



# Mapping a Path to Profitability:

## *Tools for Understanding Unit Economics*

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# My Goals



**PROVIDE INSIGHT:** Sharper, strategic understanding of the business problem that many of you are trying to solve in low-income, last mile markets.

**WHET APPETITE:** Intrigued by the potential for operational model mapping and bottom up financial modeling tools to help (your) venture/s reach profitability.

Not giving you an  
answer to the problem



Not a training session in  
application of the tools

# The Tone



# Key Takeaways



- All numbers are not created equal—financial models are useful only if they **reflect the key underlying drivers** of a venture's economic performance
- If you're not **modeling the downstream operating unit**, you're driving blindfolded
- If you can't show a **credible path to profitability on paper**, you're very unlikely to figure it out in a pilot—and certainly not in an efficient manner
- Financial models are **business model design tools**—not justifications for a business model

- The Problem: The Downstream Profit Squeeze
- The Gap: Modeling Blind Spots
- Modeling for Profitability:
  - Bottom-Up Financial Modeling
  - Operational Model Mapping
- Next Steps: Opportunities to Learn More

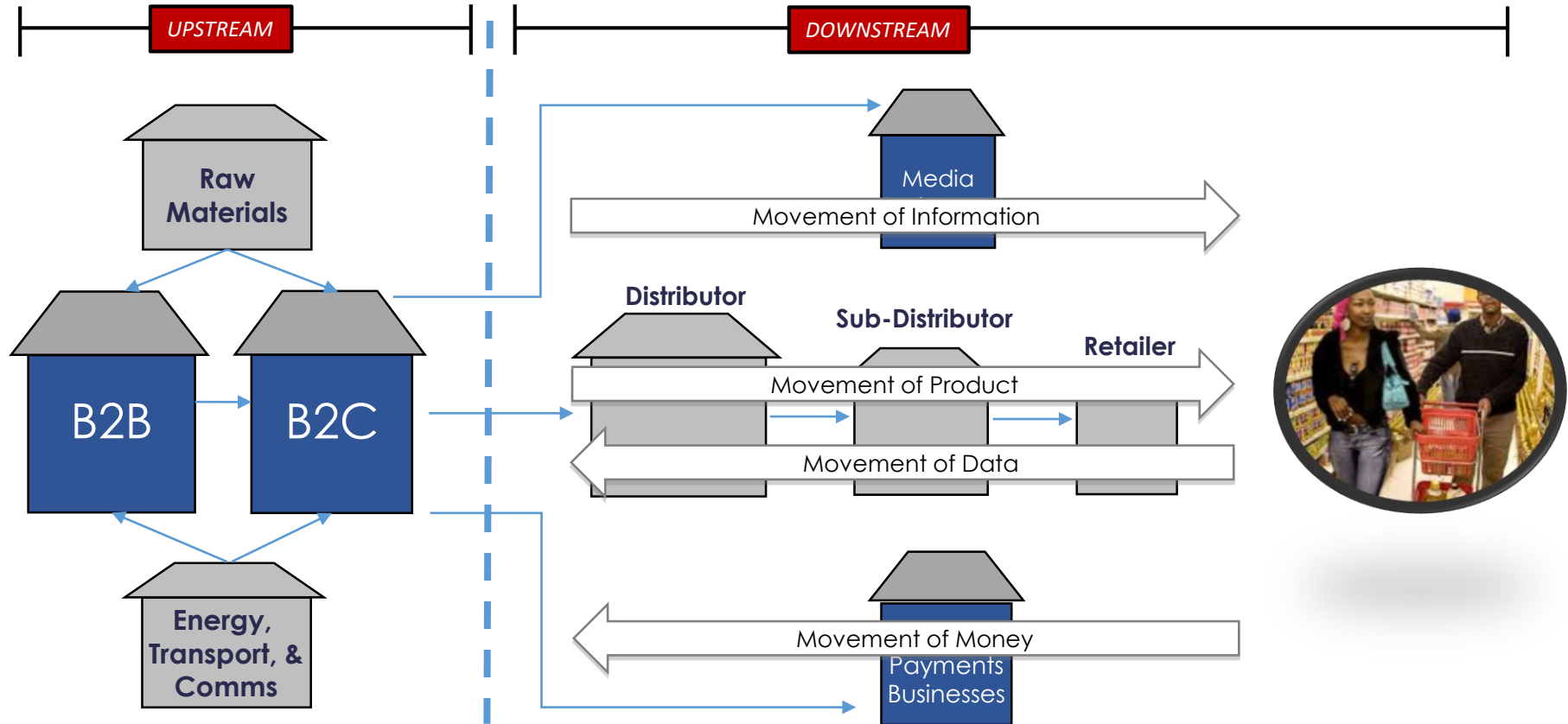
WHY?

WHAT?

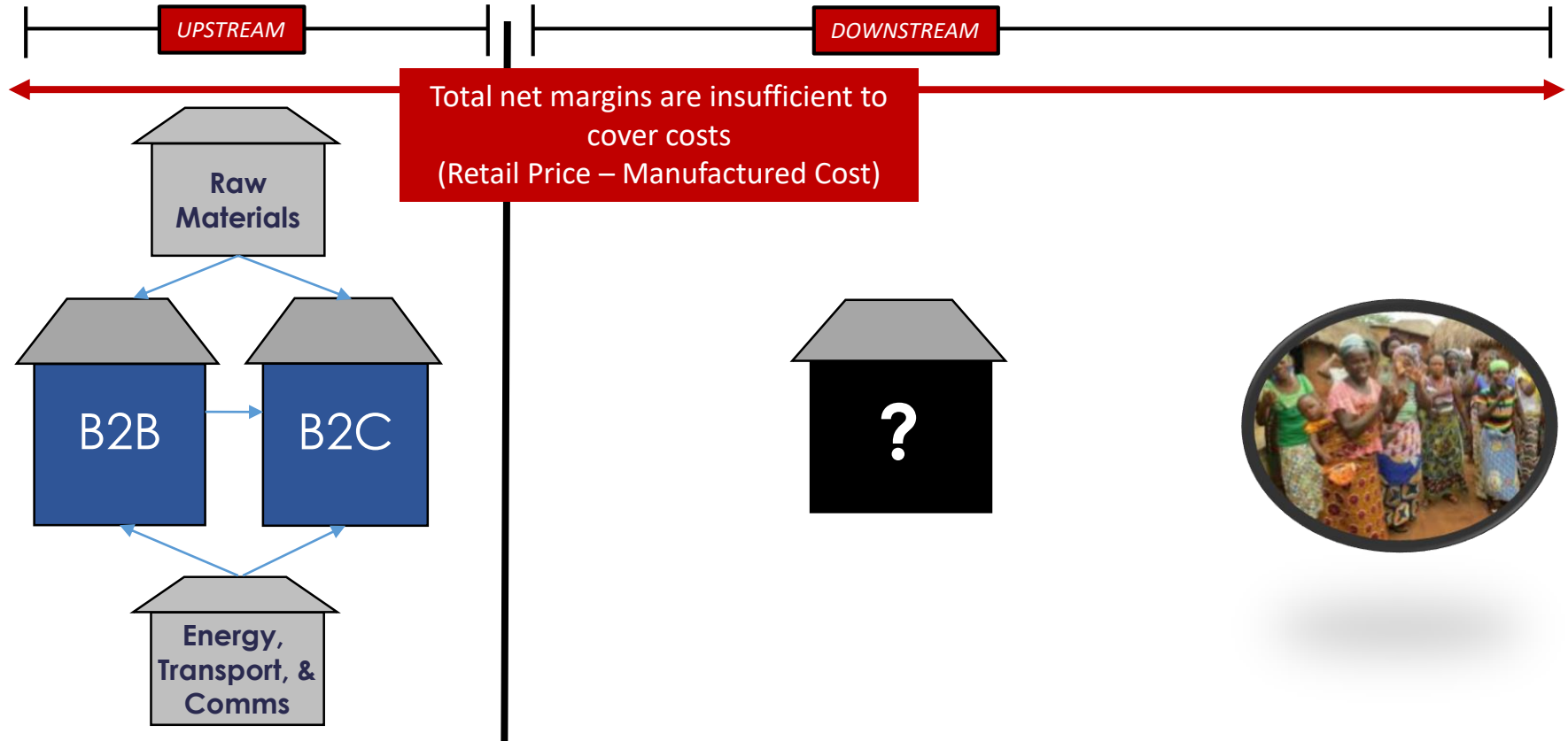
HOW?

# 1. The Problem: The Downstream Profit Squeeze

# Modern Distribution Ecosystem

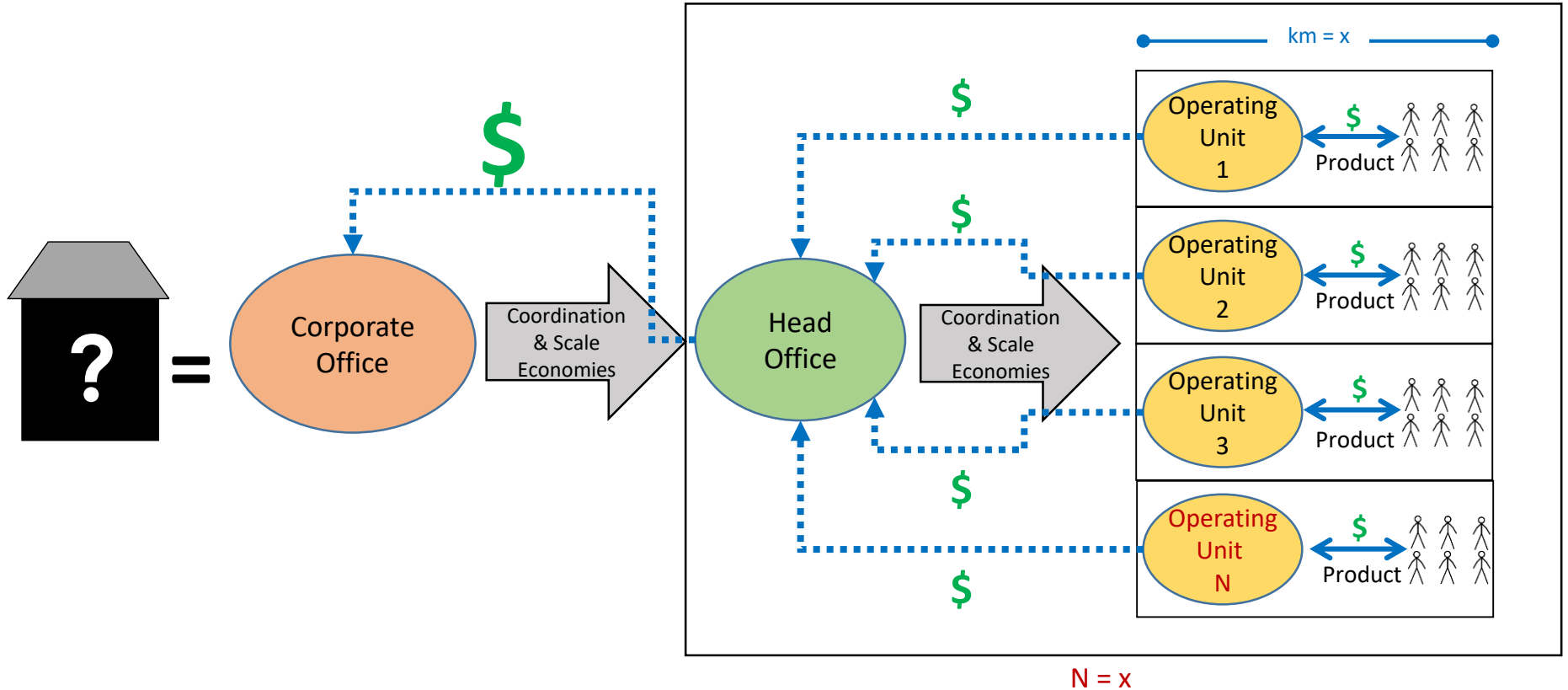


# The Channel Gap





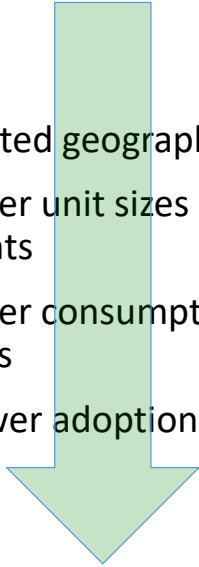
# The Operating Unit: The Engine of a Business



# Downstream Profit Squeeze

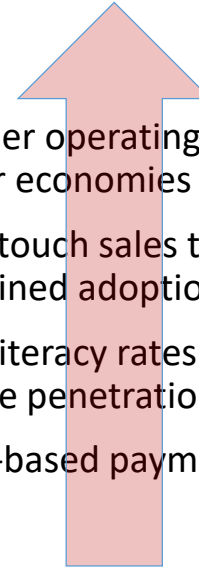
## Downward Pressure on **Operating Unit** Revenues

- Limited geographic reach
- Lower unit sizes & price points
- Lower consumption/use rates
- Slower adoption rates

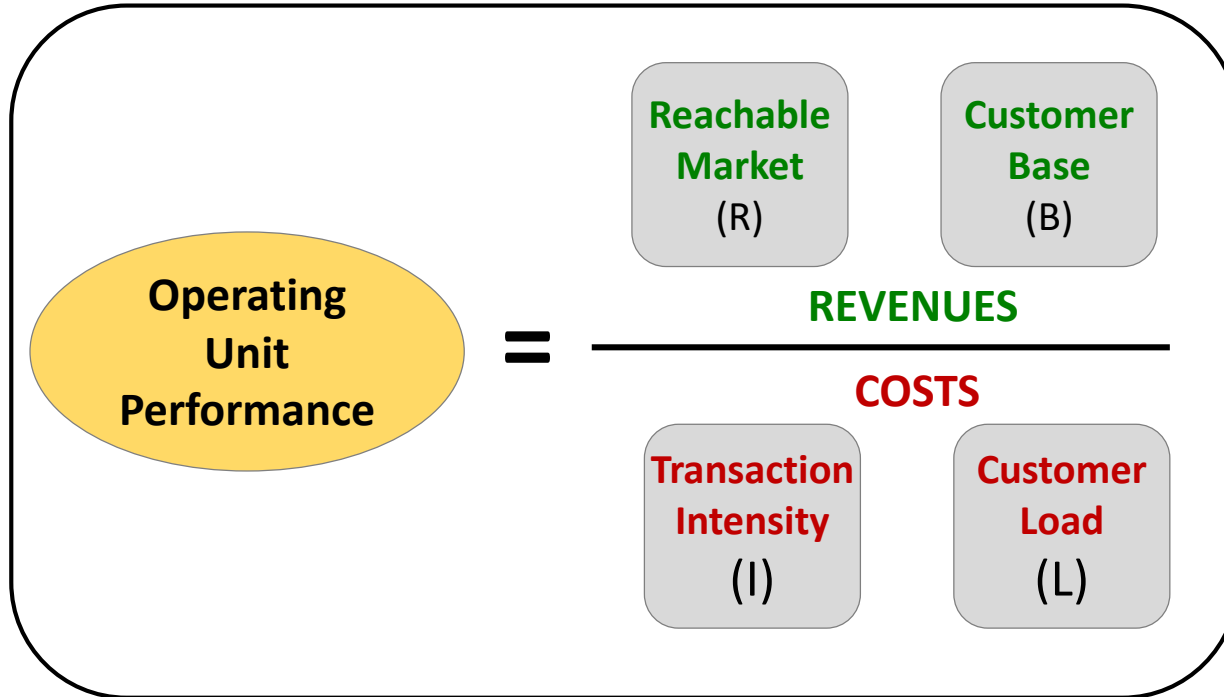


## Upward Pressure on **Operating Unit** Costs

- Smaller operating units with lower economies of scale
- High touch sales to drive sustained adoption
- Low literacy rates and smart phone penetration
- Cash-based payments



# Operating Unit: Foundation Variables



**(R)**: the population of potential customers accessible by the operating unit

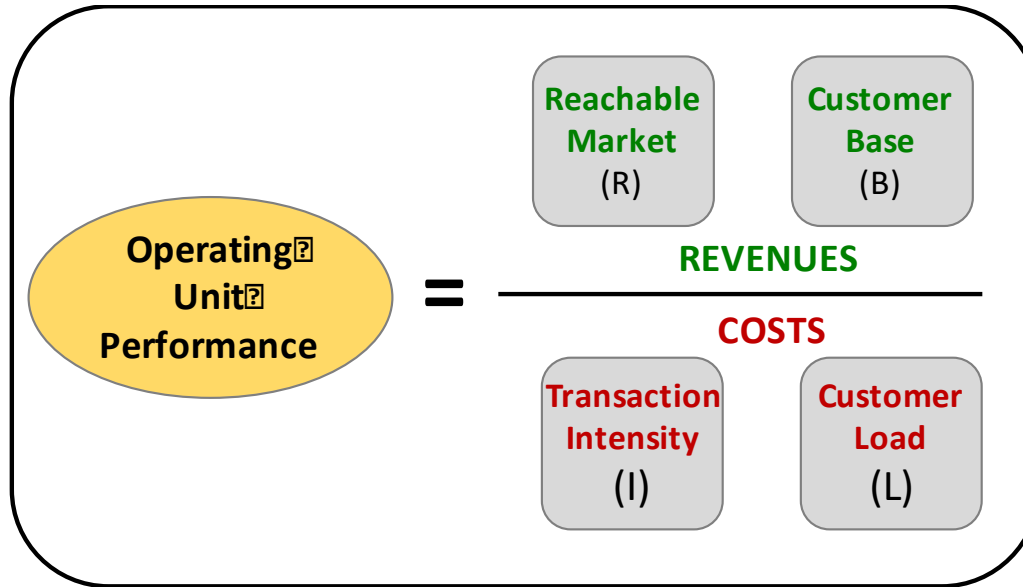
**(B)**: the percentage of the reachable market that are regular customers of the operating unit

**(I)**: the time required to support the sales/service transactions the operating unit conducts with its customer base over the course of a month

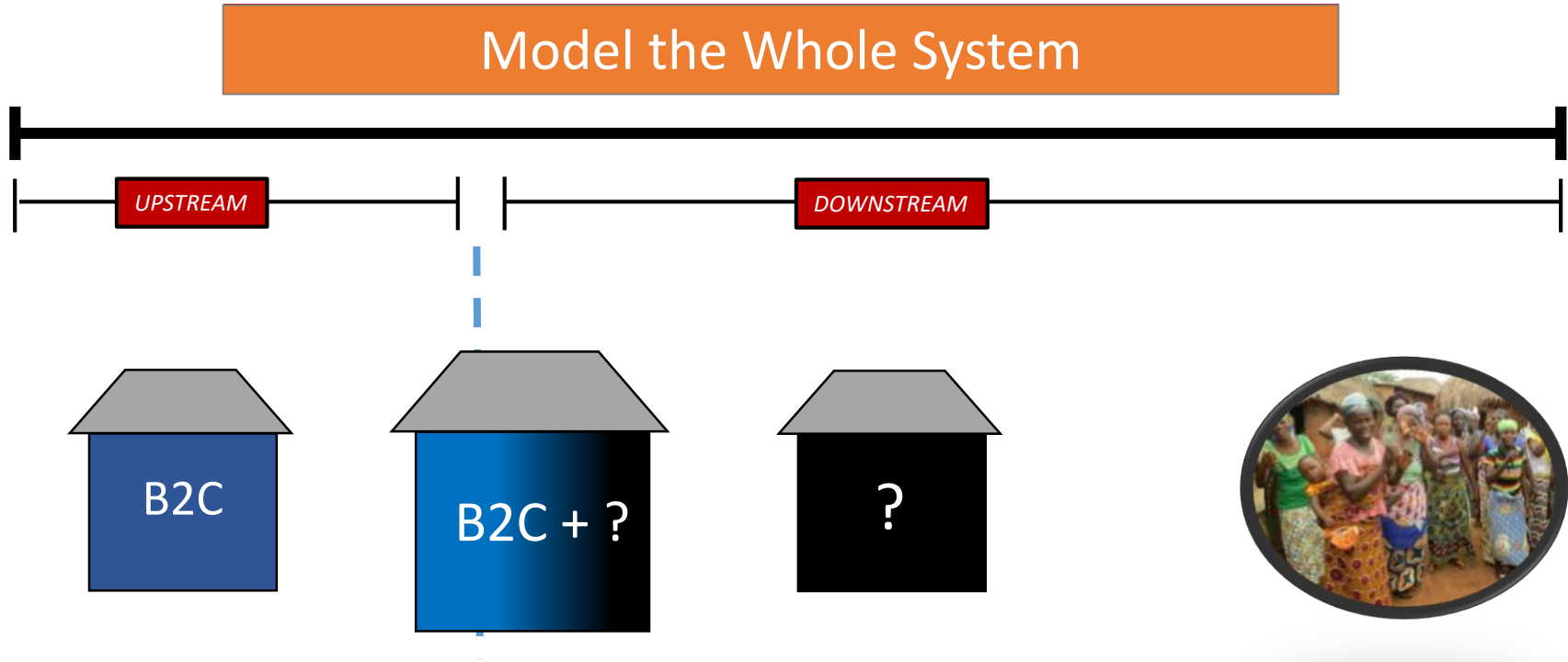
**(L)**: the number of transactions that one (sales) person can manage in a month

# Last Mile Operating Units: Foundation Variables

How do these variables relate to your experience?  
What have you seen?



# Filling the Gap: Solving for the Whole System



Simanis & Schmidt, "Selling More with Less: Filling the Channel Gap in Low Income Markets," 2018

## 2. The Gap: Modeling Blind Spots

# Modeling Blind Spot



Conventional modeling approaches conceal **unrealistic assumptions** about RBIL in the downstream operating unit.



Companies go to pilot with products at price points/margins that can't reach profitability.

# Modeling Blind Spots: Causes

## Scope

### Upstream vs Whole System

- Model up to the venture's customer (e.g., distributor), assuming "traditional" margin structure will eventually work downstream



## Scale

### Top Down vs Bottom Up

- Build sales model at the level of the whole country, calculating costs based on general operating norms & rules of thumb (e.g., 1 salesperson *should* serve 30 customers)





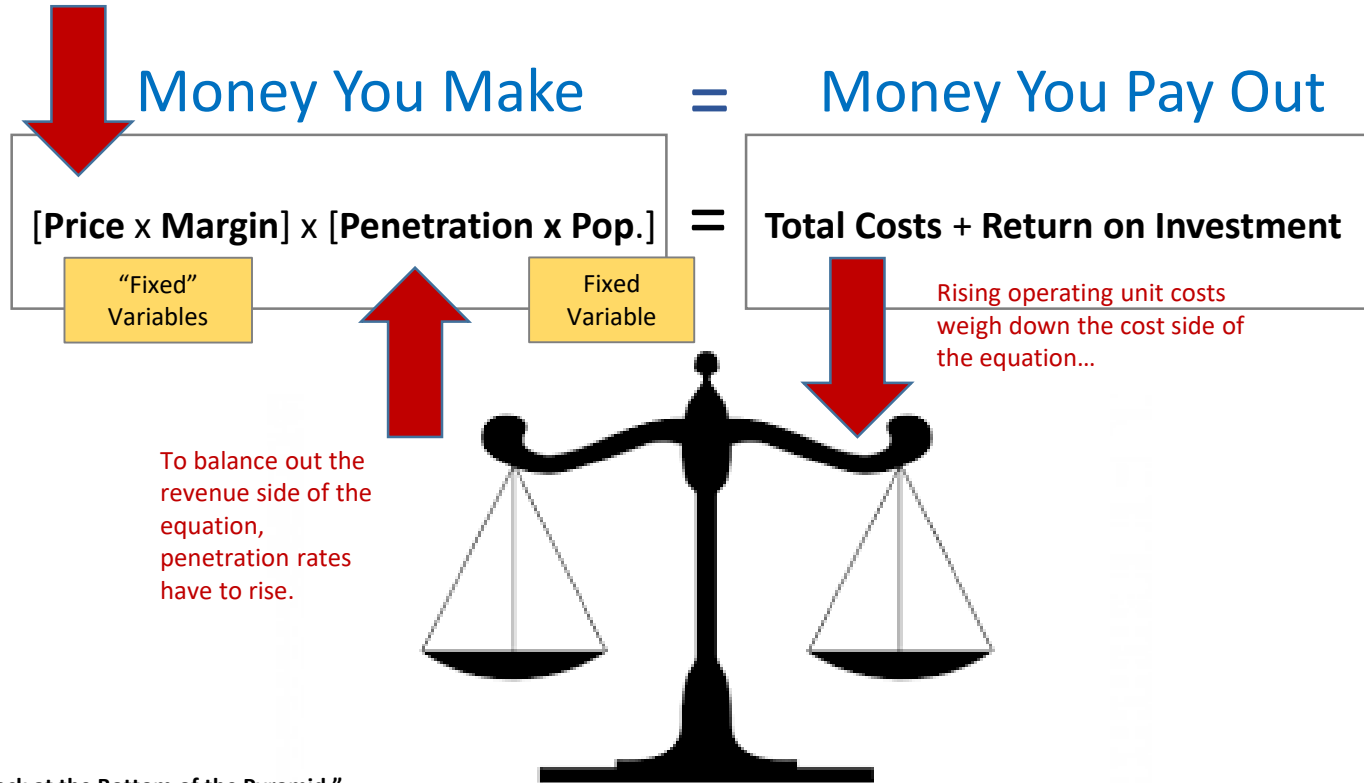
# Piloting the Channel



# The Treadmill Effect



# The Operating Unit Penetration Trap



Erik Simanis, "Reality Check at the Bottom of the Pyramid,"  
Harvard Business Review, 2012.

# The Operating Unit Penetration Trap

Households	10,000	
Monthly Operating Unit Costs	1,000	
Cost Increase %	0%	
Monthly Operating Unit Costs	1,000	



# Pivots are Hard to Pull Off...Provided The Problem is Discovered



- Political constraints to pivoting model
- Customer constraints to pivoting models
- Pivots are very costly and very time-consuming

## *Reverse the conventional modeling approach:*

- Model bottom-up from a **single downstream operating unit**
- Set a **realistic penetration rate** from which to build a **realistic cost structure**
- Use the operating unit penetration rate and cost structure to calculate **required price/margin** for "whole system" profitability.

**RBIL Drives the Model**

### **III. Modeling for Profitability:**

Bottom-Up Financial Modeling + Operational  
Model Mapping (BUFOM)



# Bottom-Up Financial Modeling & Operational Model Mapping (BUFOM)



Business  
Model  
Design  
Tools

Bottom-Up Financial  
Modeling



Operational Model  
Mapping

## WHAT?

- Future snapshot of your venture operating **profitably** at “steady-state,” taken from the perspective of a single operating unit.

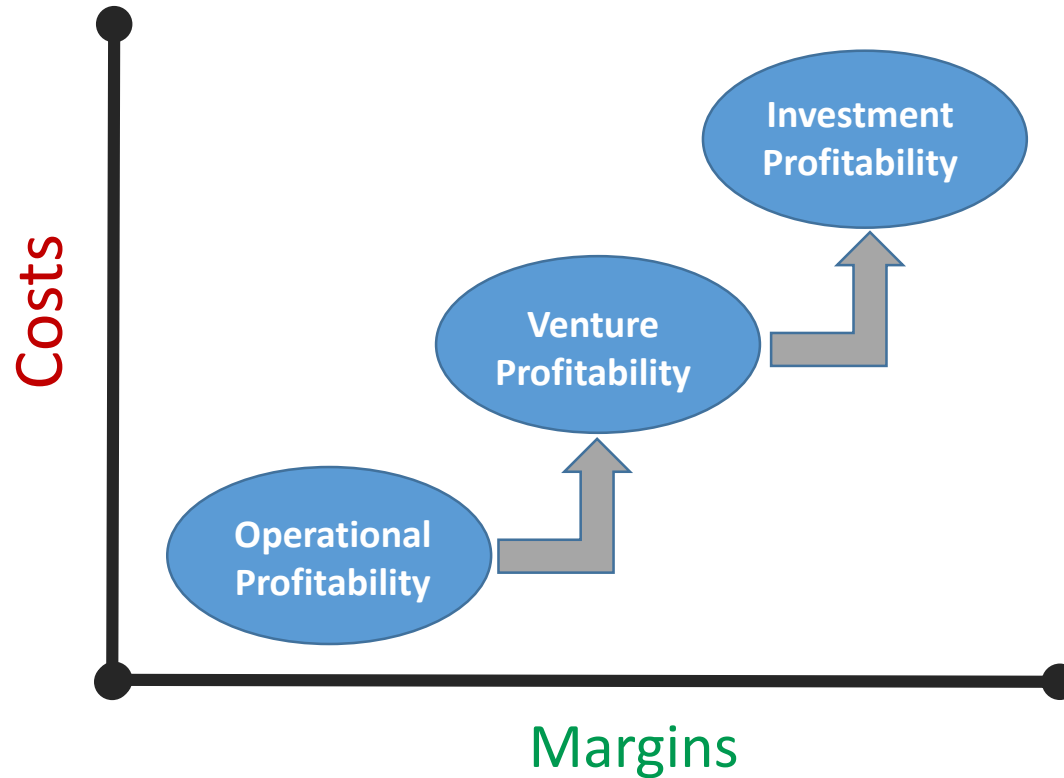
## WHY?

- Ensures a venture can make, sell, & deliver what the customer wants at a price/margin that is **profitable**
- Surfaces the key pinch points and drivers of **profitability** that need to be the focus of the innovation process & pilot test (KPIs)

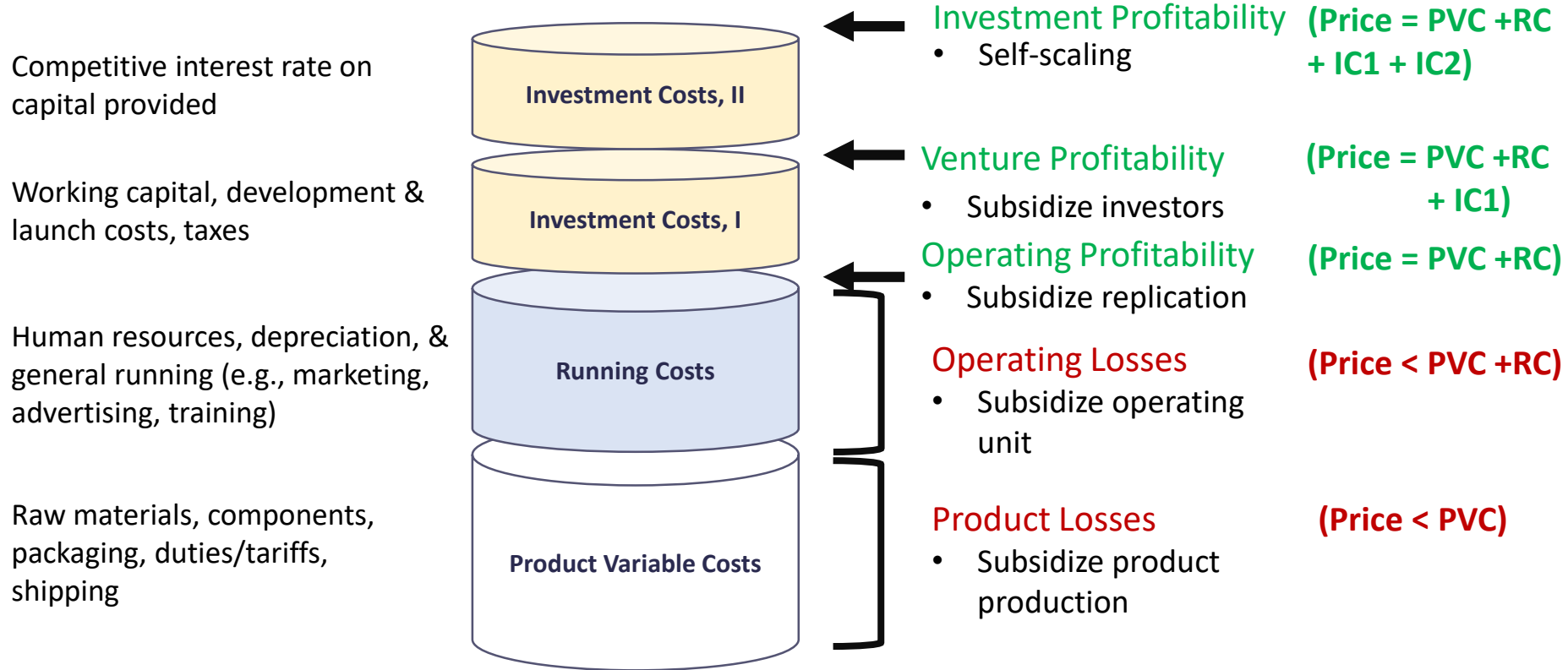
## WHEN?

- Designed for start-up and early stage ventures working towards proof of concept of a new business model (new cost structure and margin structure)

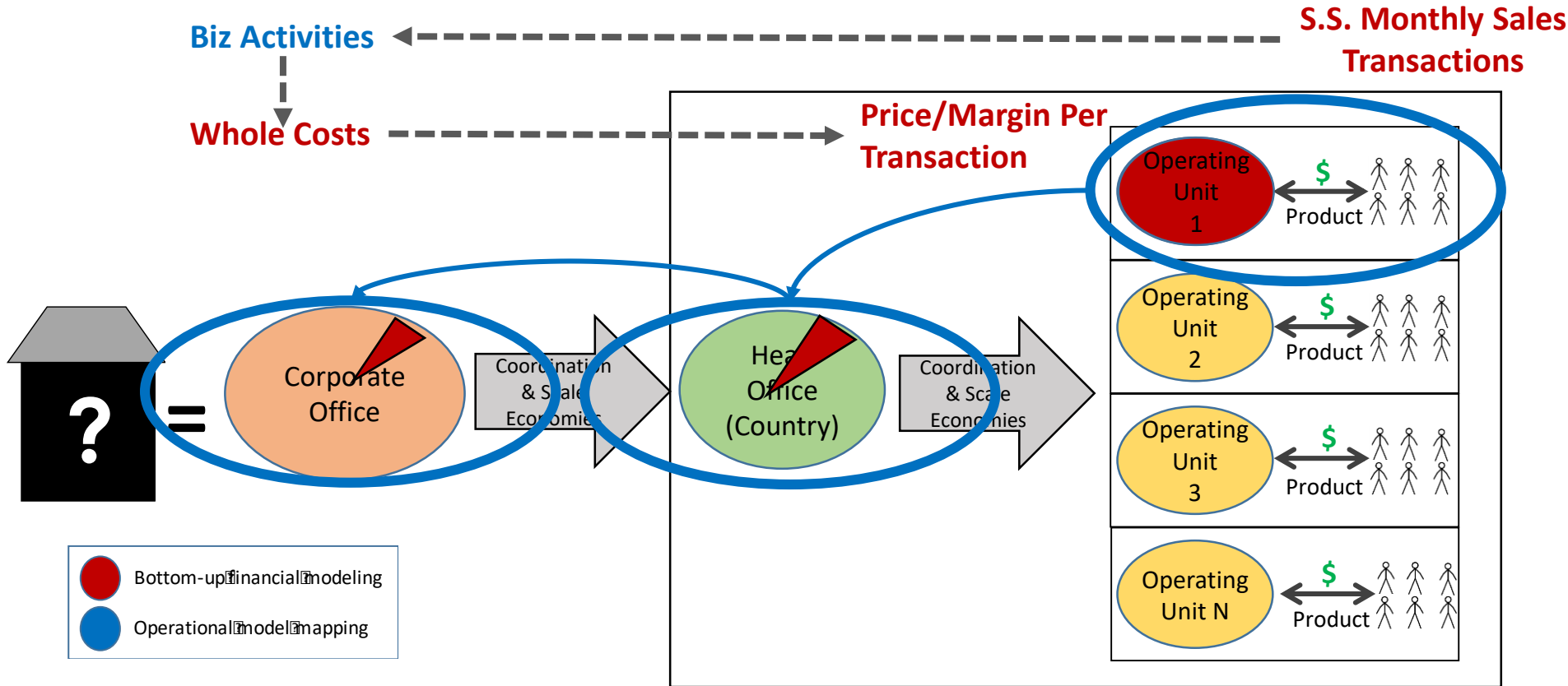
# Making Sense of Profitability



# Relating Costs to Levels of Profitability



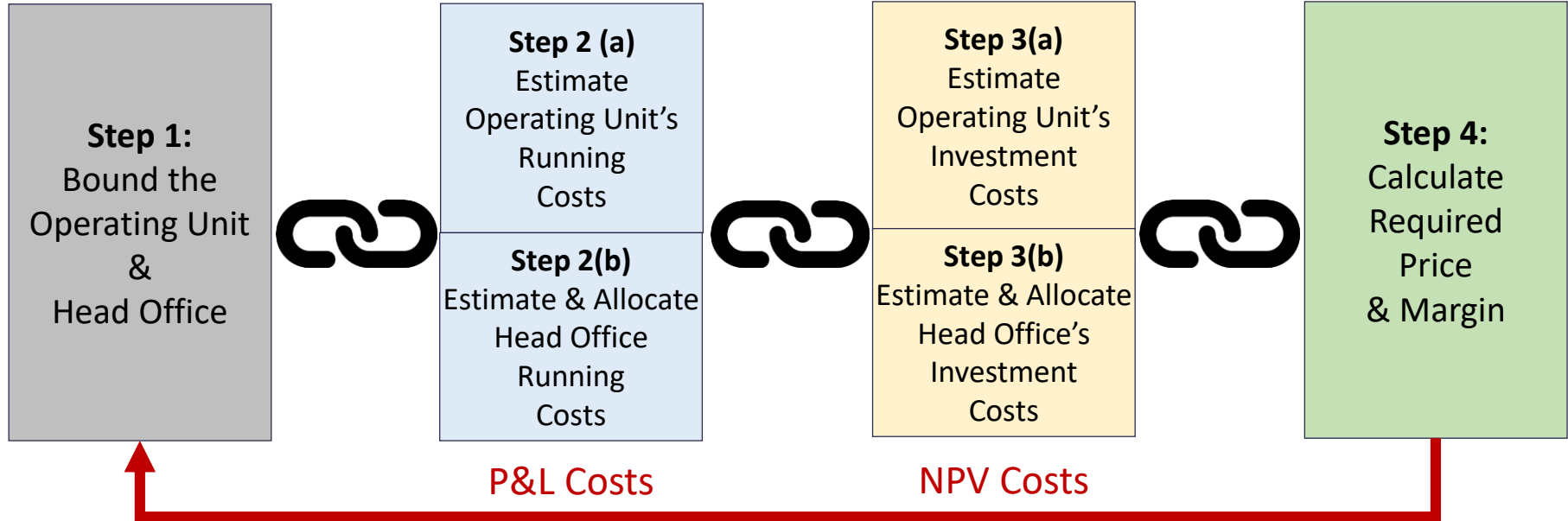
# BUFOM: Bird's Eye View



# Bottom-Up Financial Modeling

## Operating Unit's Monthly Whole Cost Structure

Steady State



# Bottom-Up Financial Modeling

## Bound the Operating Unit & Head Office

How much stuff and to how many people will we sell each month?

- Customer Base
- Monthly transactions

How many operating units will we need?

- # of Operating Units at Scale

## Estimate Operating Unit's Monthly Running Costs

What would it cost each month to run and support all of our business activities given the amount of time each transaction requires?

- Transaction Intensity
  - Human Resource
  - Cap Ex Depreciation
  - General Running

## Estimate Operating Unit's Investment Costs

What would it cost on a monthly basis to set up and scale the business, and pay the owners the return they require?

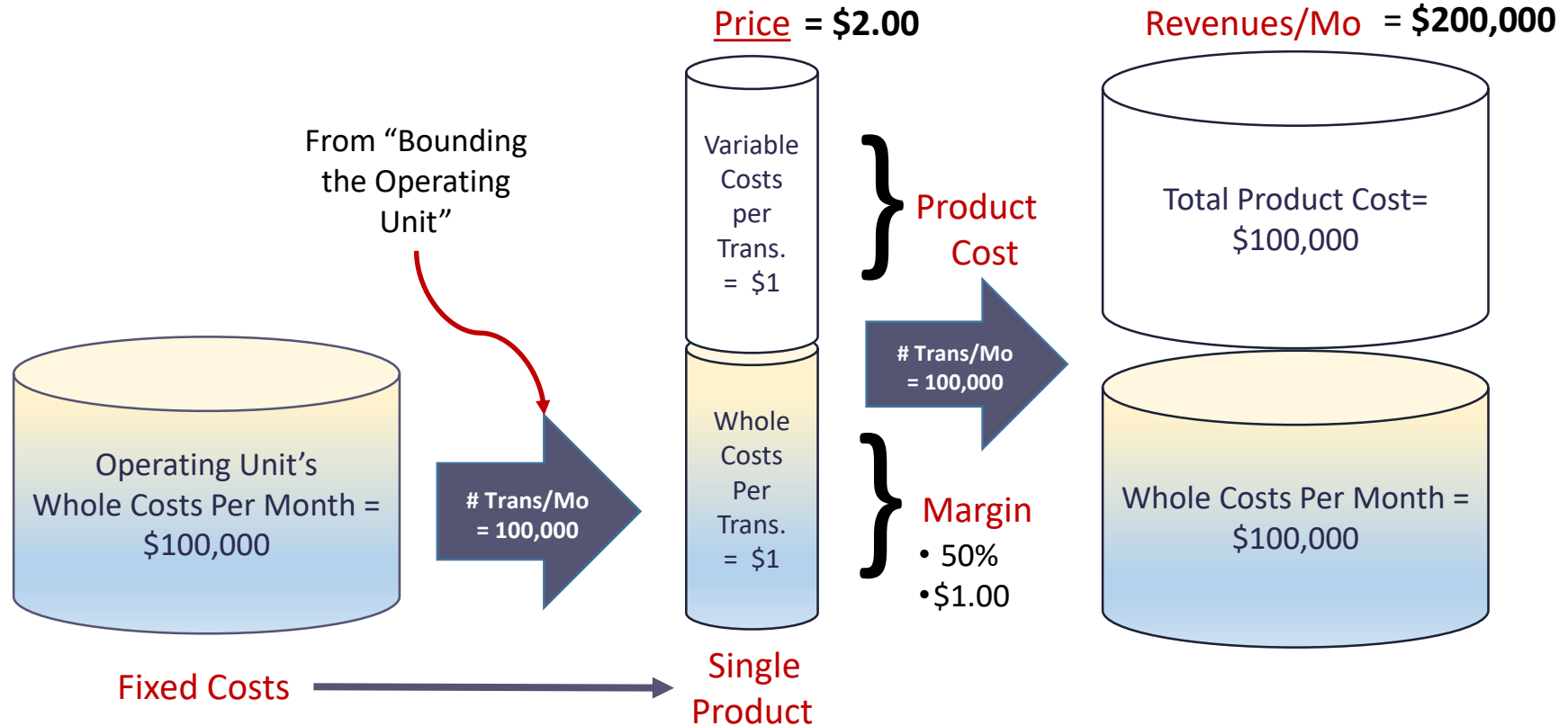
- Start-up Costs
- Investment Returns
  - Debt
  - Equity
- Taxes

## Calculate Required Price & Margin

What price/margin do we need to charge for each of our products to absorb all of these “whole costs” each month?

- Allocation %

# Calculating Required Price/Margin



# Financial Modeling as a Design Tool

Total Whole Costs/Month:	107,028	
	Product	
	B2	C1
<b>Variable Costs/Unit:</b>		
Conversationists	260	260
<b>Total Variable Costs/Unit</b>	<b>260</b>	<b>260</b>
<b>Whole Costs/Unit:</b>		
Unit Sales per Month	23	19
Allocated Whole Cost %	55%	45%
Allocated Whole Costs	58,379	48,649
<b>Total Whole Costs/Unit</b>	<b>2,592</b>	<b>2,592</b>
<b>Pre-Vat Price (€):</b>	<b>2,852</b>	<b>2,852</b>
<b>VAT</b>	<b>542</b>	<b>542</b>
<b>Retail Price:</b>	<b>3,393</b>	<b>3,393</b>

Monthly Whole Costs			
	€	\$	%
<b>OPERATING UNIT</b>			
Human Resource Costs/Mo	40,320	42,739	38%
Depreciation Costs/Mo	1,219	1,292	1%
Running Costs/Mo	18,406	19,510	17%
Start Up Costs/Mo	8,382	8,885	8%
Investment Returns/Mo	1,783	1,890	1.7%
Tax/Mo	535	567	0%
<b>Total Operating Unit Costs/Mo:</b>	<b>70,644</b>	<b>74,883</b>	<b>66%</b>
<b>HEAD OFFICE ALLOCATION</b>			
Human Resource Costs/Mo	8,096	8,582	8%
Depreciation Costs/Mo	59	63	0%
Running Costs/Mo	6,947	7,364	6%
Start Up Costs/Mo	2,714	2,877	3%
Investment Returns/Mo	14,283	15,140	13.3%
Tax/Mo	4,285	4,542	4.0%
<b>Total Allocated Corporate Costs/Mo:</b>	<b>36,384</b>	<b>38,567</b>	<b>34%</b>
<b>Total Whole Costs:</b>	<b>107,028</b>	<b>113,450</b>	<b>100%</b>

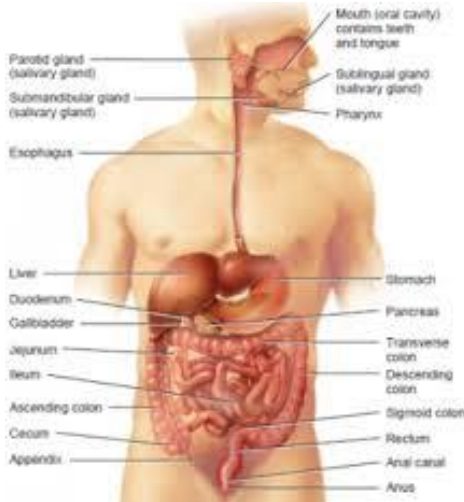


# Operational Model Mapping

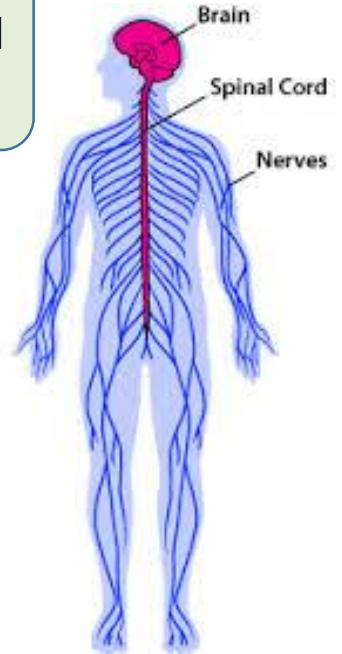
Systematic approach to detailing the activities needed to fulfill the three core functions of all businesses.



Flow of Product



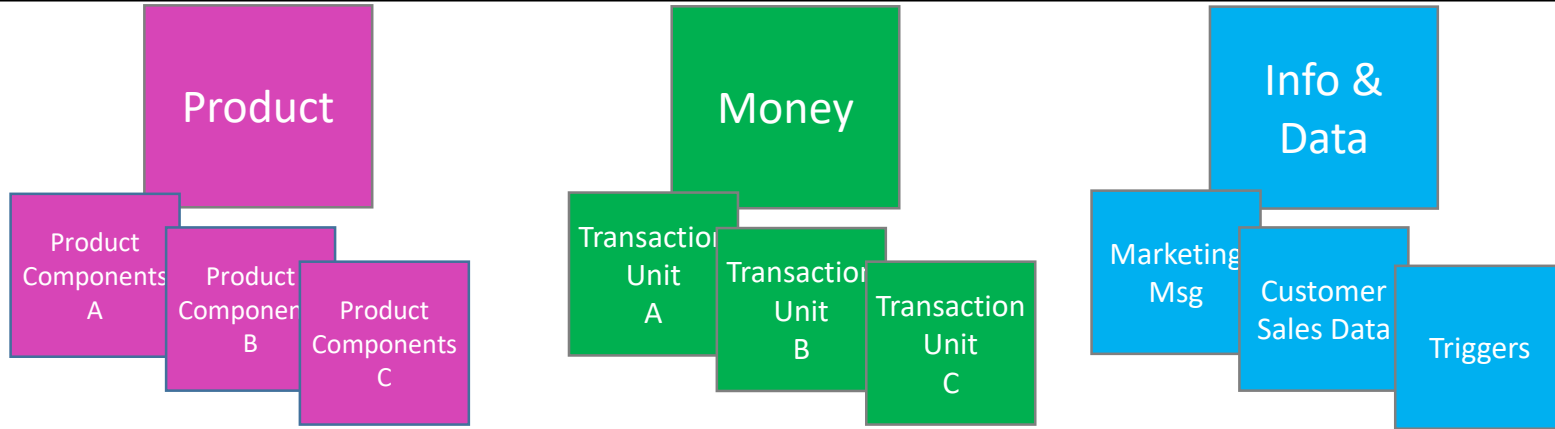
Flow of Money



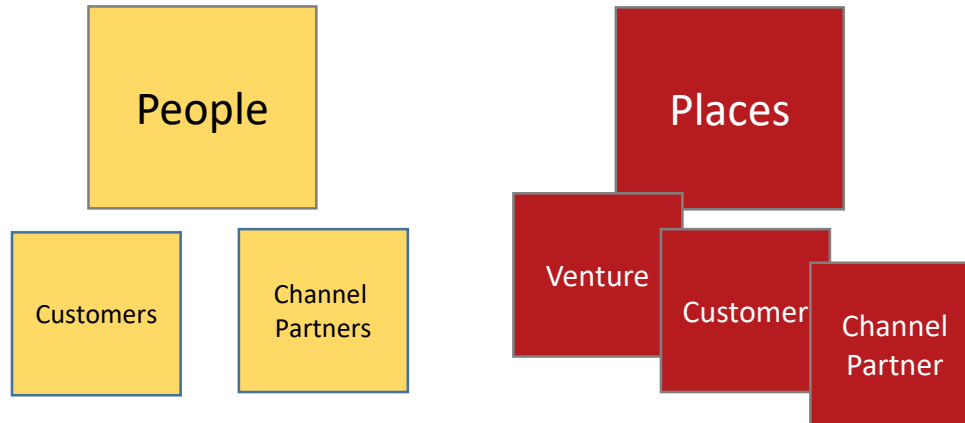
Flow of Information  
& Data

# Map Dimensions

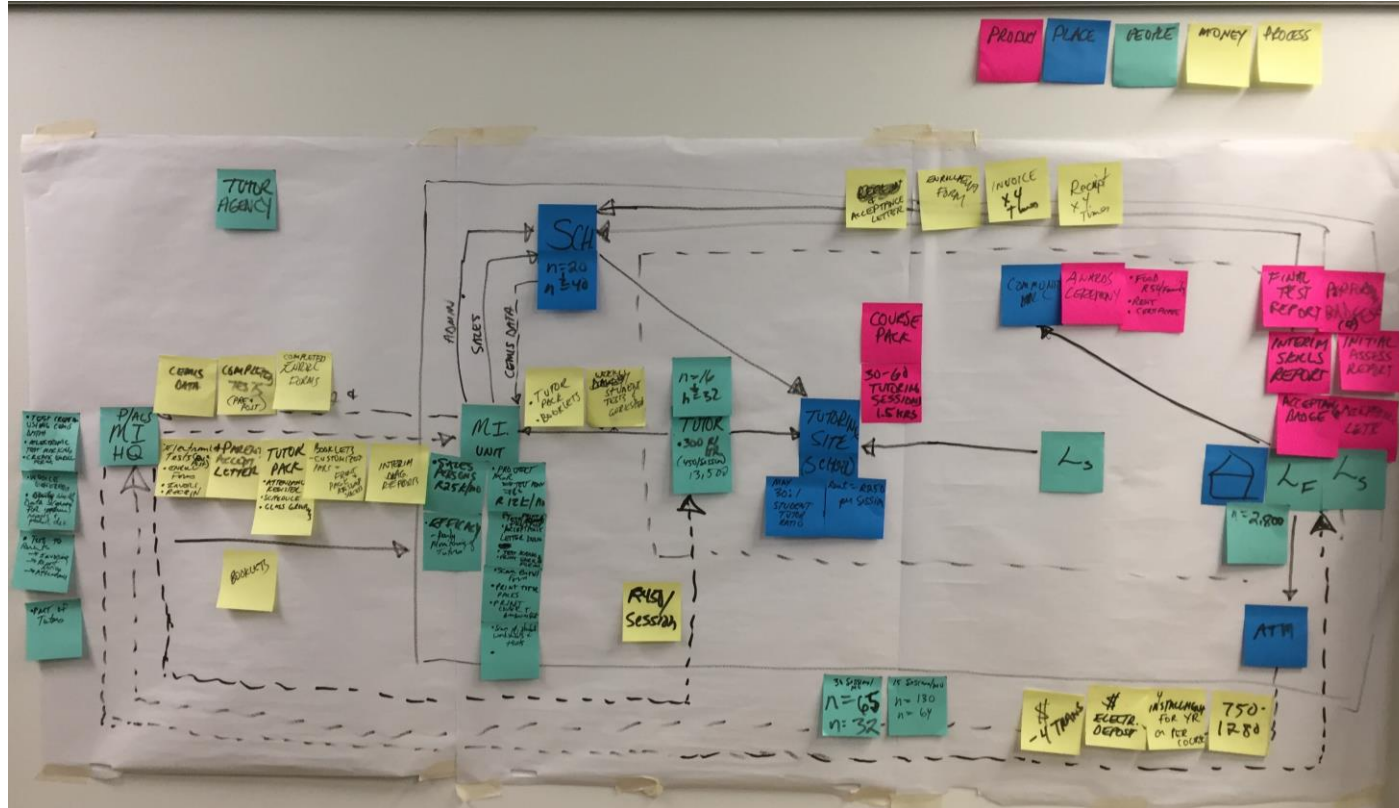
**STEP 1:**  
List out  
operating  
**flows** on  
sticky notes



**STEP 2:**  
List out  
**Actors & Sites** on  
sticky notes



# STEP 3: Map the Flows Between & By the Sites, Right to Left



## STEP 4: Flesh out the business processes & HR

Production & Dist

HR

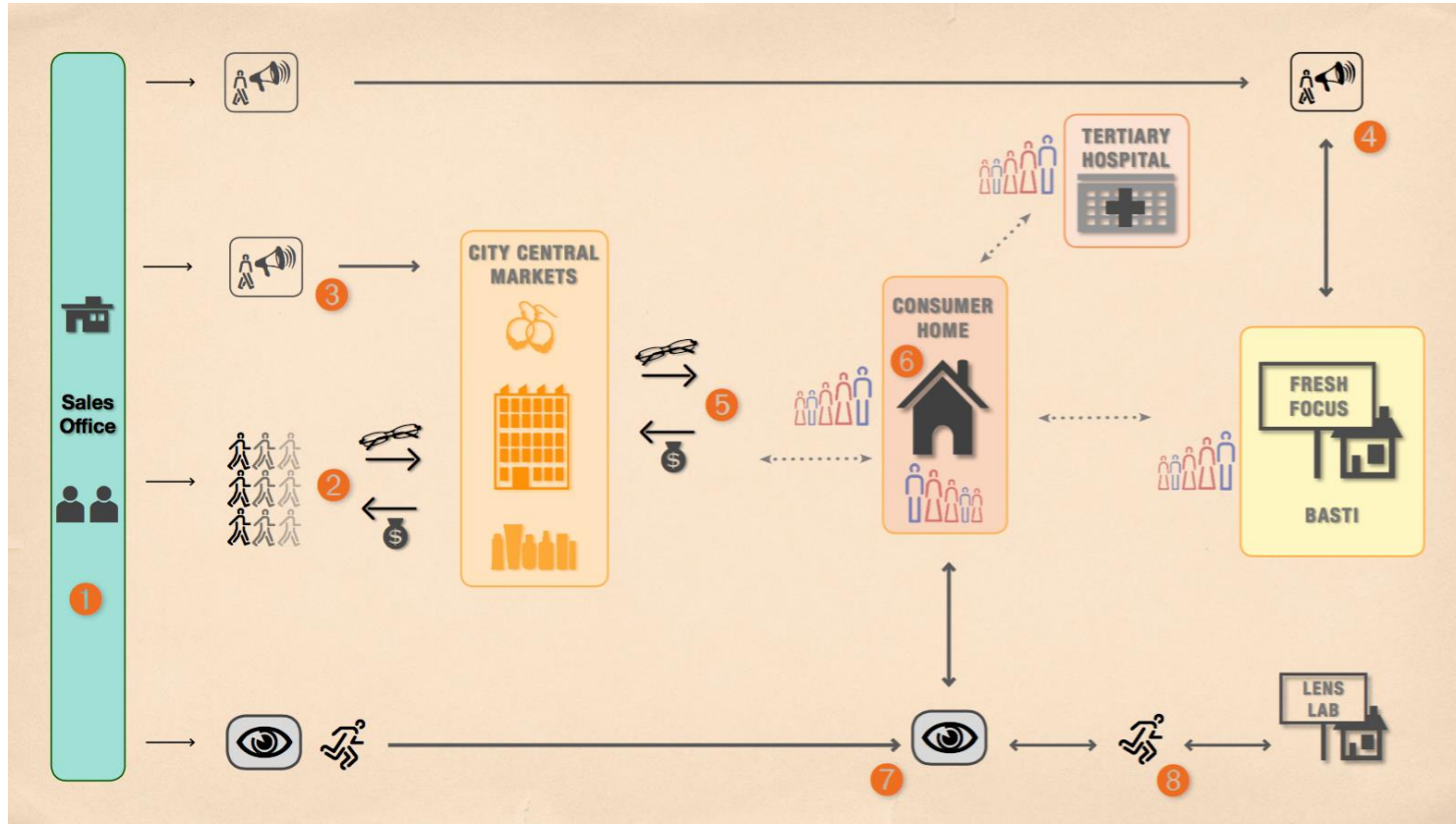
Sales & Marketing

HR

Delivery & Aftersales

HR

# Example: Primary Eye Care

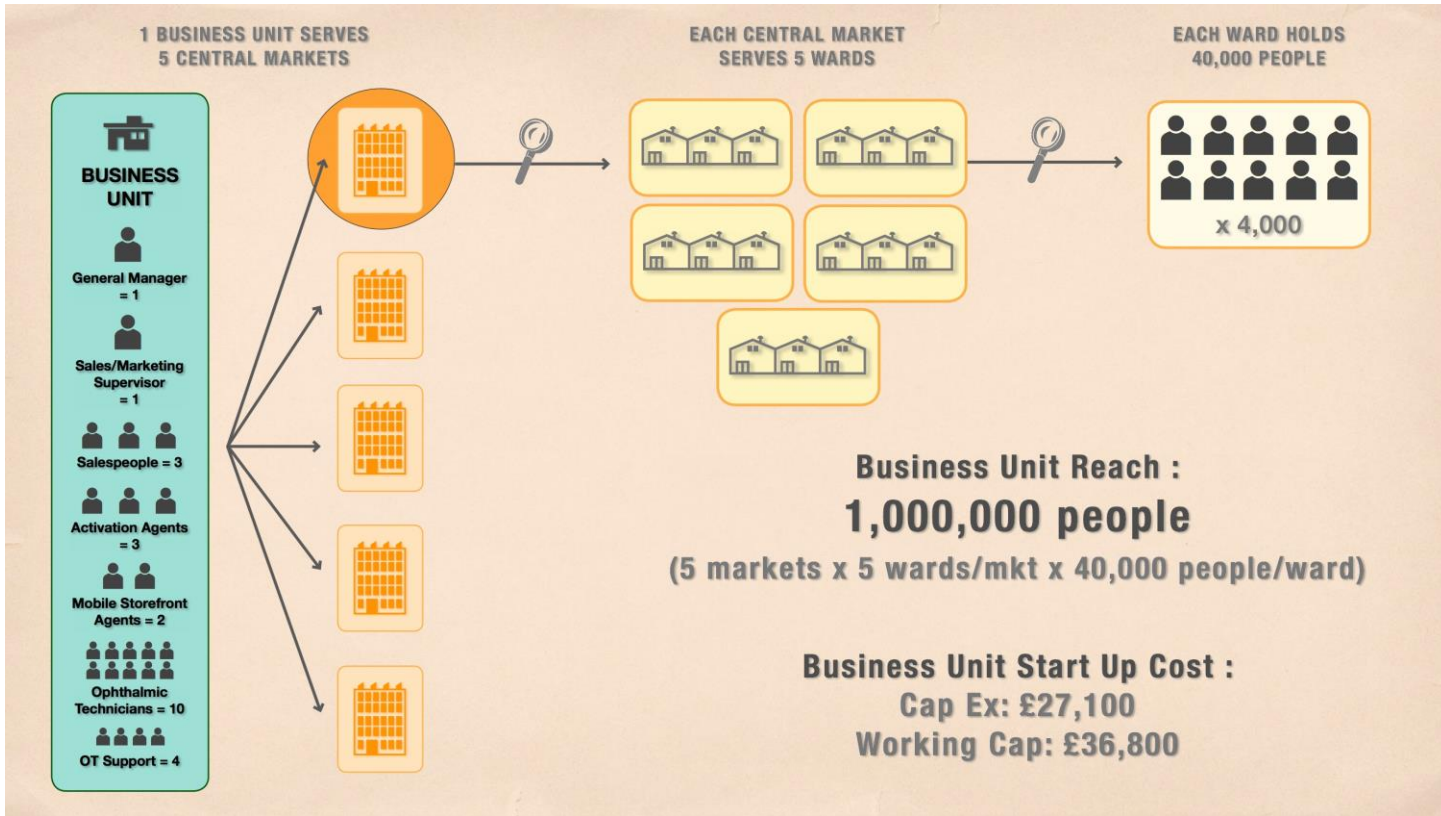




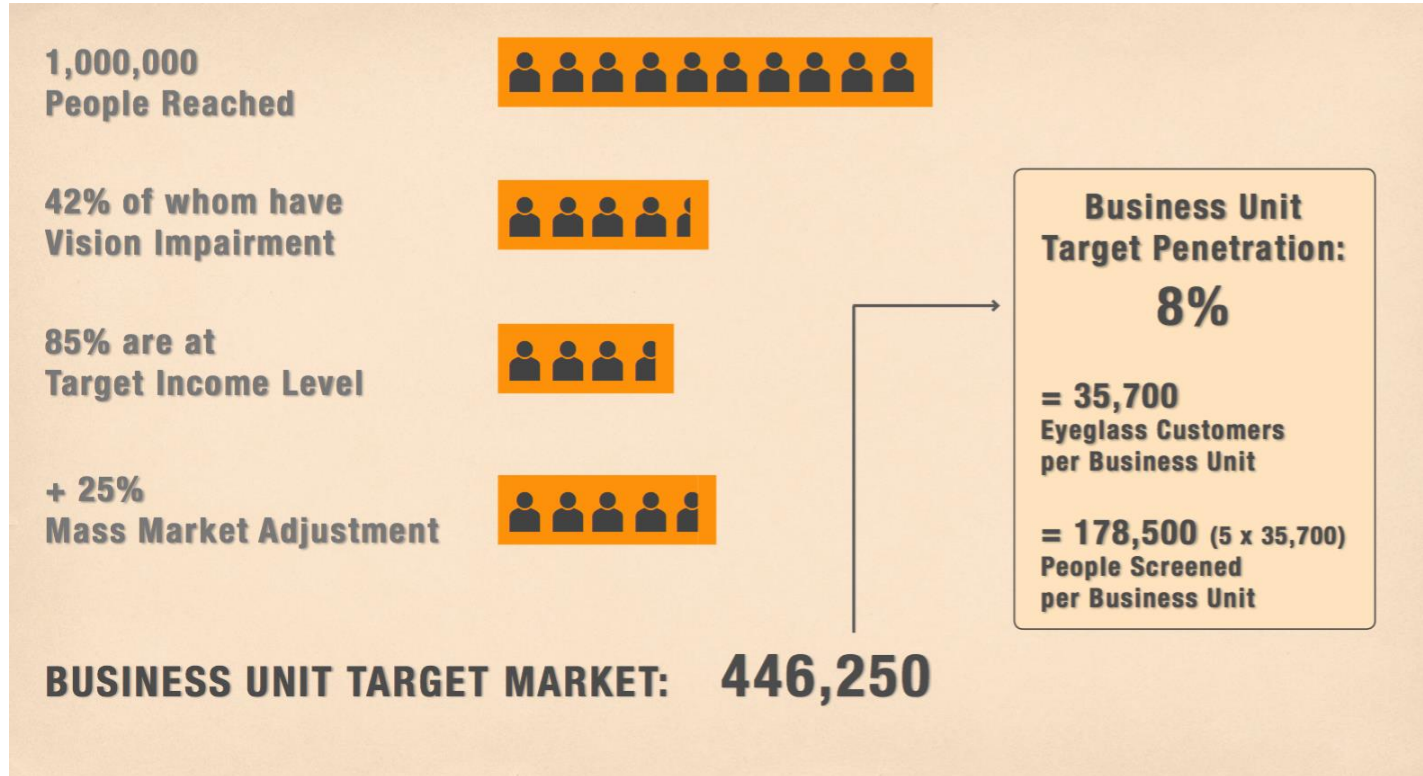
# Example: Primary Eye Care

- 1 One sales office (i.e., business unit) serves five central markets, with each central market serving an area of 5 wards.
- 2 Salespeople make weekly visits to the approximately 150 outlets — such as cosmetic shops, mid-range jewelers, and ready-made clothes (tbd) — across the 5 central markets carrying Fresh Focus glasses and accessories. Salespeople collect cash and re-stock the displays in each of the outlets. Outlets receive a commission on sales of glasses and components.
- 3 Activation Agents conduct monthly, approximately 2-hour long demonstrations at each of the outlets to support sales. Demonstrations highlight the broad functionality of the glasses (e.g., eye protection, low light vision, glare reduction, vision correction) and how glasses can be styled (using accessories and arms sold separately) to match outfits.
- 4 Mobile Store Front Agents operate “pop-up” shops inside the wards to create a local presence for the business and drive consumer awareness of the brand and value proposition. In addition to highlighting the glasses’ broad functionality and range of, Mobile Store Fronts can incorporate taking photos of consumers modeling glasses and post to social networking sites to help build buzz and create a brand community. A Mobile Store Front remains in place for 30 days before relocating to another ward. It returns to the ward after 3 months (i.e., 3 rotations in each ward in a year).
- 5 Consumers from the wards traveling to the central markets for larger, periodic purchases (typically monthly) purchase Fresh Focus glasses and components in one of approximately 30 outlets carrying the glasses.
- 6 The customer purchasing the glasses calls the toll-free number included with the glasses to schedule a free, in-home screening for the whole family by an Ophthalmic Technician.
- 7 The Ophthalmic Technician responsible for serving a specified territory travels to the customer’s home and screens the entire family. If the customer who purchased the glasses requires refracting, the refraction is also conducted at the same time at no cost. Any additional members requiring refraction will be done so at a small fee. The cost of the refraction will be deducted from the price of the glasses if and when they are purchased in the central market (the customer would receive a receipt from the Ophthalmic Technician to be presented at the outlet). During the screening, anyone diagnosed with an eye condition requiring more specialized attention will be referred to a partner tertiary hospital.
- 8 The Ophthalmic Technician Support Person collects daily all prescriptions from their assigned Ophthalmic Technician and takes the prescription and frames to the Lens Lab. The OT Support Person collects the finished glasses, and calls the customer to schedule an in-home fitting.

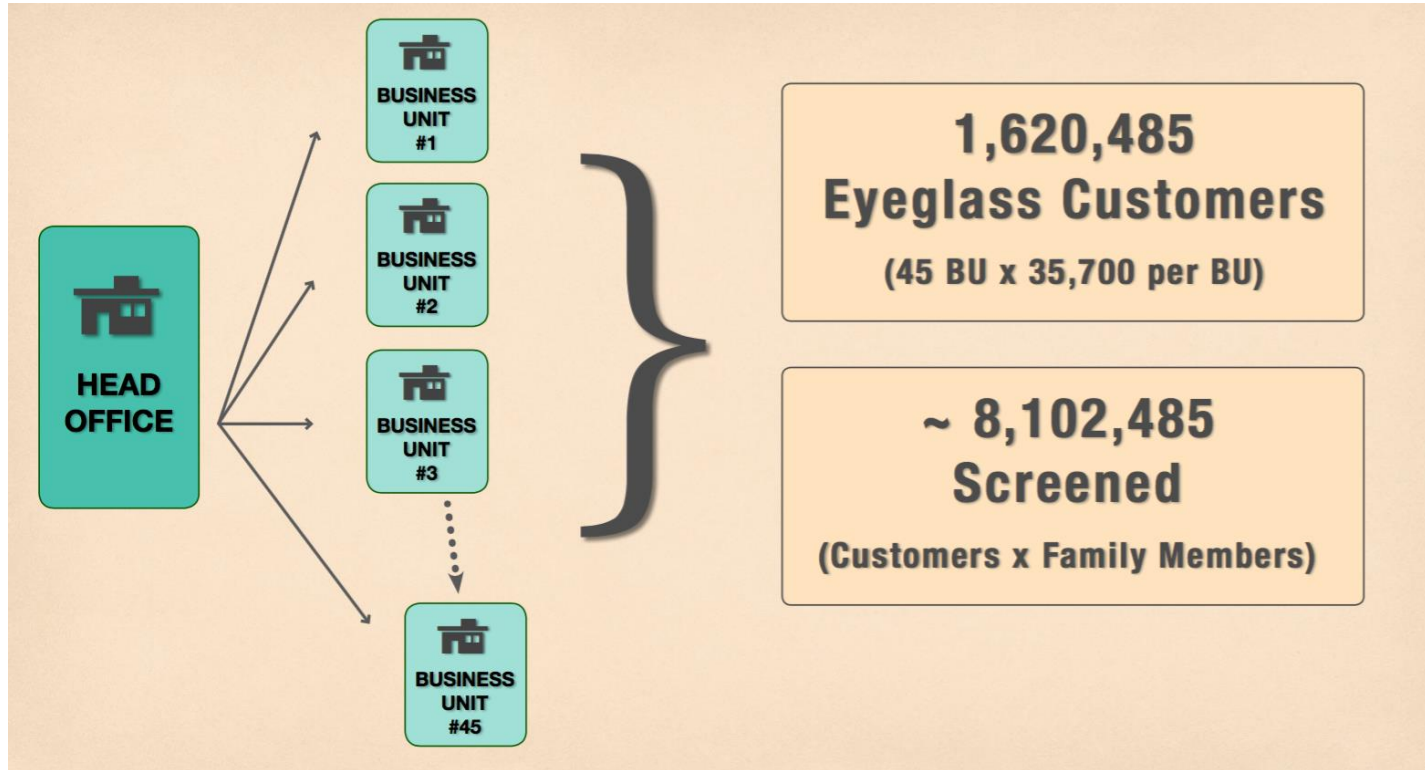
# Example: Primary Eye Care



## Example: Primary Eye Care



## Example: Primary Eye Care





## **IV. Opportunities to Deepen the Learning**

# Next Steps in Planning

1. Technical Document
2. Financial Modeling Template
3. Regional Roadshows

Thank  
You!



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