

12/July/2013

# Class 13 – Business Economics

*Summer 2013*

Accelerating Information Technology Innovation





# Reminder – Final Presentation – Thursday the 25<sup>th</sup> July (next week)

- • Prepare a 15-minute presentation describing and demonstrating your app. Your presentation should concentrate on the product itself, although you may wish to emphasize any particularly impressive portions of your development process. You may wish to include:
  - Your sketches
  - Your TAM estimate
  - Your customer persona
  - Your customer persona story
  - Your pitch/ask
  - Your financial spreadsheet
  
- An effective presentation includes color photographs, sketches, or video presentation along with a live display of the application.
  
- This presentation should be of the quality you would make to convince a top management group to purchase the rights to your product or to fund its final development and launch.
  
- In addition to your classmates, a panel of experts will observe your presentations and evaluate the projects. Be prepared to answer questions about all aspects of your project.
  - Submit the slide presentation
  - Submit several high-quality digital photos of the prototype

# Lets think about the Cedis





# The most important equation in business

**Profit =**



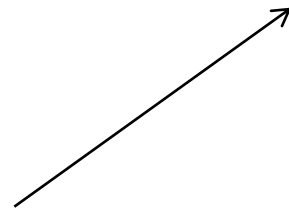
# The most important equation in business

$$\text{Profit} = \text{Revenue} - \text{Cost}$$

**Lets think about revenue ... what do we need to know:**

**Revenue = #customers x Price**

**Marketing  
Strategies  
&  
Adoption Rate**



**Market Estimation  
and Sizing**



**Monetization  
Strategy  
&  
Pricing  
(Today's *class*)**





**Now lets think about costs ... what do we need to know:**

$$\text{Costs} = \text{\#customers} \times \text{var cost per customer} \\ + \text{Fixed Cost}$$

# Project Financial Analysis

*also Business Case Analysis or Product Economics*

- Most common method is net present value (NPV) analysis of project cash flows.
- Alternative method is return on investment (ROI) analysis of cash flows. But this is not best practice
- Base case model computes nominal NPV.
- Sensitivity and trade-off analysis supports development decisions.
- Qualitative factors also influence decisions.
- Financial analysis is conducted at multiple points in the product development process.



# Questions to Answer with Project Financial Modelling

- Will the project be profitable enough to pay back the initial investment?
- What if our financial projections are wrong?
- What is the worst case for breakeven?
- Is it worth it to invest in more expensive designs, parts, etc?
- Can we sell our product at a loss in order to get a stream of ongoing sales of renewables?
- What if a new competitor joins the market?



**How do you think the cash flows for the following two startups look like?**

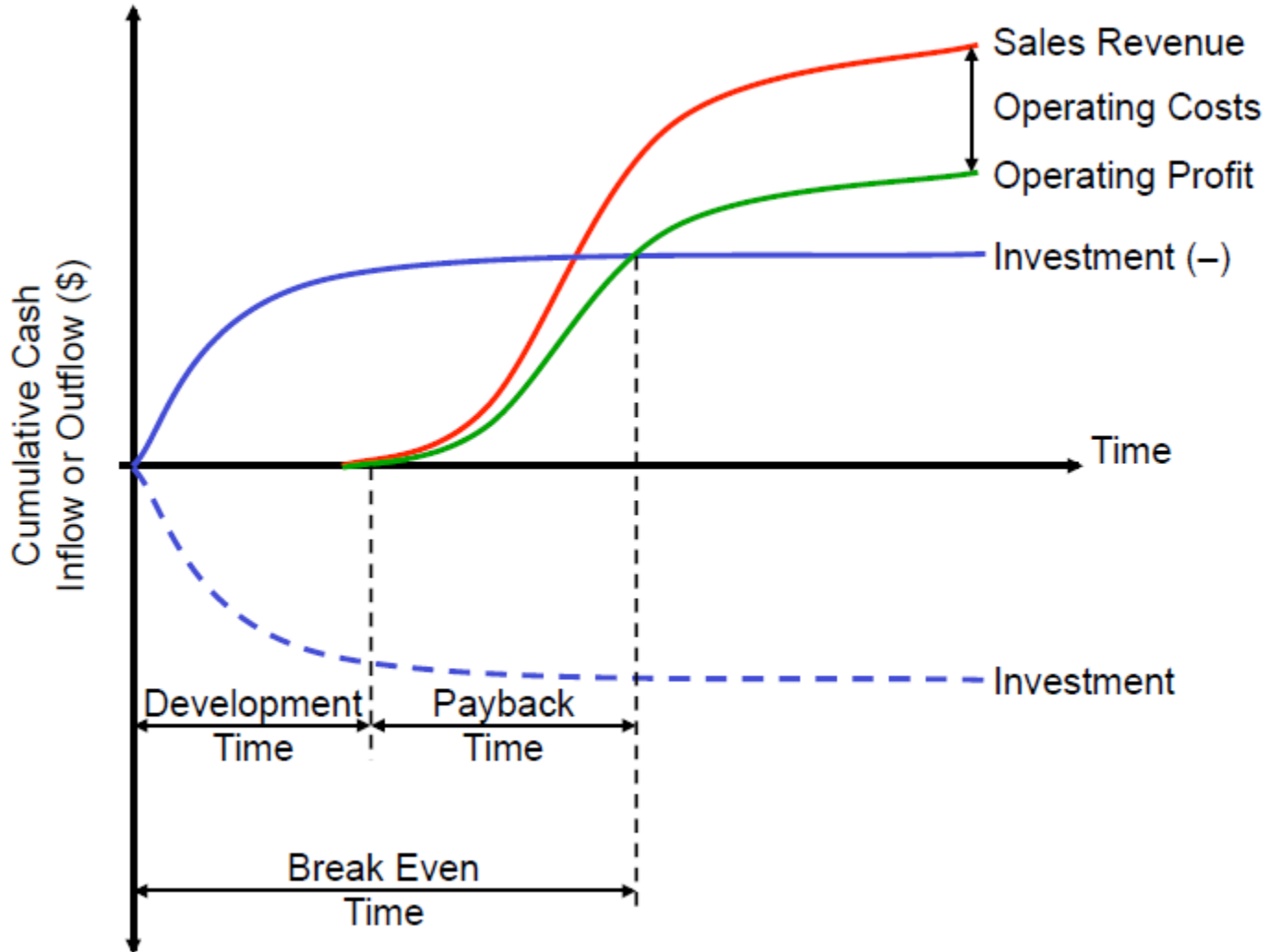


# Typical Inputs for NPV Analysis

- Development cost and timing
- Ramp-up cost and timing
- Marketing and support cost and timing
- Sales volume and lifetime
- Unit production cost
- Unit revenue
- Recycling cost or revenue
- Discount rate



# Product Development Cash Flow



# What is Net Present Value?

$$\text{NPV} = \sum_{\text{periods}} \frac{\text{period cash flow}}{(1 + \text{discount rate})^{\text{period}}}$$

$$\text{NPV} = \sum_{i=1}^N \frac{C_i}{(1+r)^i}$$

# Make a simple model to get started.

## Start with a schedule of expected activities and gradually add the numbers

	Year 1				Year 2				Year 3				Year 4				Year 5			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Development																				
Ramp-up																				
Marketing and Support																				
Production and Sales																				

# Break your model into a revenues section and a costs section

Units	Year 1				Year 2				
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
<b>Revenues</b>									
Wholesale Revenue	\$m					<b>\$0.26</b>	<b>\$0.41</b>	<b>\$0.56</b>	<b>\$0.87</b>
Sales volume	thousands of units					73.22	114.97	155.11	242.39
Unit price	\$/unit					\$6.00	\$6.00	\$6.00	\$6.00
Unit whole sale revenue	\$/unit					\$3.60	\$3.60	\$3.60	\$3.60
<b>Costs</b>									
Development cost	\$m	\$0.09	\$0.09	\$0.09	\$0.09				
Ramp-up cost	\$m			\$0.01	\$0.01	\$0.01			
Marketing & support cost						\$0.28	\$0.29	\$0.31	\$0.34
Production cost					<b>\$0.52</b>	<b>\$0.24</b>	<b>\$0.24</b>	<b>\$0.37</b>	<b>\$0.49</b>
Production Volume	thousands of units				343.30	155.11	155.11	242.39	325.51
Production cost per Unit	\$/unit				\$1.52	\$1.52	\$1.52	\$1.52	\$1.52
Period Cash Flow	\$m/Qtr	-\$0.09	-\$0.09	-\$0.10	-\$0.62	-\$0.26	-\$0.11	-\$0.12	\$0.04
Discounted Period Cash Flow	\$m/Qtr	-\$0.08	-\$0.08	-\$0.08	-\$0.47	-\$0.18	-\$0.07	-\$0.07	\$0.02
NPV over 5 Years	\$m	<b>\$11.89</b>							
Annual Discount Rate	30%								

# For more advanced business plans (required for investors) we capture more detail in a P&L forecast

P & L by Year			Year 1		Year 2		Year 3		Year 4	
	Source									
<b>Revenue</b>										
Model 1	P&L By Qtr	\$ 1,275,000	100%	\$ 10,500,000	88%	\$ 33,750,000	82%	\$ 37,500,000	50%	
Model 2	P&L By Qtr	\$ -	0%	\$ 1,400,000	12%	\$ 5,250,000	13%	\$ 27,500,000	36%	
Model 3	P&L By Qtr	\$ -	0%	\$ -	0%	\$ 2,400,000	6%	\$ 10,500,000	14%	
<b>Total Revenue</b>		<b>\$ 1,275,000</b>	<b>100%</b>	<b>\$ 11,900,000</b>	<b>100%</b>	<b>\$ 41,400,000</b>	<b>100%</b>	<b>\$ 75,500,000</b>	<b>100%</b>	
<b>COGS</b>										
	P&L By Qtr	\$ 425,000	33%	\$ 3,920,000	33%	\$ 13,385,000	32%	\$ 23,200,000	31%	
<b>Gross Margin</b>		<b>\$ 850,000</b>	<b>67%</b>	<b>\$ 7,980,000</b>	<b>67%</b>	<b>\$ 28,015,000</b>	<b>68%</b>	<b>\$ 52,300,000</b>	<b>69%</b>	
<b>Expenses</b>										
Engineering	P&L By Qtr	\$ 1,326,625	104%	\$ 3,475,275	29%	\$ 7,212,188	17%	\$ 12,205,975	16%	
Marketing	P&L By Qtr	\$ 710,750	56%	\$ 1,810,750	15%	\$ 3,239,350	8%	\$ 5,300,000	7%	
Sales	P&L By Qtr	\$ 1,214,250	95%	\$ 3,466,500	29%	\$ 7,171,500	17%	\$ 12,393,500	16%	
G&A	P&L By Qtr	\$ 964,575	76%	\$ 1,817,750	15%	\$ 3,117,000	8%	\$ 5,308,500	7%	
<b>Operating Exp.</b>		<b>\$ 4,216,200</b>	<b>331%</b>	<b>\$ 10,570,275</b>	<b>89%</b>	<b>\$ 20,740,038</b>	<b>50%</b>	<b>\$ 35,207,975</b>	<b>47%</b>	
<b>Operating Profit</b>		<b>\$ (3,366,200)</b>	<b>-264%</b>	<b>\$ (2,590,275)</b>	<b>-22%</b>	<b>\$ 7,274,963</b>	<b>18%</b>	<b>\$ 17,092,025</b>	<b>23%</b>	

P&L = Profit & Loss Statement



# Income Statement Example (or P&L)

## Key ingredients for a generic technology company

Sales (Revenue)	\$ 50.0	100%	After discounts
Cost of Goods Sold (COGS)	<u>\$ 20.0</u>	<u>40%</u>	Direct & indirect costs but NOT R&D
Gross Profit (Gross Margin)	\$ 30.0	60%	Sales minus COGS
Sales & Marketing (S&M)	\$ 15.0	30%	
Research & Development (R&D)	\$ 5.0	10%	
General & Admin (G&A)	<u>\$ 2.5</u>	<u>5%</u>	Rent, Accounting, HR, IT
Total Expenses	\$ 22.5	45%	
Operating Profit (EBIT)	\$ 7.5	15%	Gross Profit minus Total Expenses



# What cost categories can you think of?

Salaries

Utilities

Transport



# What cost categories can you think of?

**COGS (Cost of Goods Sold)**

**Development  
Costs/ R&D**

**Engineering**

**CAPEX**

**Marketing**

**Others?**

**Sales**

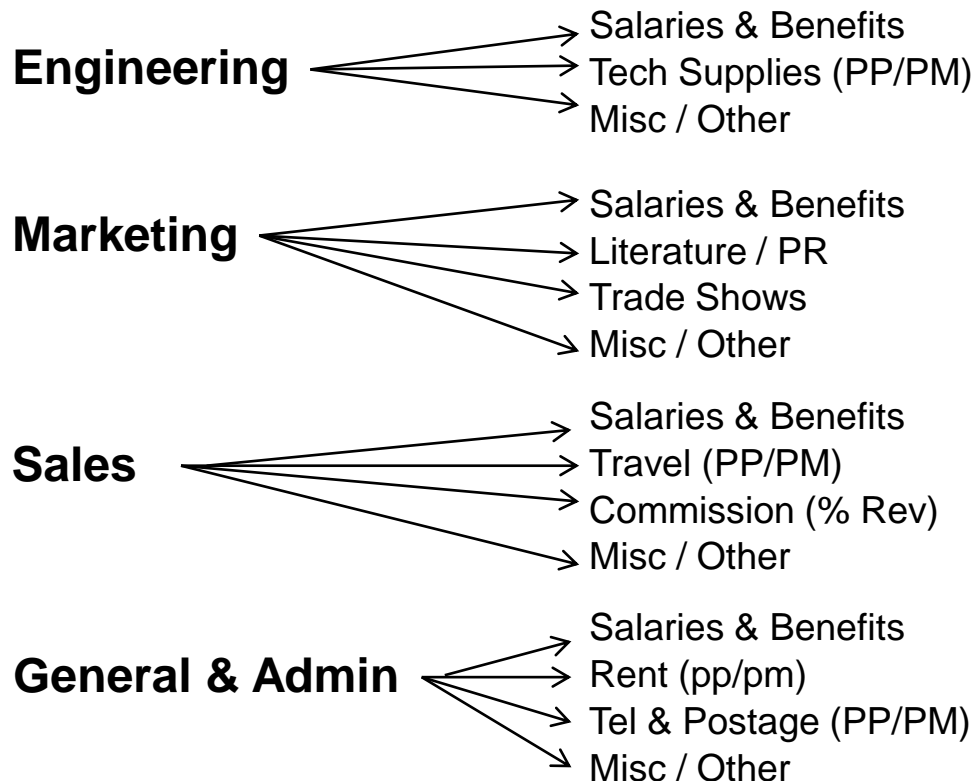
**General & Admin**

**The first step is to brainstorm all possible expense types**

# We often separated business Expenses from COGS and CAPEX

## Expenses

*Reoccurring costs associated with your business*



## COGS

**COGS = Cost of Goods Sold.**

*How much does your business pay for items sold*

## CAPEX

**CAPEX = Capital Expenditure**

*Major once-off investments made by your business - not reoccurring monthly*

# We sometimes may have a separate sheet for expenses

Departmental Expenses		Source	Q1	Q2	Q3	Q4	Q1	Q2
			Year 1	Year 1	Year 1	Year 1	Year 2	Year 2
<b>Engineering</b>								
Salaries & Benefits		Staffing Plan	\$ 129,375	\$ 232,875	\$ 276,000	\$ 336,375	\$ 408,038	\$ 562,275
Tech Supplies (PP/PM)	\$ 2,000	input/formula	\$ 30,000	\$ 60,000	\$ 72,000	\$ 90,000	\$ 108,000	\$ 150,000
Misc / Other		input	\$ 10,000	\$ 20,000	\$ 30,000	\$ 40,000	\$ 60,000	\$ 80,000
<b>Total Engineering</b>		<b>To P&amp;L</b>	<b>\$ 169,375</b>	<b>\$ 312,875</b>	<b>\$ 378,000</b>	<b>\$ 466,375</b>	<b>\$ 576,038</b>	<b>\$ 792,275</b>
<b>Marketing</b>								
Salaries & Benefits		Staffing Plan	\$ 86,250	\$ 86,250	\$ 135,125	\$ 158,125	\$ 210,600	\$ 214,200
Literature / PR		input	\$ 5,000	\$ 5,000	\$ 10,000	\$ 10,000	\$ 20,000	\$ 20,000
Trade Shows		input	\$ -	\$ 25,000	\$ -	\$ 50,000	\$ -	\$ 50,000
Misc / Other		input	\$ 20,000	\$ 20,000	\$ 40,000	\$ 60,000	\$ 100,000	\$ 125,000
<b>Total Marketing</b>		<b>To P&amp;L</b>	<b>\$ 111,250</b>	<b>\$ 136,250</b>	<b>\$ 185,125</b>	<b>\$ 278,125</b>	<b>\$ 330,600</b>	<b>\$ 409,200</b>
<b>Sales</b>								
Salaries & Benefits		Staffing Plan	\$ 122,188	\$ 179,688	\$ 309,063	\$ 366,563	\$ 504,563	\$ 572,688
Travel (PP/PM)	\$ 3,000	input/formula	\$ 9,000	\$ 18,000	\$ 36,000	\$ 45,000	\$ 63,000	\$ 72,000
Commission (% Rev)	5.00%	input/formula	\$ -	\$ 7,500	\$ 18,750	\$ 37,500	\$ 85,000	\$ 127,500
Misc / Other		input	\$ 15,000	\$ 15,000	\$ 15,000	\$ 20,000	\$ 20,000	\$ 20,000
<b>Total Sales</b>		<b>To P&amp;L</b>	<b>\$ 146,188</b>	<b>\$ 220,188</b>	<b>\$ 378,813</b>	<b>\$ 469,063</b>	<b>\$ 672,563</b>	<b>\$ 792,188</b>
<b>General &amp; Admin</b>								
Salaries & Benefits		Staffing Plan	\$ 129,375	\$ 143,750	\$ 195,500	\$ 195,500	\$ 251,550	\$ 255,850
Rent (pp/pm)	\$ 375	input/formula	\$ 19,125	\$ 28,125	\$ 41,625	\$ 48,375	\$ 63,000	\$ 73,125
Tel & Postage (PP/PM)	\$ 200	input/formula	\$ 10,200	\$ 15,000	\$ 22,200	\$ 25,800	\$ 33,600	\$ 39,000
Misc / Other		input	\$ 15,000	\$ 20,000	\$ 25,000	\$ 30,000	\$ 40,000	\$ 50,000
<b>Total G&amp;A</b>		<b>To P&amp;L</b>	<b>\$ 173,700</b>	<b>\$ 206,875</b>	<b>\$ 284,325</b>	<b>\$ 299,675</b>	<b>\$ 388,150</b>	<b>\$ 417,975</b>
<b>Total Operating Expense</b>			<b>\$ 600,513</b>	<b>\$ 876,188</b>	<b>\$ 1,226,263</b>	<b>\$ 1,513,238</b>	<b>\$ 1,967,350</b>	<b>\$ 2,411,638</b>



These lines come from staffing sheet



These expenses are entered here



These lines link to the P&L

# Staffing will often make up >70% of expenses – you may want a separate staffing plan and salaries forecast

Staffing Plan		Staffing	Staffing	Staffing	Staffing	Staffing	Staffing	Staffing	Staffing
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
		Year 1	Year 1	Year 1	Year 1	Year 2	Year 2	Year 2	Year 2
<b>Engineering</b>									
CTO	Input	1	1	1	1	1	1	1	1
Programmer	Input	4	8	10	12	15	20	25	30
Tech Writer	Input	-	1	1	2	2	4	4	4
Other	Input	-	-	-	-	-	-	-	-
<b>Total Eng</b>		<b>5</b>	<b>10</b>	<b>12</b>	<b>15</b>	<b>18</b>	<b>25</b>	<b>30</b>	<b>35</b>
<b>Marketing</b>									
VP Marketing	Input	1	1	1	1	1	1	1	1
Product Manager	Input	1	1	2	2	3	3	4	4
Mar-Com	Input	-	-	1	1	2	2	2	2
Other	Input	1	1	1	2	2	2	3	3
<b>Total Mktg</b>		<b>3</b>	<b>3</b>	<b>5</b>	<b>6</b>	<b>8</b>	<b>8</b>	<b>10</b>	<b>10</b>



**What monetization strategies can you think of?**

# Ten ways for you to make money with apps

1. Paid
2. Advertising
3. In-App Purchases
4. Webapp Subscriptions
5. Subscriptions
6. Sponsorship/Promotions
7. Lead Gen
8. Affiliate Sales
9. Analytics
10. Don't Make Money

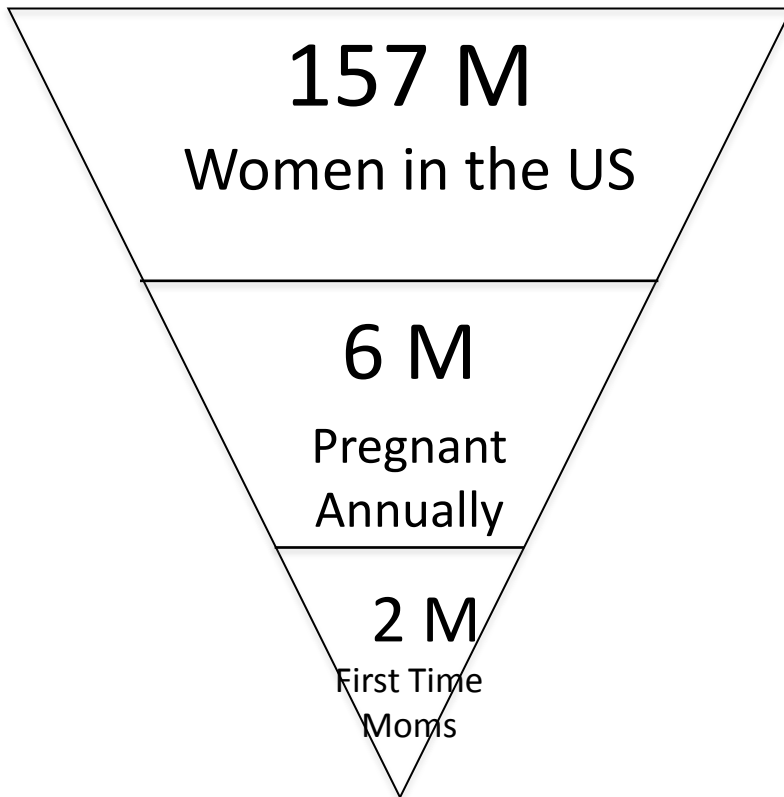
**How many  
Revenue  
Streams/Models  
does linked in  
have?**



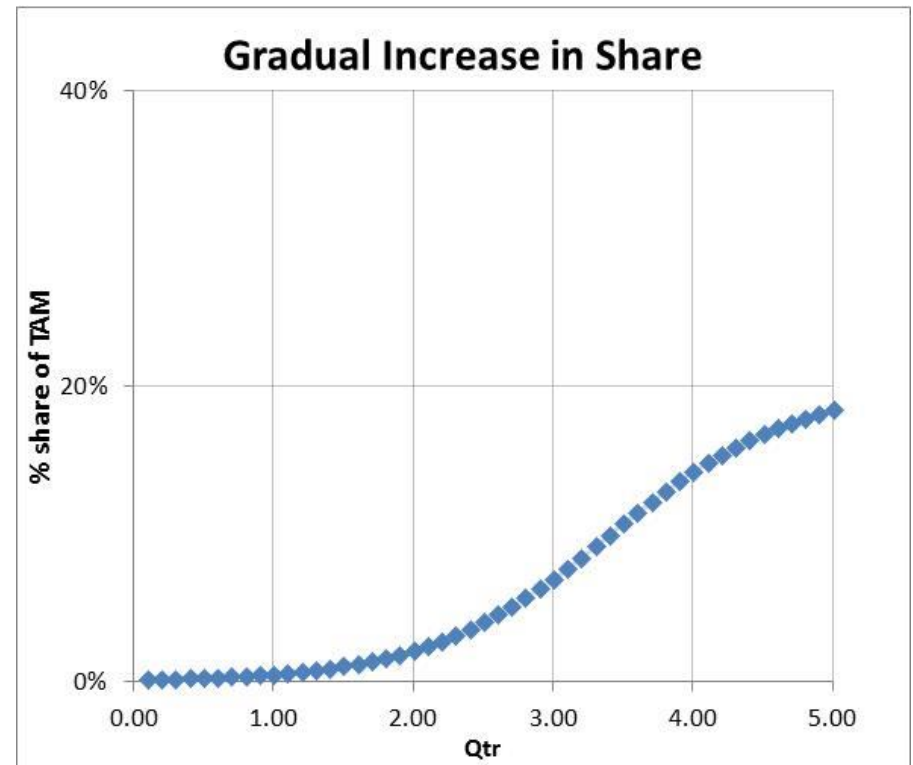


# Sales will gradually ramp up over time -

## Market Potential



## Expected Adoption Rate



# You may want a separate sheet for sales (volume) and revenue by revenue stream

Sales Plan		Source	Q1	Q2	Q3	Q4	Q1	Q2
			Year 1	Year 1	Year 1	Year 1	Year 2	Year 2
<b>Unit Sales</b>								
	Model 1	Input	-	20	50	100	200	300
	Model 2	Input	-	-	-	-	20	30
	Model 3	Input	-	-	-	-	-	-
	<b>Total Units</b>		-	20	50	100	220	330
<b>Revenue</b>								
	Model 1	\$ 7,500	\$ -	\$ 150,000	\$ 375,000	\$ 750,000	\$ 1,500,000	\$ 2,250,000
	Model 2	\$ 10,000	\$ -	\$ -	\$ -	\$ -	\$ 200,000	\$ 300,000
	Model 3	\$ 15,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	<b>Total Revenue</b>		\$ -	\$ 150,000	\$ 375,000	\$ 750,000	\$ 1,700,000	\$ 2,550,000
<b>Cost of Goods Sold</b>								
	Model 1	\$ 2,500	\$ -	\$ 50,000	\$ 125,000	\$ 250,000	\$ 500,000	\$ 750,000
	Model 2	\$ 3,000	\$ -	\$ -	\$ -	\$ -	\$ 60,000	\$ 90,000
	Model 3	\$ 3,500	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	<b>Total COGS</b>	To P&L	\$ -	\$ 50,000	\$ 125,000	\$ 250,000	\$ 560,000	\$ 840,000

← Volume / Customers , etc

← Volume \* Price

← You may want a separate section for price if price will change over time

← COGS

# You may want to add a separate sheet for CAPEX & Development Expenses

Capital Expenses			Q1	Q2	Q3	Q4	Q1	Q2
			Year 1	Year 1	Year 1	Year 1	Year 1	Year 1
Employee Workstations (PP)	\$	4,000	\$ 68,000	\$ 32,000	\$ 48,000	\$ 24,000	\$ 52,000	\$ 36,000
Prototype Expenses		Input	\$ 50,000	\$ 100,000	\$ 250,000	\$ 250,000	\$ 100,000	\$ 250,000
			\$ 118,000	\$ 132,000	\$ 298,000	\$ 274,000	\$ 152,000	\$ 286,000
Cumulative CAPEX			\$ 118,000	\$ 250,000	\$ 548,000	\$ 822,000	\$ 974,000	\$ 1,260,000

# We combine all this data into a P&L

## Staffing Plan

Staffing Plan	Staffing	Staffing	Staffing	Staffing	Staffing	Staffing	Staffing	Staffing	Staffing
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q4
	Year 1	Year 1	Year 1	Year 1	Year 2	Year 2	Year 2	Year 2	Year 2
<b>Engineering</b>									
CTD	Input	1	1	1	1	1	1	1	1
Programmer	Input	4	8	10	12	15	20	25	30
Tech Writer	Input	-	1	1	2	2	4	4	4
Other	Input	-	-	-	-	-	-	-	-
<b>Total Eng</b>	<b>Input</b>	<b>5</b>	<b>10</b>	<b>12</b>	<b>15</b>	<b>18</b>	<b>25</b>	<b>30</b>	<b>35</b>
<b>Marketing</b>									
VP Marketing	Input	1	1	1	1	1	1	1	1
Product Manager	Input	1	1	2	2	3	3	4	4
Mar Com	Input	-	-	1	1	2	2	2	2
Other	Input	1	1	1	2	2	2	3	3
<b>Total Mktg</b>	<b>Input</b>	<b>3</b>	<b>3</b>	<b>5</b>	<b>6</b>	<b>8</b>	<b>8</b>	<b>10</b>	<b>10</b>

## Expenses

Departmental Expenses	Source	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
		Year 1	Year 1	Year 1	Year 1	Year 2	Year 2	Year 2	Year 2
<b>Engineering</b>									
Salaries & Benefits	Staffing Plan	\$ 128,975	\$ 257,950	\$ 314,938	\$ 393,673	\$ 492,091	\$ 615,114	\$ 768,893	\$ 961,117
Travel Expenses (FFR)	Input	\$ 3,000	\$ 6,000	\$ 7,500	\$ 9,000	\$ 11,250	\$ 14,250	\$ 17,750	\$ 22,250
Misc (Other)	FFR	\$ 20,000	\$ 40,000	\$ 50,000	\$ 60,000	\$ 75,000	\$ 93,750	\$ 117,188	\$ 146,484
<b>Total Engineering</b>	<b>FFR</b>	<b>\$ 151,975</b>	<b>\$ 303,950</b>	<b>\$ 372,438</b>	<b>\$ 462,673</b>	<b>\$ 578,341</b>	<b>\$ 723,114</b>	<b>\$ 903,831</b>	<b>\$ 1,129,851</b>
<b>Marketing</b>									
Salaries & Benefits	Staffing Plan	\$ 101,188	\$ 202,376	\$ 252,970	\$ 316,213	\$ 395,267	\$ 494,084	\$ 617,605	\$ 771,506
Travel (FFR)	Input	\$ 3,000	\$ 6,000	\$ 7,500	\$ 9,000	\$ 11,250	\$ 14,250	\$ 17,750	\$ 22,250
Commission on Rev	COGS	\$ 5	\$ 10	\$ 12.50	\$ 15	\$ 18.75	\$ 23.44	\$ 29.31	\$ 36.63
Misc (Other)	FFR	\$ 20,000	\$ 40,000	\$ 50,000	\$ 60,000	\$ 75,000	\$ 93,750	\$ 117,188	\$ 146,484
<b>Total Marketing</b>	<b>FFR</b>	<b>\$ 134,193</b>	<b>\$ 268,386</b>	<b>\$ 332,470</b>	<b>\$ 411,213</b>	<b>\$ 510,267</b>	<b>\$ 631,484</b>	<b>\$ 782,024</b>	<b>\$ 986,727</b>
<b>General &amp; Admin</b>									
Salaries & Benefits	Staffing Plan	\$ 101,188	\$ 202,376	\$ 252,970	\$ 316,213	\$ 395,267	\$ 494,084	\$ 617,605	\$ 771,506
Travel (FFR)	Input	\$ 3,000	\$ 6,000	\$ 7,500	\$ 9,000	\$ 11,250	\$ 14,250	\$ 17,750	\$ 22,250
Commission on Rev	COGS	\$ 5	\$ 10	\$ 12.50	\$ 15	\$ 18.75	\$ 23.44	\$ 29.31	\$ 36.63
Misc (Other)	FFR	\$ 20,000	\$ 40,000	\$ 50,000	\$ 60,000	\$ 75,000	\$ 93,750	\$ 117,188	\$ 146,484
<b>Total General &amp; Admin</b>	<b>FFR</b>	<b>\$ 134,193</b>	<b>\$ 268,386</b>	<b>\$ 332,470</b>	<b>\$ 411,213</b>	<b>\$ 510,267</b>	<b>\$ 631,484</b>	<b>\$ 782,024</b>	<b>\$ 986,727</b>
<b>Total Operating Expenses</b>	<b>FFR</b>	<b>\$ 420,361</b>	<b>\$ 840,722</b>	<b>\$ 1,037,378</b>	<b>\$ 1,285,099</b>	<b>\$ 1,603,875</b>	<b>\$ 1,986,122</b>	<b>\$ 2,473,879</b>	<b>\$ 3,103,305</b>

## Sales Plan

Sales Plan	Source	Q1	Q2	Q3	Q4	Q1	Q2
		Year 1	Year 1	Year 1	Year 1	Year 2	Year 2
<b>Unit Sales</b>							
Model 1	FFR	-	20	50	100	250	300
Model 2	FFR	-	-	-	-	20	30
Model 3	FFR	-	-	-	-	-	-
<b>Total Units</b>	<b>FFR</b>	<b>-</b>	<b>20</b>	<b>50</b>	<b>100</b>	<b>270</b>	<b>330</b>
<b>Revenue</b>							
Model 1	\$ 7,200	\$ -	\$ 144,000	\$ 378,000	\$ 756,000	\$ 1,890,000	\$ 2,268,000
Model 2	\$ 10,000	\$ -	\$ -	\$ -	\$ -	\$ 200,000	\$ 300,000
Model 3	\$ 15,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total Revenue</b>	<b>\$</b>	<b>\$ 169,000</b>	<b>\$ 378,000</b>	<b>\$ 756,000</b>	<b>\$ 1,190,000</b>	<b>\$ 2,090,000</b>	<b>\$ 2,568,000</b>
<b>Cost of Goods Sold</b>							
Model 1	\$ 2,200	\$ -	\$ 44,000	\$ 110,000	\$ 220,000	\$ 550,000	\$ 660,000
Model 2	\$ 3,000	\$ -	\$ -	\$ -	\$ -	\$ 60,000	\$ 90,000
Model 3	\$ 3,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total COGS</b>	<b>FFR</b>	<b>\$ 8,200</b>	<b>\$ 44,000</b>	<b>\$ 110,000</b>	<b>\$ 220,000</b>	<b>\$ 610,000</b>	<b>\$ 750,000</b>

## CAPEX

Capital Expenses	Source	Q1	Q2	Q3	Q4	Q1	Q2
		Year 1	Year 1	Year 1	Year 1	Year 2	Year 2
Employee Recruitment (FFR)	Input	\$ 4,000	\$ 8,000	\$ 10,000	\$ 12,000	\$ 15,000	\$ 18,000
Product Expenses	FFR	\$ 10,000	\$ 20,000	\$ 25,000	\$ 30,000	\$ 37,500	\$ 45,000
<b>Total CAPEX</b>	<b>FFR</b>	<b>\$ 14,000</b>	<b>\$ 28,000</b>	<b>\$ 35,000</b>	<b>\$ 42,000</b>	<b>\$ 52,500</b>	<b>\$ 63,000</b>

## P&L by Quarter

P & L by Qtr	Source	Q1	Q2	Q3	Q4	Q1
		Year 1	Year 1	Year 1	Year 1	Year 2
<b>Revenue</b>						
Model 1 Sales Plan	FFR	\$ -	\$ 150,000	\$ 375,000	\$ 750,000	\$ 1,500,000
Model 2 Sales Plan	FFR	\$ -	\$ -	\$ -	\$ -	\$ 200,000
Model 3 Sales Plan	FFR	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total Revenue</b>	<b>FFR</b>	<b>\$ -</b>	<b>\$ 150,000</b>	<b>\$ 375,000</b>	<b>\$ 750,000</b>	<b>\$ 1,700,000</b>
<b>COGS</b>						
Sales Plan	FFR	\$ -	\$ 50,000	\$ 125,000	\$ 250,000	\$ 500,000
<b>Gross Margin</b>	<b>FFR</b>	<b>\$ -</b>	<b>\$ 100,000</b>	<b>\$ 250,000</b>	<b>\$ 500,000</b>	<b>\$ 1,140,000</b>
<b>Expenses</b>						
Engineering Expenses	FFR	\$ 169,375	\$ 312,875	\$ 378,000	\$ 466,375	\$ 576,038
Marketing Expenses	FFR	\$ 111,250	\$ 222,500	\$ 281,125	\$ 351,438	\$ 439,250
Salaries Expenses	FFR	\$ 146,188	\$ 292,376	\$ 365,463	\$ 456,763	\$ 570,758
G&A Expenses	FFR	\$ 173,750	\$ 347,500	\$ 434,375	\$ 542,625	\$ 678,188
<b>Operating Exp.</b>	<b>FFR</b>	<b>\$ 600,513</b>	<b>\$ 875,251</b>	<b>\$ 1,058,963</b>	<b>\$ 1,317,199</b>	<b>\$ 1,664,234</b>
<b>Operating Profit</b>	<b>FFR</b>	<b>\$ (600,513)</b>	<b>\$ (725,251)</b>	<b>\$ (683,963)</b>	<b>\$ (567,199)</b>	<b>\$ (524,234)</b>

## P&L by Year

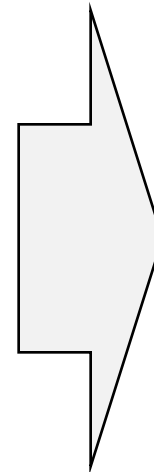
P & L by Year	Source	Year 1	Year 2	Year 3
<b>Revenue</b>				
Model 1 P&L By Qtr	FFR	\$ 1,275,000 100%	\$ 10,500,000 88%	\$ 33,750,000 82%
Model 2 P&L By Qtr	FFR	\$ - 0%	\$ 1,400,000 12%	\$ 5,250,000 13%
Model 3 P&L By Qtr	FFR	\$ - 0%	\$ - 0%	\$ 2,400,000 6%
<b>Total Revenue</b>	<b>FFR</b>	<b>\$ 1,275,000 100%</b>	<b>\$ 11,900,000 100%</b>	<b>\$ 41,400,000 100%</b>
<b>COGS</b>				
P&L By Qtr	FFR	\$ 425,000 33%	\$ 3,920,000 33%	\$ 13,385,000 32%
<b>Gross Margin</b>	<b>FFR</b>	<b>\$ 850,000 67%</b>	<b>\$ 7,980,000 67%</b>	<b>\$ 28,015,000 68%</b>
<b>Expenses</b>				
Engineering P&L By Qtr	FFR	\$ 1,326,625 104%	\$ 3,475,275 29%	\$ 7,212,188 17%
Marketing P&L By Qtr	FFR	\$ 710,750 56%	\$ 1,810,750 15%	\$ 3,239,350 8%
Sales P&L By Qtr	FFR	\$ 1,214,250 95%	\$ 3,466,500 29%	\$ 7,171,500 17%
G&A P&L By Qtr	FFR	\$ 964,875 76%	\$ 1,817,750 15%	\$ 3,117,000 8%
<b>Operating Exp.</b>	<b>FFR</b>	<b>\$ 4,216,200 331%</b>	<b>\$ 10,570,275 89%</b>	<b>\$ 20,740,038 50%</b>
<b>Operating Profit</b>	<b>FFR</b>	<b>\$ (3,366,200) -264%</b>	<b>\$ (2,590,275) -22%</b>	<b>\$ 7,274,962 18%</b>

# Combine Revenues and Costs into the P&L (Profit and Loss Statement)

P & L by Qtr		Source	Q1	Q2	Q3	Q4	Q1
			Year 1	Year 1	Year 1	Year 1	Year 2
<b>Revenue</b>							
	Model 1	Sales Plan	\$ -	\$ 150,000	\$ 375,000	\$ 750,000	\$ 1,500,000
	Model 2	Sales Plan	\$ -	\$ -	\$ -	\$ -	\$ 200,000
	Model 3	Sales Plan	\$ -	\$ -	\$ -	\$ -	\$ -
	<b>Total Revenue</b>		<b>\$ -</b>	<b>\$ 150,000</b>	<b>\$ 375,000</b>	<b>\$ 750,000</b>	<b>\$ 1,700,000</b>
	<b>COGS</b>	Sales Plan	\$ -	\$ 50,000	\$ 125,000	\$ 250,000	\$ 560,000
	<b>Gross Margin</b>		<b>\$ -</b>	<b>\$ 100,000</b>	<b>\$ 250,000</b>	<b>\$ 500,000</b>	<b>\$ 1,140,000</b>
<b>Expenses</b>							
	Engineering	Expenses	\$ 169,375	\$ 312,875	\$ 378,000	\$ 466,375	\$ 576,038
	Marketing	Expenses	\$ 111,250	\$ 136,250	\$ 185,125	\$ 278,125	\$ 330,600
	Sales	Expenses	\$ 146,188	\$ 220,188	\$ 378,813	\$ 469,063	\$ 672,563
	G&A	Expenses	\$ 173,700	\$ 206,875	\$ 284,325	\$ 299,675	\$ 388,150
	<b>Operating Exp.</b>		<b>\$ 600,513</b>	<b>\$ 876,188</b>	<b>\$ 1,226,263</b>	<b>\$ 1,513,238</b>	<b>\$ 1,967,350</b>
	<b>Operating Profit</b>		<b>\$ (600,513)</b>	<b>\$ (776,188)</b>	<b>\$ (976,263)</b>	<b>\$ (1,013,238)</b>	<b>\$ (827,350)</b>

← Plan by Month for first two years

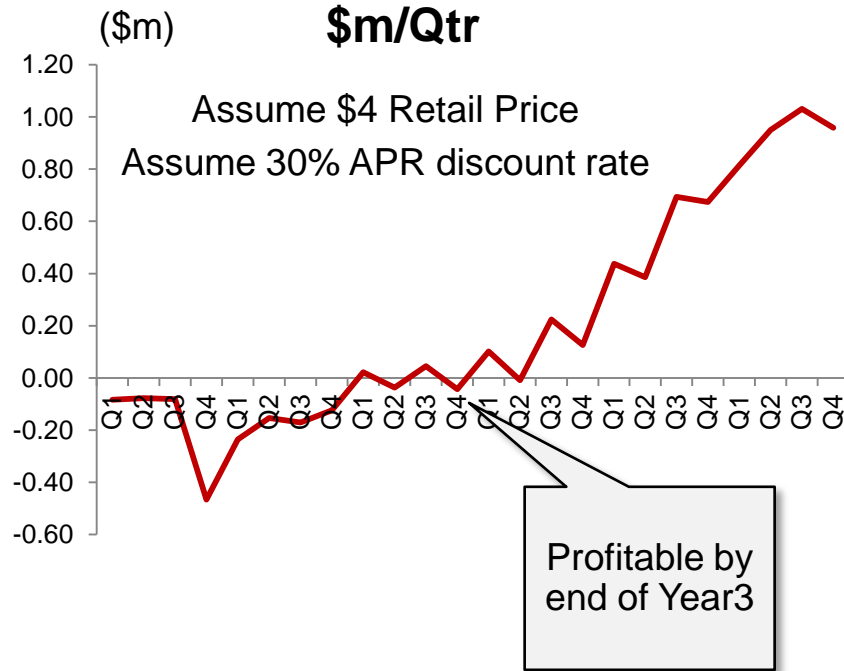
Plan by Qtr thereafter



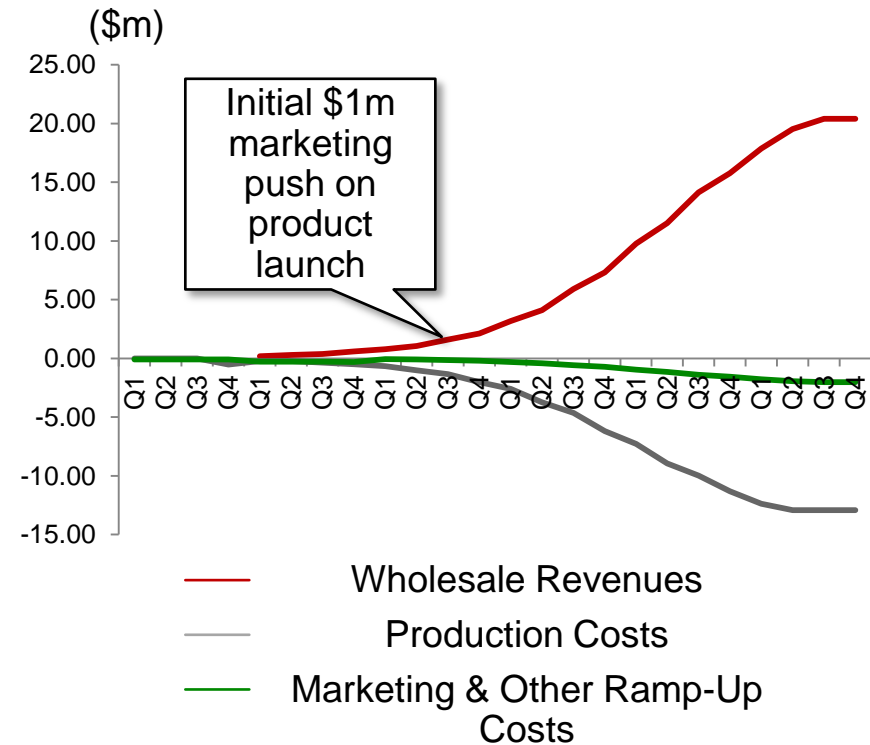
Continued for 5 years

# Investors also like to see your financials graphically

## Discounted Period Cash Flow



## Inflows & Outflows by Qtr





# What Investors Look At

P & L by Year		Source	Year 1		Year 2		Year 3		Year 4					
<b>Revenue</b>														
Model 1	P&L By Qtr	\$	1,275,000	100%	\$	10,500,000	88%	\$	33,750,000	82%	\$	37,500,000	50%	
Model 2	P&L By Qtr	\$	-	0%	\$	1,400,000	12%	\$	5,250,000	13%	\$	27,500,000	36%	
Model 3	P&L By Qtr	\$	-	0%	\$	-	0%	\$	2,400,000	6%	\$	10,500,000	14%	
<b>Total Revenue</b>		\$	<b>1,275,000</b>	100%	\$	<b>11,900,000</b>	100%	\$	<b>41,400,000</b>	100%	\$	<b>75,500,000</b>	100%	
<b>COGS</b>		P&L By Qtr	\$	425,000	33%	\$	3,920,000	33%	\$	13,385,000	32%	\$	23,200,000	31%
<b>Gross Margin</b>		\$	<b>850,000</b>	67%	\$	<b>7,980,000</b>	67%	\$	<b>28,015,000</b>	68%	\$	<b>52,300,000</b>	69%	
<b>Expenses</b>														
Engineering	P&L By Qtr	\$	1,326,625	104%	\$	3,475,275	29%	\$	7,212,188	17%	\$	12,205,975	16%	
Marketing	P&L By Qtr	\$	710,750	56%	\$	1,810,750	15%	\$	3,239,350	8%	\$	5,300,000	7%	
Sales	P&L By Qtr	\$	1,214,250	95%	\$	3,466,500	29%	\$	7,171,500	17%	\$	12,393,500	16%	
G&A	P&L By Qtr	\$	964,575	76%	\$	1,817,750	15%	\$	3,117,000	8%	\$	5,308,500	7%	
<b>Operating Exp.</b>		\$	<b>4,216,200</b>	331%	\$	<b>10,570,275</b>	89%	\$	<b>20,740,038</b>	50%	\$	<b>35,207,975</b>	47%	
<b>Operating Profit</b>		\$	<b>(3,366,200)</b>	-264%	\$	<b>(2,590,275)</b>	-22%	\$	<b>7,274,963</b>	18%	\$	<b>17,092,025</b>	23%	



# What YOU should look at

P & L by Year		Year 1		Year 2		Year 3		Year 4	
	Source								
<b>Revenue</b>									
Model 1	P&L By Qtr	\$ 1,275,000	100%	\$ 10,500,000	88%	\$ 33,750,000	82%	\$ 37,500,000	50%
Model 2	P&L By Qtr	\$ -	0%	\$ 1,400,000	12%	\$ 5,250,000	13%	\$ 27,500,000	36%
Model 3	P&L By Qtr	\$ -	0%	\$ -	0%	\$ 2,400,000	6%	\$ 10,500,000	14%
<b>Total Revenue</b>		<b>\$ 1,275,000</b>	<b>100%</b>	<b>\$ 11,900,000</b>	<b>100%</b>	<b>\$ 41,400,000</b>	<b>100%</b>	<b>\$ 75,500,000</b>	<b>100%</b>
<b>COGS</b>	P&L By Qtr	\$ 425,000	33%	\$ 3,920,000	33%	\$ 13,385,000	32%	\$ 23,200,000	31%
<b>Gross Margin</b>		<b>\$ 850,000</b>	<b>67%</b>	<b>\$ 7,980,000</b>	<b>67%</b>	<b>\$ 28,015,000</b>	<b>68%</b>	<b>\$ 52,300,000</b>	<b>69%</b>
<b>Expenses</b>									
Engineering	P&L By Qtr	\$ 1,326,625	104%	\$ 3,475,275	29%	\$ 7,212,188	17%	\$ 12,205,975	16%
Marketing	P&L By Qtr	\$ 710,750	56%	\$ 1,810,750	15%	\$ 3,239,350	8%	\$ 5,300,000	7%
Sales	P&L By Qtr	\$ 1,214,250	95%	\$ 3,466,500	29%	\$ 7,171,500	17%	\$ 12,393,500	16%
G&A	P&L By Qtr	\$ 964,575	76%	\$ 1,817,750	15%	\$ 3,117,000	8%	\$ 5,308,500	7%
<b>Operating Exp.</b>		<b>\$ 4,216,200</b>	<b>331%</b>	<b>\$ 10,570,275</b>	<b>89%</b>	<b>\$ 20,740,038</b>	<b>50%</b>	<b>\$ 35,207,975</b>	<b>47%</b>
<b>Operating Profit</b>		<b>\$ (3,366,200)</b>	<b>-264%</b>	<b>\$ (2,590,275)</b>	<b>-22%</b>	<b>\$ 7,274,963</b>	<b>18%</b>	<b>\$ 17,092,025</b>	<b>23%</b>



# You can learn a lot about a business from their public P&L: Business Models – Internet



Revenue	100%	100%	100%	100%
COGS	77%	21%	41%	40%
Gross Margin	23%	79%	59%	60%
R&D	6%	8%	13%	12%
SGA	13%	47%	31%	15%
Expenses	19%	55%	44%	27%
Op Profit	4%	24%	15%	33%
Annual Revenue	\$10.7B	\$6B	\$6.5B	\$11B
Employees	14k	13k	11k	11k
Rev per Emp perYr	\$764k	\$461k	\$585k	\$1M !!!!!

# Business Plan Financials

## *Josh's Rules-of-Thumb: Disclaimer*

- Do **NOT** use Business Planning Software
- Focused on making attractive to **investors**
- Most relevant for **technology** companies
- May **not** apply to your industry
- Most common Business Plan errors:
  - Revenue too high in year 4
  - Profit **margin** too high in year 4

# Full Business Plan Presentation Suggestions

- Page 1: Annual P&L for 4 years
- Page 2 & 3: Quarterly P&L for all 4 years
- Page 4: Quarterly Staffing plan for 4 years
- Page 5: Quarterly cash flow for 4 years