

ENTREPRENEURIAL FINANCE

Session 3: Contribution Margin and VC Metrics

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Office of Innovation
& Entrepreneurship

Agenda

- Context: Financial Statements
- Topics for These Sessions
 - Pricing and Revenue
 - Unit Economics
 - Contribution Margin & Presentation
- Session 3: Contribution Margin & Stuff for Investors
 1. Gross Margin vs. Contribution Margin
 2. VC Metrics - CAC: Customer Acquisition Cost
 3. VC Metrics - Magic Number
 4. Financial Presentation



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Who am I, and why should you listen to me?

Andy Levinson

20 years of finance and accounting experience in the DC VC/PE community



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Financial Statements - How do they Connect?



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Income Statement (P&L)

Revenue
 Cost of Goods Sold
 Gross Profit
 Operating Expenses
 Sales & Marketing
 Research & Development
 General & Administrative
 Total Operating Expenses
 Operating Income
 Interest Expense
 Taxes
Net Income
 + Interest Expense
 + Depreciation & Amortization
 + Stock Compensation
 EBITDA

Statement of Cash Flows

Cash Flows from Operations
Net Income
 Adjustments (for Non-Cash Expenses)
 Depreciation & Amortization
 Stock Compensation
 Changes in Working Capital
 Accounts Receivable
 Accounts Payable
 Deferred Revenue
 Total Cash Flow from Operations
 Cash Flows from Investments
 Purchases of Property, Plant & Equipment
 Total Cash Flows from Investments
 Cash Flows from Financing
 Proceeds from Issuance of Debt
 Proceeds from Issuance of Equity
 Repayment of Debt
 Total Cash Flows from Financing
 Change in Cash
 Cash at the Start of Period
Cash at the End of Period

Balance Sheet

Assets
 Current Assets
Cash
 Accounts Receivable
 Total Current Assets
 Non-Current Assets
 Property, Plant & Equipment
 Total Non-Current Assets
 Total Assets
 Liabilities and Shareholder's Equity
 Liabilities
 Current Liabilities
 Accounts Payable
 Deferred Revenue
 Total Current Liabilities
 Non-Current Liabilities
 Debt
 Total Non-Current Liabilities
 Total Liabilities
 Shareholders' Equity
 Common Stock
 Retained Earnings
 Total Shareholders' Equity
 Total Liabilities and Shareholders' Equity

Financial Statements - How do they Connect?

Income Statement (P&L)

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 Research & Development
 General & Administrative
 Total Operating Expenses
 Operating Income
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Net Income
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Statement of Cash Flows

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 Shareholders' Equity
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 Retained Earnings
 Total Shareholders' Equity
 Total Liabilities and Shareholders' Equity



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Focus Here: The Income Statement (P&L)



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Income Statement (P&L)

Revenue
Cost of Goods Sold
Gross Profit
Operating Expenses
 Sales & Marketing
 Research & Development
 General & Administrative
Total Operating Expenses
Operating Income
Interest Expense
Taxes
Net Income
+ Interest Expense
+ Depreciation & Amortization
+ Stock Compensation
EBITDA

Session 3: Contribution Margin

VC Metrics: CAC

VC Metrics: Magic Number

VC Metrics: The Rule of 40





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Contribution Margin & Stuff for Investors

- What is Our Example?
- Gross Margin vs. Contribution Margin
- VC Metrics: CAC: Customer Acquisition Cost
- VC Metrics: Magic Number
- VC Metrics: The Rule of 40





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Example: A Youth Soccer Team

- 20 Players (2 Teams)
- 10 Month "Season"
- 2 Seasonal "Leagues," 2 Seasonal Tournaments
- 1 Field
- Owner + 1 PT Coach + 1 PT Staff



Gross Profit and Unit Contribution

What is the profit
for the team?



vs

What is the profit per unit
(and what exactly is a unit)?



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Gross Margin

Reminder from last session: Gross Margin is the percentage of Revenue remaining after incurring Cost of Goods Sold

$$(\text{Revenue} - \text{Cost of Goods Sold}) / \text{Revenue} = \text{Gross Margin}$$

$$\text{Gross Profit} / \text{Revenue} = \text{Gross Margin}$$

Income Statement (P&L)	2022 AUG	2022 SEP	2022 OCT	2022 NOV	2022 DEC	2023 JAN	2023 FEB	2023 MAR	2023 APR	2023 MAY	2023 JUN	2023 JUL	2022 FY	2023 FY	22-23 Total
Total Revenue	-	9,200	8,400	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	-	32,000	43,200	75,200
Total Cost of Goods Sold	-	6,846	6,486	9,246	5,246	5,246	5,246	6,246	6,246	9,246	5,246	-	27,824	37,476	65,300
Gross Profit	-	2,354	1,914	(2,046)	1,954	1,954	1,954	954	954	(2,046)	1,954	-	4,176	5,724	9,900
Gross Margin	0%	26%	23%	(28%)	27%	27%	27%	13%	13%	(28%)	27%	0%	13%	13%	13%



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Contribution Margin

Contribution Margin is the percentage of Revenue remaining after incurring Cost of Goods Sold AND variable sales and marketing costs.

$$(\text{Gross Profit} - \text{Variable Selling Costs}) / \text{Revenue} = \text{Gross Margin}$$

Disclosure: This is not what you are going to see on a basic google search.



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Contribution Margin

Let's say that we hire someone to distribute fliers...and we pay this 'salesperson' a bounty for every player they sign up for the team.

Let's say we'll pay \$50 per player recruited, and "Flier Guy" manages to recruit 10 of the 40 players we have on the team.



	Per Player Cost
Sales & Marketing	
Players	20
Teams	2
<hr/>	<hr/>
Total Players	40
Attributed Sales	25%
<hr/>	<hr/>
Players Attributed to Flier Guy	10
per Attributed	\$ 50
<hr/>	<hr/>
Total Commissions	\$ 500
<hr/>	<hr/>
Total Players	40
<hr/>	<hr/>
Per Player	\$ 12.50



Contribution Margin

Let's go back and remember our revenue items:

Team Dues	
Players	20
Dues	\$ 1,000
<hr/>	
Dues Per Team	20,000
Teams	2
Annual Total Team Dues	40,000

Uniforms	
Players	20
Price per Uniform	\$ 50
<hr/>	
Uniforms per Team	\$ 1,000
Teams	2
Total Uniforms	\$ 2,000

Logo Gear	
Players	20
Teams	2
<hr/>	
Total Players	40
Take Rate	40%
<hr/>	
Parents Buying Logo Gear	16
Price per Logo Gear	\$ 75
Total Logo Gear	\$ 1,200
<hr/>	
Total Players	40
Per Player	\$ 30

Lessons	
Players	20
Teams	2
<hr/>	
Total Players	40
Take Rate	20%
<hr/>	
Players Taking Lessons	8
Lessons/Player/Month	4
<hr/>	
Lessons Per Month	32
Hourly Rate	\$ 50
Monthly Total for Lessons	\$ 1,600
<hr/>	
Months in Season	10
Total Players	40
Per Player	\$ 400



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Contribution Margin: Algebra

Revenue Elements Attributed To A Customer

Revenue Per Player

Membership Dues	\$ 1,500
Uniforms	50
Logo Gear	30
Lessons	300
Revenue Per Player	\$ 1,880



Contribution Margin

Let's go back and remember our COGS items:

Variable Cost Items

	Cost
Uniforms	
Players	20
per Uniform	\$ 15
Uniforms per Team	\$ 300
Teams	2
Total Uniforms	\$ 600
Logo Gear	
Players	20
Teams	2
Total Players	40
Take Rate	40%
Parents Buying Logo Gear	16
per Logo Gear	\$ 15
Total Logo Gear	\$ 240
Total Players	40
Per Player	\$ 6

	Cost	Months Per Year	Players	Per Player
Field				
Hours/Day	4			
Days/Week	6			
Weeks/Month	4.3			
\$/Hour	25			
Field Cost/Month	\$ 2,580	10	\$25,800	\$ 645
Leagues/Tournaments				
Teams	2			
Leagues/Tourn	4			
Cost/Event	\$ 1,500			
Cost for Leagues/Tour	\$ 12,000		\$12,000	\$ 300
Coach				
Hours/Day	4			
Days/Week	6			
Weeks/Month	4.3			
\$/Hour	\$ 30.00			
Coach Cost/Month	\$ 3,096	10	\$30,960	\$ 774



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Contribution Margin: Algebra



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Revenue Per Player

Membership Dues	\$ 1,500
Uniforms	50
Logo Gear	30
Lessons	300

Revenue Per Player \$ **1,880**

Cost of Delivery Per Player

Field	\$ 645
Coach	774
Leagues/Tournaments	300
Uniforms	15
Logo Gear	6

Cost of Delivery Per Player \$ **1,740**

Gross Profit Per Player \$ **140**



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Contribution Margin: Algebra

Revenue Per Player

Membership Dues	\$ 1,500
Uniforms	50
Logo Gear	30
Lessons	300

Revenue Per Player \$ 1,880

Cost of Delivery Per Player

Field	\$ 645
Coach	774
Leagues/Tournaments	300
Uniforms	15
Logo Gear	6

Cost of Delivery Per Player \$ 1,740

Gross Profit Per Player \$ 140

Sales & Marketing

Players	20
Teams	2

Total Players 40

Attributed Sales 25%

Players Attributed to Flier Guy 10

per Attributed \$ 50

Total Commissions \$ 500

Total Players 40

Per Player \$ 12.50



Contribution Margin: Algebra



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Revenue Per Player

Membership Dues	\$ 1,500
Uniforms	50
Logo Gear	30
Lessons	300

Revenue Per Player \$ **1,880**

Cost of Delivery Per Player

Field	\$ 645
Coach	774
Leagues/Tournaments	300
Uniforms	15
Logo Gear	6

Cost of Delivery Per Player \$ **1,740**

Gross Profit Per Player \$ **140**

Sales and Marketing per Player \$ 12.50

Contribution \$ **127.50**

Contribution Margin 7%

Per Player Cost

Sales & Marketing

Players	20
Teams	2

Total Players 40

Attributed Sales 25%

Players Attributed to Flier Guy 10

per Attributed \$ 50

Total Commissions \$ **500**

Total Players 40

Per Player \$ **12.50**





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Customer Acquisition Cost:

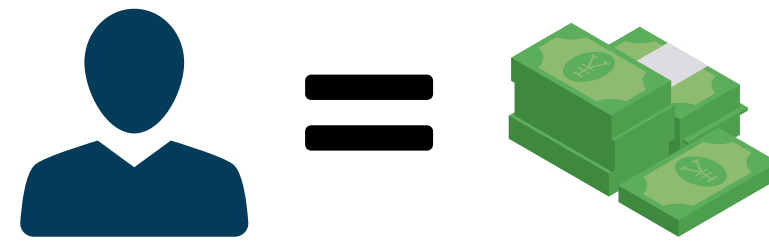
What is the cost to sell one additional Unit?



	Per Player Cost
Sales & Marketing	
Players	20
Teams	2
<hr/>	<hr/>
Total Players	40
Attributed Sales	25%
<hr/>	<hr/>
Players Attributed to Flier Guy	10
per Attributed	\$ 50
<hr/>	<hr/>
Total Commissions	\$ 500
Total Players	40
<hr/>	<hr/>
Per Player	\$ 12.50

CAC Ratio:

What is the relationship between the cost to sell one unit and the profit that it generates?



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Revenue Per Player	
Membership Dues	\$ 1,500
Uniforms	50
Logo Gear	30
Lessons	300
Revenue Per Player	\$ 1,880
Cost of Delivery Per Player	
Field	\$ 645
Coach	774
Leagues/Tournaments	300
Uniforms	15
Logo Gear	6
Cost of Delivery Per Player	\$ 1,740
Gross Profit Per Player	\$ 140
Sales and Marketing per Player	\$ 12.50
Contribution	\$ 127.50
<i>Contribution Margin</i>	<i>7%</i>

Sales & Marketing	
Players	20
Teams	2
Total Players	40
Attributed Sales	25%
Players Attributed to Flier Guy	10
per Attributed	\$ 50
Total Commissions	\$ 500
Total Players	40
Per Player	\$ 12.50

Gross Profit /	CAC	CAC Ratio
\$ 140	\$ 12.50	11.2

Contribution Margin



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Income Statement (P&L)	2022 AUG	2022 SEP	2022 OCT	2022 NOV	2022 DEC	2023 JAN	2023 FEB	2023 MAR	2023 APR	2023 MAY	2023 JUN	2023 JUL	2022 FY	2023 FY	Total
Revenue															
Uniforms	2,000	-	2,000	-	-	-	-	-	-	-	-	-	2,000	-	2,000
Logo Gear	1,200	-	-	1,200	-	-	-	-	-	-	-	-	1,200	-	1,200
Team Dues	60,000	-	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	24,000	36,000	60,000
Lessons	1,200	-	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	4,800	7,200	12,000
Total Revenue	-	9,200	8,400	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	-	32,000	43,200	75,200
Cost of Goods Sold															
Uniforms	600	-	600	-	-	-	-	-	-	-	-	-	600	-	600
Logo Gear	240	-	-	240	-	-	-	-	-	-	-	-	240	-	240
Leagues/Tournaments	12,000	-	1,000	1,000	4,000	-	-	1,000	1,000	4,000	-	-	6,000	6,000	12,000
Field	2,150	-	2,150	2,150	2,150	2,150	2,150	2,150	2,150	2,150	2,150	-	8,600	12,900	21,500
Coach	3,096	-	3,096	3,096	3,096	3,096	3,096	3,096	3,096	3,096	3,096	-	12,384	18,576	30,960
Total Cost of Goods Sold	-	6,846	6,486	9,246	5,246	5,246	5,246	6,246	6,246	9,246	5,246	-	27,824	37,476	65,300
Gross Profit	-	2,354	1,914	(2,046)	1,954	1,954	1,954	954	954	(2,046)	1,954	-	4,176	5,724	9,900
Gross Margin	0%	26%	23%	(28%)	27%	27%	27%	13%	13%	(28%)	27%	0%	13%	13%	13%
Operating Expenses															
Sales & Marketing	500	-	-	-	-	-	-	-	-	-	-	-	500	-	500
Contribution	(500)	2,354	1,914	(2,046)	1,954	1,954	1,954	954	954	(2,046)	1,954	-	3,676	5,724	9,400
Contribution Margin	0%	26%	23%	(28%)	27%	27%	27%	13%	13%	(28%)	27%	0%	11%	13%	13%

EBITDA Margin



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Total Revenue	-	9,200	8,400	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	-	32,000	43,200	75,200
Total Cost of Goods Sold	-	6,846	6,486	9,246	5,246	5,246	5,246	6,246	6,246	9,246	5,246	-	27,824	37,476	65,300
Gross Profit	-	2,354	1,914	(2,046)	1,954	1,954	1,954	954	954	(2,046)	1,954	-	4,176	5,724	9,900
Gross Margin	0%	26%	23%	(28%)	27%	27%	27%	13%	13%	(28%)	27%	0%	13%	13%	13%
Operating Expenses															
Sales & Marketing	500	-	-	-	-	-	-	-	-	-	-	-	500	-	500
Research & Development	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
General & Administrative	774	774	774	774	774	774	774	774	774	774	774	774	3,870	5,418	9,288
Total Operating Expenses	1,274	774	774	774	774	774	774	774	774	774	774	774	4,370	5,418	9,788
Operating Income	(1,274)	1,580	1,140	(2,820)	1,180	1,180	1,180	180	180	(2,820)	1,180	(774)	(194)	306	112
Interest Expense	10	(10)	(10)	(10)	(10)	(10)	(10)	(10)	(10)	(10)	(10)	(10)	(50)	(70)	(120)
Taxes															
Net Income	(1,284)	1,570	1,130	(2,830)	1,170	1,170	1,170	170	170	(2,830)	1,170	(784)	(244)	236	(8)
+ Interest Expense	10	10	10	10	10	10	10	10	10	10	10	10	50	70	120
+ Depreciation & Amortization															
+ Stock Compensation															
EBITDA	(1,284)	1,570	1,130	(2,830)	1,170	1,170	1,170	170	170	(2,830)	1,170	(784)	(244)	236	(8)
EBITDA %	(100%)	17%	13%	(39%)	16%	16%	16%	2%	2%	(39%)	16%	(100%)	(1%)	1%	(0%)

Contribution Margin

EBITDA Margin: The Rule of 40



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Income Statement (P&L)	22-23 Total	23-24 Total	24-25 Total	24/23 Growth	25/24 Growth
Total Revenue	75,200	150,400	225,600	100%	50%
Total Cost of Goods Sold	65,300	130,600	195,900		
Gross Profit	9,900	19,800	29,700		
Gross Margin	13%	13%	13%		
Operating Expenses					
Sales & Marketing	500	1,500	4,500		
Research & Development	-	-	-		
General & Administrative 774	9,288	13,932	20,898		
Total Operating Expenses	9,788	15,432	25,398		
Operating Income	112	4,368	4,302		
Interest Expense 10	(120)	(120)	(120)		
Taxes					
Net Income	(8)	4,248	4,182		
+ Interest Expense	120	120	120		
+ Depreciation & Amortization					
+ Stock Compensation					
EBITDA	(8)	4,368	4,302		
EBITDA %	(0%)	3%	2%	3%	2%
Rule of 40				103%	52%

Summary:

- Context: Financial Statements
- Topic: Contribution Margin
 - How does Gross Margin differ from Contribution Margin
 - What is Customer Acquisition Cost
 - What is CAC Ratio? What is a good ratio?
 - EBITDA Margin
 - How does EBITDA Margin impact the Magic Number (Rule of 40)



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