

Building a financial plan – The Numbers

Rana K. Gupta

The numbers

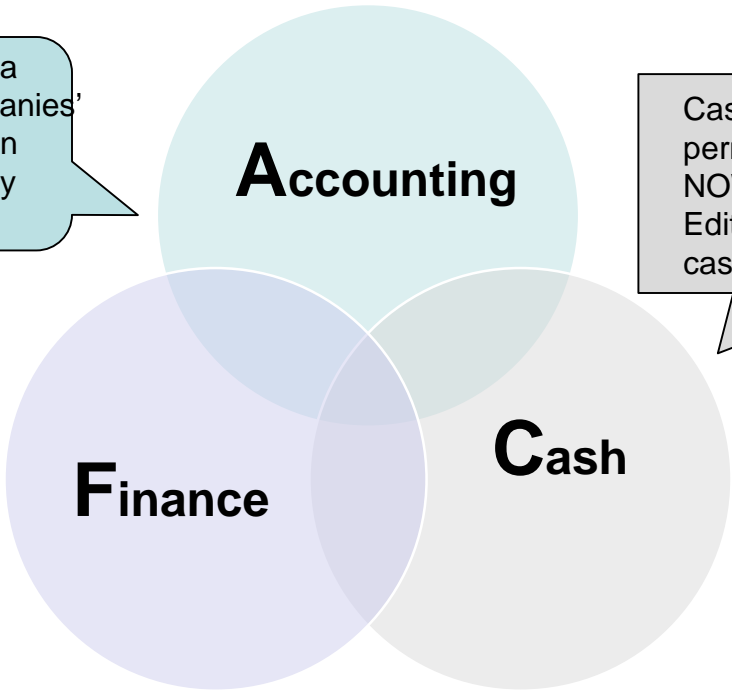
- Calisthenics
- The Idea
- Revenue
- Costs
- Cash Table
- Financing

What's the difference between these three words?

I'll offer my simple definitions

The purpose of accounting is to have a systematic way for us to look at companies' financials. It's a standardized, common language with guidelines and generally accepted principles

Cash is the most liquid asset that permits you to buy something NOW.
Editorial: in the world of a startup, cash is what matters most



Finance addresses the type of funding you require to achieve your objective

The Income Statement

- Revenue
- Cost of Goods sold
- Gross Profit
- Operating expenses
 - salaries
 - overhead
 - travel
 - - services (insurance, lawyers, accountants)
 - product development
- Operating Profit
- Interest, Tax, Depreciation, Amortization
- Net Income[#]

Gross Margin = Gross Profit/Revenue

Operating Margin = Operating Profit/Revenue

[#] AKA profit, earnings, the bottom line
Boston University Technology Development

I/S: let's take a closer look – the head

- Revenue – money coming in!
 - Sales: units, subscriptions, advertising commissions, services
 - Royalties (from a license)
- Cost of Goods Sold
 - AKA “variable costs”
 - Just those costs associated with the sold item
 - Materials, labor are the usual suspects
 - Sales commissions? Royalty payments? There's a lot of “creativity”
- Gross Profit & Gross Margin
 - Learn to talk about margins, with the accompanying face

I/S: let's take a closer look – the body

- Operating expenses
 - Fixed costs
 - Where all the work gets done
 - All the costs that'll occur whether you sell anything or not
- Operating profit and Operating Margin
 - EBIT (earnings before interest and tax)
 - And that other acronym (EBITDA, ew)

I/S: let's take a closer look – the legs

- Interest: what you owe a lender if you take out a loan
- Tax: ummm
- Depreciation: How we expense a capital cost** over time
 - Check it out: if you buy a \$10,000 piece of equipment, where does that show up in an income statement? Depreciation
 - Think for a moment about cash flow here. When did that \$10,000 leave your pocket?
- Amortization: another form of depreciation – leave this to accountants to know the difference

** Capital expense v. Operating expense:

Capital expense is a lump sum payment, e.g. equipment, building, machinery

Operating expense: an ongoing expense that shows up in the income statement

The Balance Sheet

Liabilities

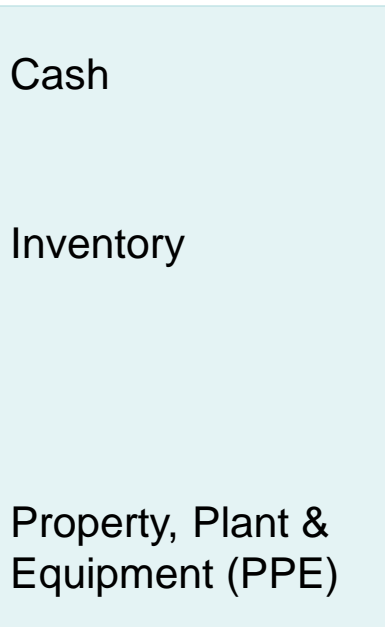
Short term
- salary
- accounts payable

Long term
- a loan over a year

Shares owned by
shareholders

Retained earnings

Equity



Assets

More liquid

Less liquid



Why do I say profit is an idea?

Make it



Accruing costs!!

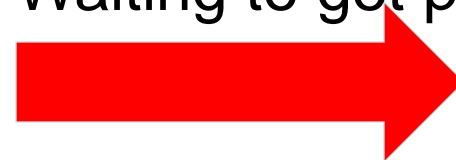
Raw materials
Manufacturing
Salaries

Finished:
Ship the product!
Send the invoice!



Q: when can I
record the
revenue on my
I/S?

Waiting to get paid



Paid

30 days?
60 days?
90 days?



Q: when does
the cash hit my
bank account?

**Accruing
more costs!!**

One of the most important equations in business

$$P * Q$$

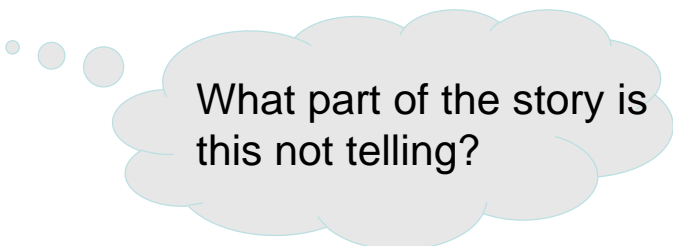
Where:

P = price

Q = quantity

Check it out: $P * Q$

- A company's Market Capitalization (aka market cap, value of a company, company's valuation)
 - P = share price
 - Q = number of shares
- A company's sales
 - P = price of the product(s)
 - Q = number of products sold
- Market size (based on sales)
 - P = price of the product(s)
 - Q = number of products sold



What part of the story is this not telling?

Components of a financial plan

START HERE

- Objective
- Vision, strategic intent
- How to make money
- Value proposition
- Can you build it?
- ✓ **ASSUMPTIONS**

REVENUE

- Business model
- Customer(s)
- Addressable market
- Revenue forecast
- ✓ **ASSUMPTIONS**

COST

- Vendors
- Expense forecast (COGS, Operating)
- Break even
- ✓ **ASSUMPTIONS**

FINANCING

- Milestones
- Amount required
- Use of funds
- Type of funds
- Long term plan or Exit
- Capitalization table
- ✓ **ASSUMPTIONS**

✓ **Cash table**

**VERY
IMPORTANT
OTHER
STUFF**

Competition

Market forces

Marketing

Product development

Supply chain

Operations

Financial statements

Acquirers

Contracts

Intellectual property

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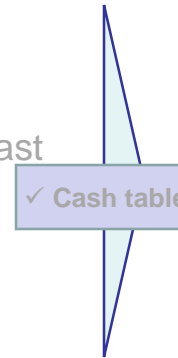
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Do you have an idea, a REAL idea? Really?

- A CA venture capital firm asks:

Can you build it?



Can you sell it?



- Mike Gonnerman asserts:

“You need to articulate a vision, how you’ll make money and when you’ll breakeven”



- Prof Gupta suggests:

“Run a back of the envelope (BOE) analysis because 99% of your (and my) ideas should be discarded”

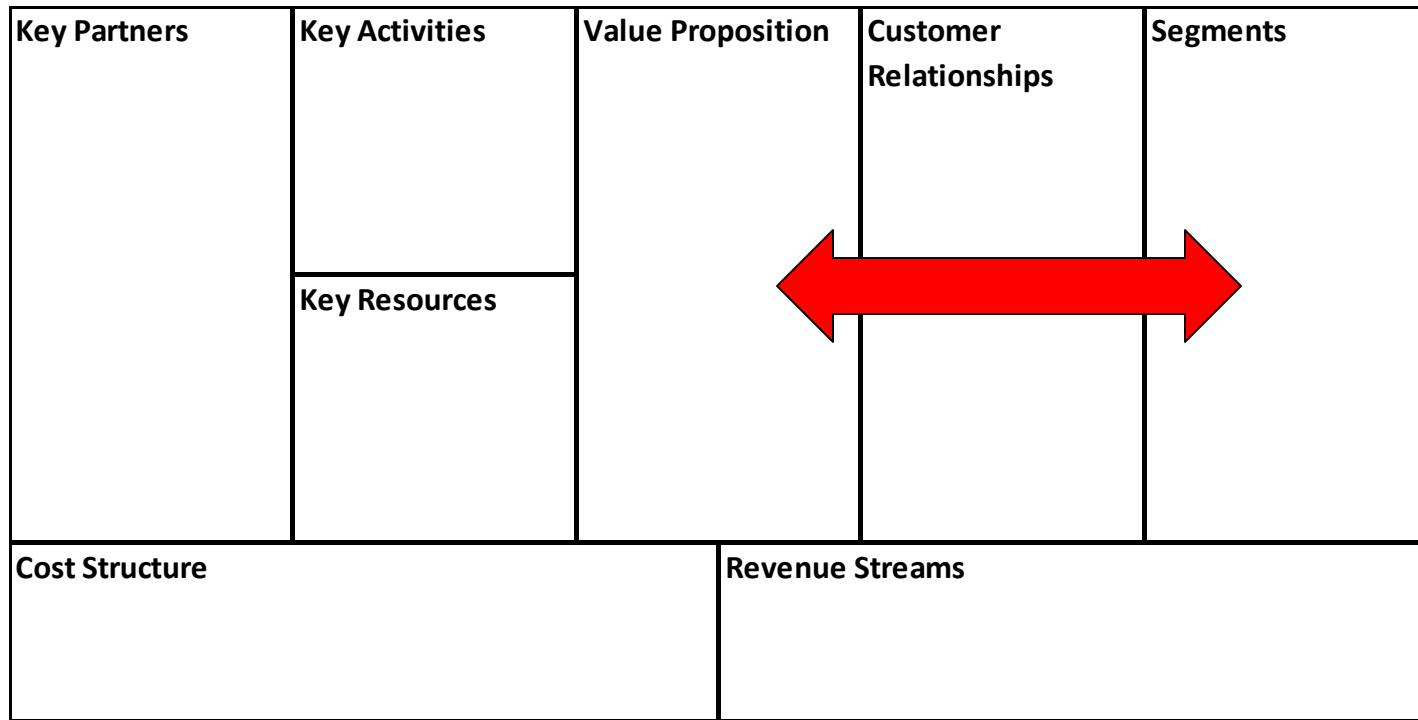


- SERIOUSLY

- Value proposition
- Customer conversations
- Market NEED

I seriously doubt it

Must have that Product-Market fit!!!



The idea - assumptions



Life situation



Need



Required solution



Customers

Any assumptions that lay the foundation for your idea

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Revenue forecasting – the most difficult of all

- I'll tell you the trick
- I will
- That's why you're here isn't it? To hear the trick?
- Oh yes, there's a trick
- Ready?

- CUSTOMERS AND COMPETITORS!

- That's it. That's the trick. For real.

Revenue forecast – from three directions

- Top down – macro
 - Addressable market
 - Assumptions about market penetration
 - Percentages
- Bottom up – micro
 - House by house
 - Sale by sale
 - Click by click
- Sideways – competitors, comparables
 - Annual reports
 - Interviews – ALWAYS meet with your competitors!
 - Talk with experts to learn how others did it



What's an addressable market –

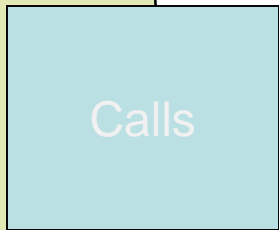
- NOT the size of the auto industry
- NOT the size of the medical industry
- It IS the market into which you can sell DIRECTLY your product or service
- Examples
 - Hot dog stand at Museum of Science
 - Cardiac Stent

Revenue- assumptions – important numbers

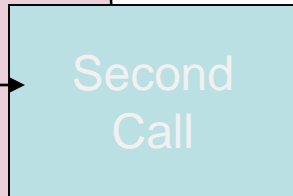
- Price
 - Product or service
- Sales cycle
 - How long from the time you meet a customer until you make a sale
 - What are the steps to making a sale
- Pipeline
 - How to build a pipeline
 - How will it lead to a sale

You have to know your sales process...

- One salesman
- Three calls per hour
- 25 calls per day
- Never happen



100



50 out of 100



20 of 50



10 of 50

Two weeks

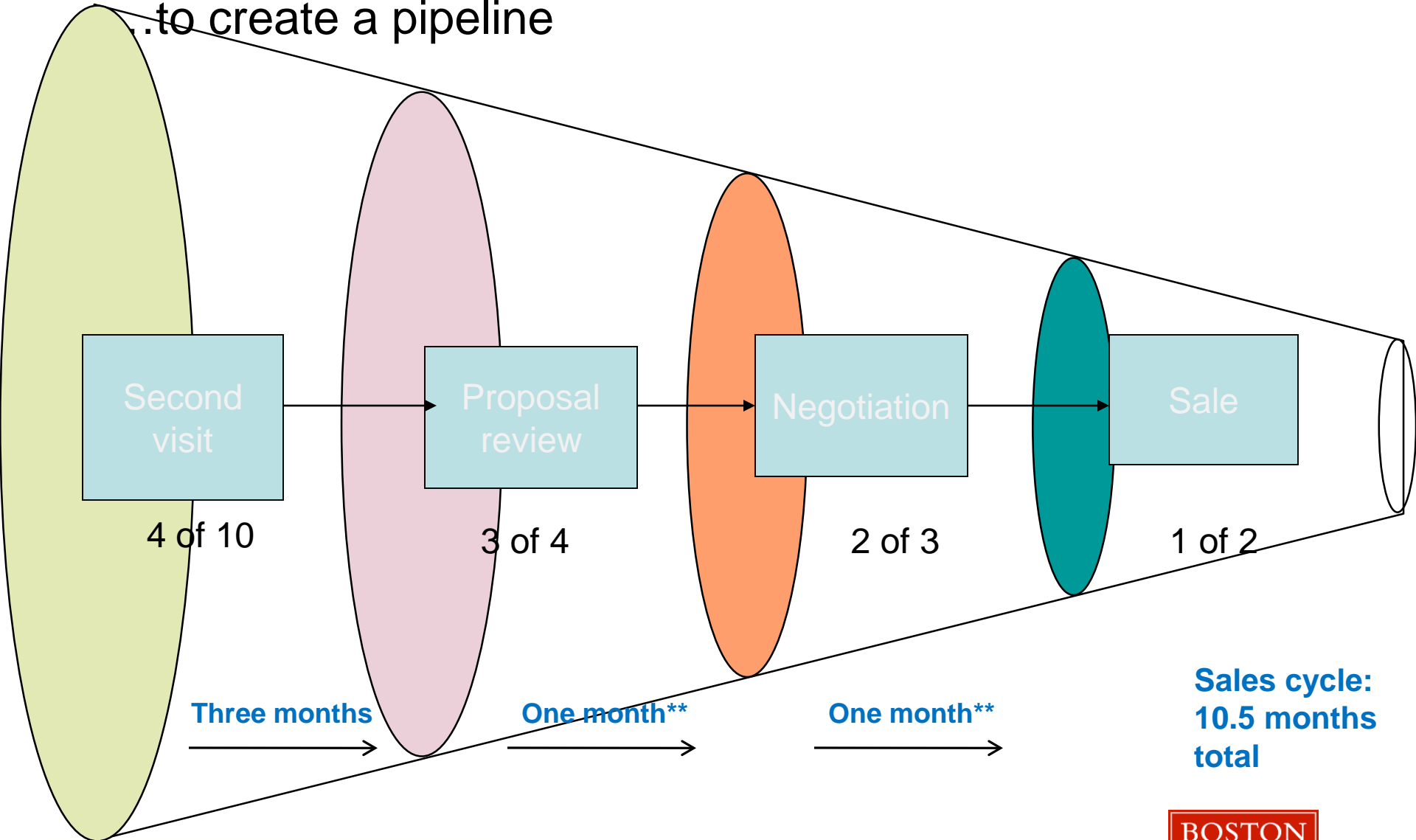
Four weeks

Two months

Two months

5.5 months

.to create a pipeline



Components of a financial plan – idea to financing

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Costs tend to appear easier – but not if you want to do it right

- Basic costs are available, such as rent, people
- **Cost of Goods Sold (COGS) takes a lot of work**
 - THIS is important
 - Shipping time
 - Credit terms
- Your operating plan feeds your operating costs
 - Most entrepreneurs don't consider an operating plan, to their detriment
 - What type of operations will you have? In house? Outsourced?
- **Headcount**
 - When, who, you need to hire
- Space requirements and expansion
- **Cost of development (product)**
 - Talk with vendors, competitors, Advisors, other entrepreneurs
 - Assumptions, assumptions, assumptions

Know your breakeven – it's the point after which you start MAKING MONEY

- Breakeven by dollars, units, what have you
- This is a huge risk-reducer
- Don't give it another thought. Just DO it

$$B/E = \frac{\text{Fixed Costs}}{\text{Price} - \text{Variable Costs}}$$

Calculating B/E

Fixed costs = \$500,000

Price per unit = \$100

Variable cost per unit = \$50

$$B/E = FC / (\text{Price} - VC)$$

$$B/E = \$500,000 / (\$100 - \$50)$$

$$= \$500,000 / \$50$$

$$= \$10,000 \text{ units}$$

How many units do you have to sell to break even?

At the 10,001st unit cash is coming in the door

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The cash table is my construct – but everyone has a version

| INVESTMENT | Week 1 | Week 2 | Week 3 | Week 4 |
|--------------|--------|--------|--------|--------|
| Equity | | | | |
| Loan | | | | |
| Grant | | | | |
| TOTAL | | | | |
| REVENUE | Week 1 | Week 2 | Week 3 | Week 4 |
| Product 1 | | | | |
| Product 2 | | | | |
| TOTAL | | | | |
| OPERATIONS | Week 1 | Week 2 | Week 3 | Week 4 |
| Travel | | | | |
| Rent | | | | |
| Salaries | | | | |
| Materials | | | | |
| TOTAL | | | | T |
| BANK BALANCE | Week 1 | Week 2 | Week 3 | Week 4 |
| Starting | | | | |
| Ending | | | | |

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* If necessary. Will be required for equity financing

Milestones drive value, use of funds AND amount required

- Milestones should be
 - Objectively auditable
 - Adding value, by anyone's measure
 - Reducing risk, by anyone's measure
- Whatever resources you'll need to achieve your milestones is your "use of funds"
- Calculate how many \$\$ to reach each milestone and add up the milestones – that's how much you need

This is one of the most important slides in the deck

Don't ask: "*How much money should I raise?*"

Wrong question

Milestone-driven financial planning – the market will tell you what's important

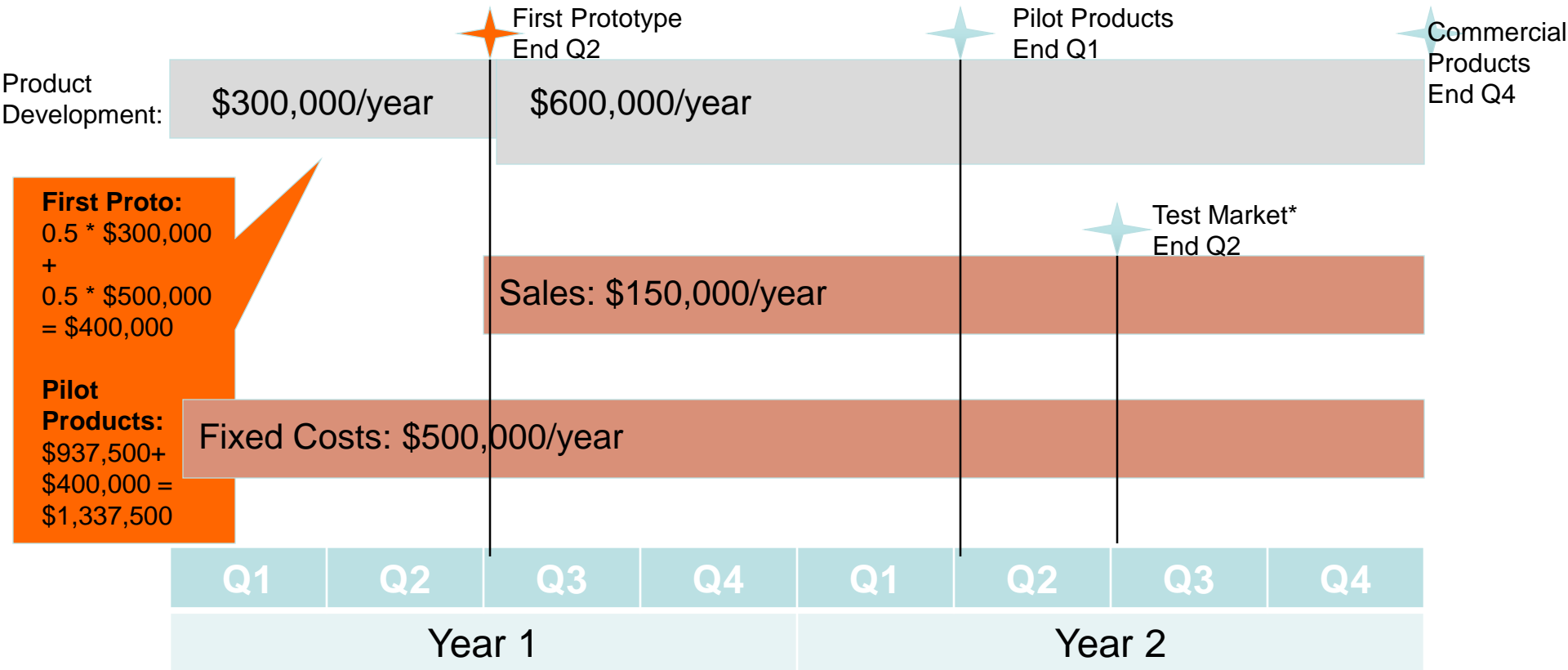
- *Investors are buying milestones*
 - YOU should not be the person to state your milestones
- To determine what are the milestones for you:
 - Understand other companies' milestones (comparables)
 - Advisors and mentors
 - Customers
 - Acquirers
 - Investors
 - Collaborators

Exemplar activity: Product Development

- Engineer (FT): \$100,000/year
- Outsourced prototyping house: \$100,000
 - \$25,000/iteration
 - Assume four iterations
- Software engineer (PT): \$50,000/year
- Manufacturing expert (PT): \$50,000/year
- Outsourced commercial manufacturing house^{**}: \$400,000
 - \$100,000/iteration
 - Assume four iterations to commercial product
 - Assume after two iterations, you'll have a test market device

^{**} replaces the proto house after protos finished

\$400,000 buys us a first proto



First Proto:
 $0.5 * \$300,000$
 $+$
 $0.5 * \$500,000$
 $= \$400,000$

Pilot Products:
 $\$937,500 +$
 $\$400,000 =$
 $\$1,337,500$

* In the hands of five paying customers

\$937,500

The type of funding is a function of objective and business (cash)

- Objective: If you don't want to sell, don't take equity
- Cash: If your business will not generate cash for a while, don't consider debt

Capitalization ('Cap') Table – tells who owns what

| | Investment | Price | Shares | % |
|---------|------------|-------|--------|---|
| Thing 1 | | | | |
| Thing 2 | | | | |

Rana's definition of an investment

- An investment is an opportunity with the risk quantified, reduced: risk and reward quantified
- How to convert an opportunity into an investment?

- You KNOW the first answer!!
- Assumptions, assumptions, assumptions
- Experience
- REAL, hands on, advisors
- Clear about what you don't know or have
- Plan to acquire what you don't know or have
- Path from here to there

The important threesome

- Match your funding sources with fundability** and objective##

** See Self Assessment tutorial

See What's My Objective tutorial

Exit

- Just comparables
- Doesn't matter if you're public or private, it's what you can negotiate