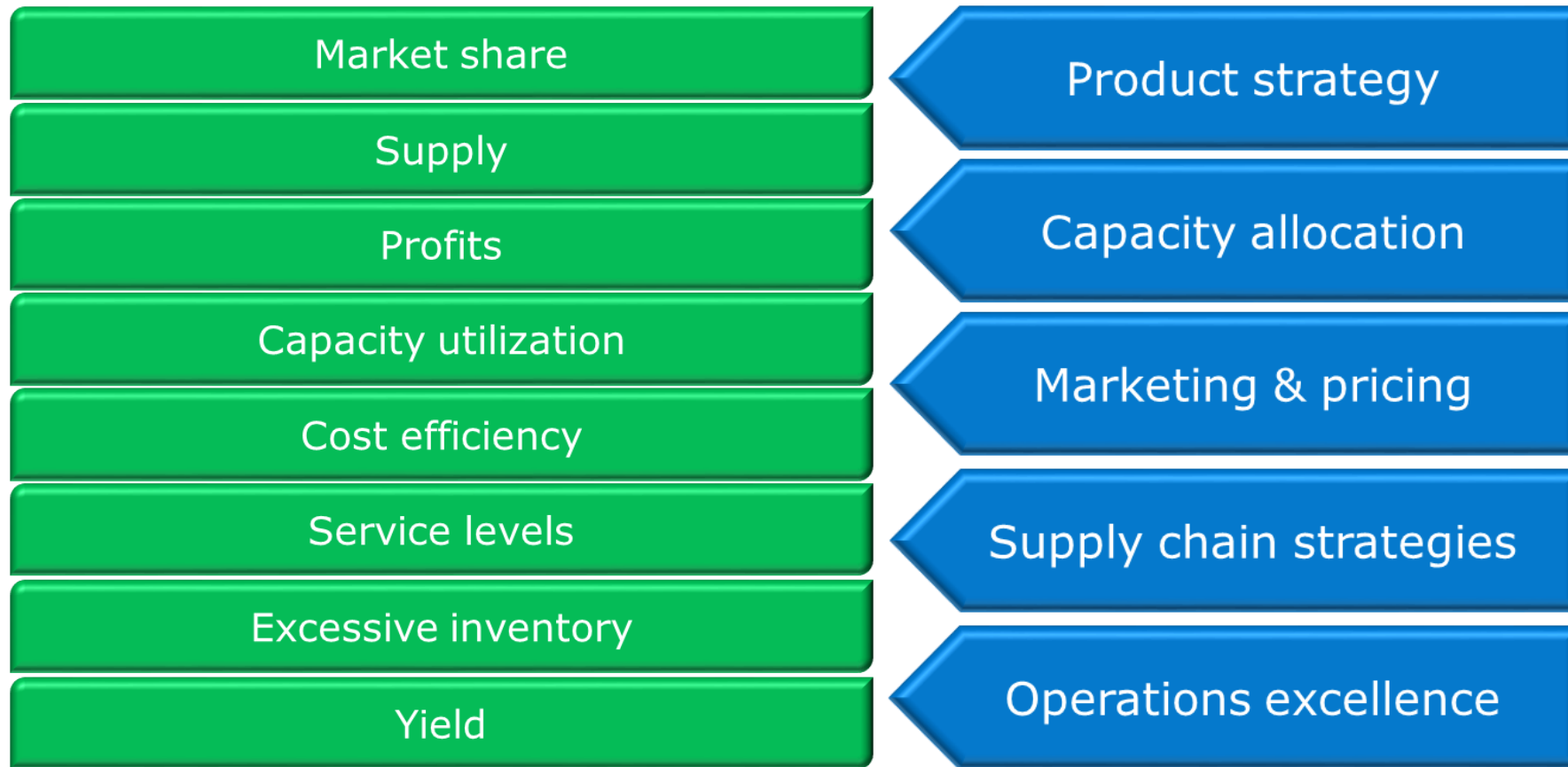
Input

Period	Item	Baseline	Feature	Exotic	Sum	Total Capacity
0	Capacity	400000	280000	120000	800,000	= 800,000
	Retail Price \$	0.25	2	8		
	x1	200000	140000	60000		
	w1 \$	0.05	0.3	0.9		
	w2 \$	0.0575	0.345	1.035		
1	Capacity					= 800,000
	Retail Price \$					
	x1					
	w1 \$					
	w2 \$					

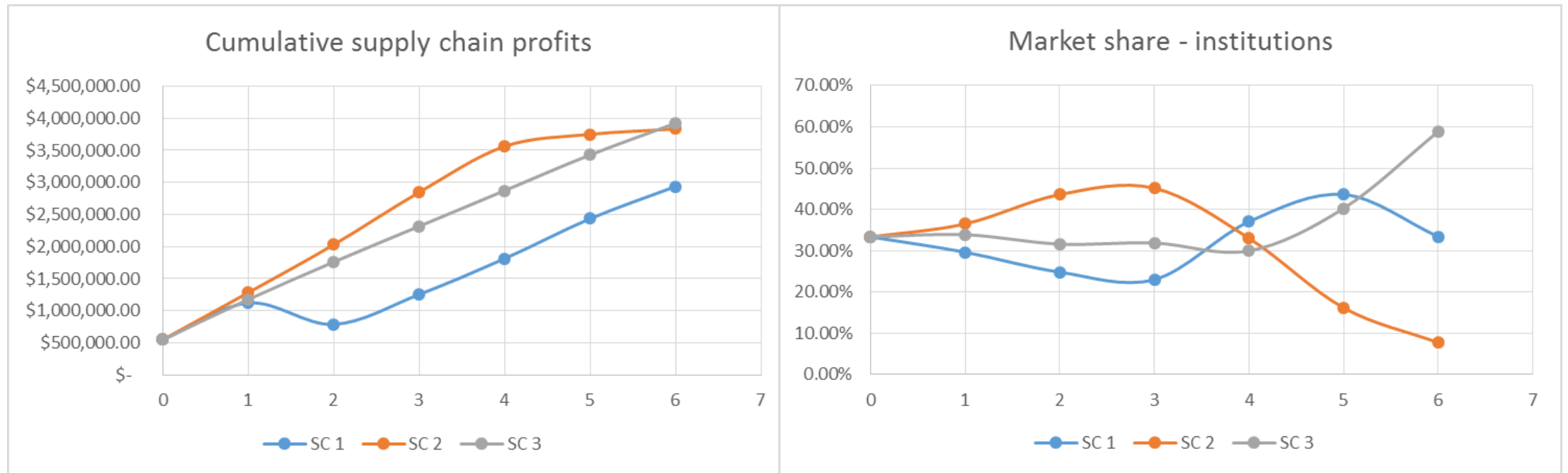
To be negotiated with importer

Period	OE	Mkt-Relationship	Mkt-Pro/Ads	Spending	Budget
0	10000	1000	1000	\$118,000.00	<= \$150,000.00
1					<= \$150,000.00

KPIs and Levers



Sample Game Trajectory



Supply chain 3 over-took the once leading supply chain 2 and won at the end by the advanced purchasing discount contract

The Winning Strategy (by Students)

- “Part of our supply chain strategy was for the importer to carry most of the inventory risk. Since we were carrying this risk, we were able to negotiate better x2 prices in order to be compensated for the risk. This was beneficial for the entire supply chain as it allowed the retailer to invest more in marketing. Their investment in marketing allowed them to obtain a significant percentage of the market share and to become extremely profitable. Since our retailer was profitable, they were able to pass on some of the profitability to us for holding their inventory. We were critical to each other’s success and our strategy would not work if both of us didn’t participate. Our combined strategy was greater than any individual strategies we could have.”

Student Feedback

- The most compelling insight:
 - “*The best part about the FloraPark simulation was the **conflicting motivations** between the firms in the supply chain. ... There must be a careful balance between **self-interested** actions to capture the maximum amount of value from the supply chain and **collaboration** to compete against the other supply chains. ...*”
- What do you like best about this course:
 - “*The supply chain strategy games [FloraPark] in second half of the course were **exceptional** learning experience*”



For more information

<https://yzhao12345.github.io/#flower>