15.760: Webvan

1. Admin/Intro: PeaPod: tomorrow night
2. What are the important features of the product/service offered by Webvan? How does it differ from competing offerings?.
3. In what sense must Webvan concurrently develop product & process?.
4. What are the key operations tasks that Webvan must accomplish?
5. Can you make sense out of their financial model?
6. Why use hubs & spokes?

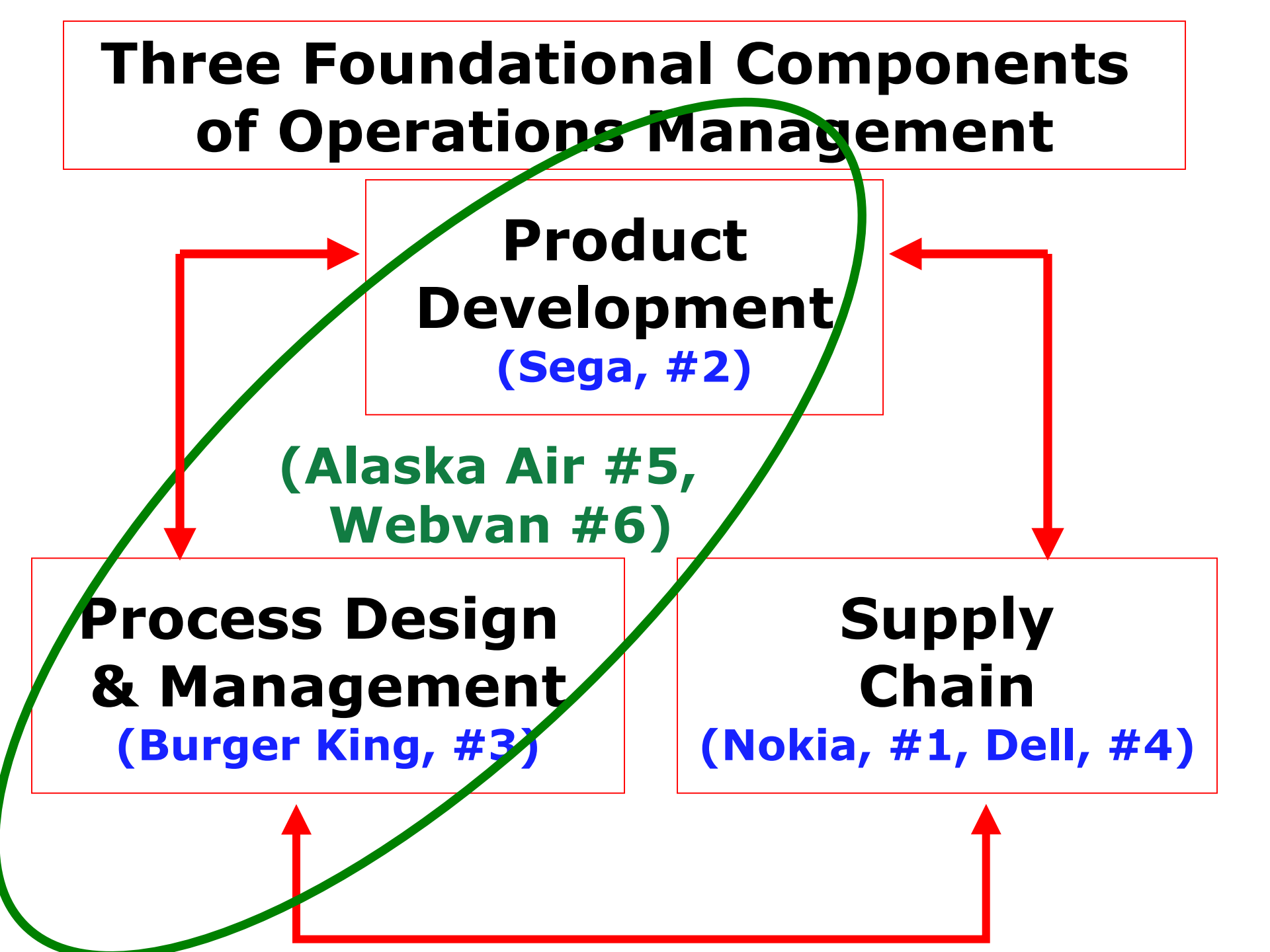
15.760: WEBVAN ASSIGNMENT

Take the position of a consultant to Webvan. Write a memo to the CEO of Webvan, providing him with your assessment of the Webvan operations model and business model -- *based solely on the information available in the case*. Include in your assessment some analysis of the value proposition to customers as well as the value proposition to investors. (I.e., how profitable will Webvan likely be?) (Max length: 1500 words & six supporting exhibits.)

We all know that Webvan went broke. Feel free to take the position either that the business could make money (and provide the assumptions and/or analysis and/or creative ideas that support your position) or that the business is hopeless. If you take the latter position, you still need to back up your assessment with an analysis of why you concluded what you did. (I.e., what *specifically* are the flaws in the business model or operations assumptions?)

Challenges of Service Interface: Grocery Stores vs. Webvan

- **Intangibility - customer expectations vs. perceptions**
  - **Grocery Stores: quality, selection, *ENVIRONMENT***
  - **Webvan: quality, selection, *DELIVERY***
- **Perishability - use it or lose it**
  - **Grocery Stores: fresh foods (produce, meats, baked goods)**
  - **Webvan: fresh foods & *TRUCK CAPACITY***
- **Heterogeneity - inherent variability of service & customer**
  - **Grocery: checkout people, counter people, customer needs**
  - **Webvan: *DELIVERY PERSON***
- **Simultaneity - services simultaneously produced & consumed**
  - **Grocery: presentation in the store**
  - **Webvan: *DELIVERY TO THE HOME***


Three Foundational Components of Operations Management
Product Development
(Sega, #2)
(Alaska Air #5, Webvan #6)
Process Design & Management
(Burger King, #3)
Supply Chain
(Nokia, #1, Dell, #4)

Three Foundational Components of Operations Management

Product Development
(Sega, #2)

(Alaska Air #5, Webvan #6)

Process Design & Managemen
(Burger King, #3)

Webvan Features
- selection
- price
- quality/freshness
- shop any hour
- never leave home
- choose delivery time
- save your time
- same day delivery
- fulfillment accuracy
- no lugging required

Grocery Store Features
- selection
- price
- quality/freshness
- shopping environment

Who has the advantage on each dimension?

Hub Operations for Webvan

1. **ASSUMPTIONS & ANALYSIS, CASE EXHIBIT 2**
   - **A. 50,000 SKU's**
   - **B. 2,920,000 orders/year**
   - **C. $103.00/order**
   - **D. ==> $300,000,000 revenue per hub per year**
   - **E. Requires 2920000/50000= 58 big trucks/year @ $100K = $5.8M**
     58x40x52=120640 hours/year ==> 120640 /(365x24)= 14 trucks on road
   - **F. Requires 580 small trucks per year @ $60K = $34.8M**
     ==> 140 small trucks on the road
   - **G. If grocery business serves 20 stores per hub, they would need twice the big truck capacity, but no small trucks,**
     ==> Webvan extra delivery cost ~ $34.8M-$5.8M=$29M ~ %9.67

Hub Operations for Webvan

2. HUB PRODUCTIVITY

A. 450 items/person/hr
B. Assume 300,000,000 items/yr
C. => 666,667 man hrs/yr = $6,666,667/yr @ $10/hr
D. => $666,667/spoke /yr in direct labor
E. Assumed 8000 orders/day x 365 x $103 = ~ $300M

F. Summer 1999: Sales of $1.05M/month
Avg order = $71 => 14,789 orders/month
= 493 orders/day

"Management estimated that the hub was operating at less than 20% of its designed capacity."

G. 26 warehouses & 260 spokes staffed by 10000 people at $40K/year => $1,538,461 in labor per spoke

	Grocery	Grocery	Webvan	Webvan
Rev/store/yr		14,055,000		
Rev/spoke/yr				30,000,000
Inv turns	15		24	
Cost of goods	0.738	10,372,590	0.738	22,140,000
Gross Margin	0.262	3,682,410	0.262	7,860,000
Store related costs	0.122			
IT costs	0.02		>%2?	
HQ alloc	0.03		>3%?	
Warehouse alloc	0.07		0.01	300,000
warehouse labor			0.022	666,667
warehouse opns				
total labor				1,538,461
Home Delivery			0.967	2,900,000
Total expenses	0.242			
Net Oper Profit	0.02		%12???	

Operations Tasks for Webvan

1. **DESIGN**
2. **PLANNING**
3. **CONTROL**
4. **IMPROVEMENT**

Matching Fulfillment Strategies with Product Features