Innovative Entrepreneurship Theory and Practice

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DIN111 (888111) 3(3-0-6)

Week 13: Finances

Innovative Entrepreneurship theory and practice (888111)

Finances & Financing

1 startup costs

- How much capital do you need?

2 costs

- what assets do you have?
- what money will be coming in & going out each month?

3 your finances

- how much will you charge per unit & how many will you sell (per month)?
- how will this increase?

4 predictions

- What are your financial predictions?
- predict your Cash flow
- predict your monthly profit and loss
- When will you break even and start making profits?

Financial Planning

Financial Terms

Assets

- things a company owns that are valuable
- include money in the bank, buildings, equipment, and even things like computers or vehicles.

Liabilities

- debts that a company owes to others
- include money owed to suppliers for goods or services, bills, and loans from banks

Shareholders' Equity

- like a piece of the company that belongs to its shareholders
- subtract what the company owes (liabilities) from what the company owns (assets) is called shareholders' equity

Assets

- what do we own?
  - money
  - other forms of savings (e.g. shares)
  - land & buildings
  - equipment
  - goods (stock)
  - outstanding debts (owed to us, e.g. tax refunds)
  - deposits
  - intangibles (intellectual property)

Liabilities

- what do we owe?
  - loans (+ interest)
  - outstanding debts (e.g. suppliers)
  - outstanding expenses (e.g. salaries)
  - lease obligations (e.g. rent have to pay)
  - *customer deposits*
  - *payable dividends (to shareholders)*

Financial Terms

Account payables

- money owed to suppliers or vendors
  - received service or goods but not yet paid for

Depreciation

- decreasing value of items we owe
  - e.g. a new car is not worth the price paid for it

Amortization

- divide the cost of something over time
  - e.g. create software over 5 years
  - each year for 5 years state 20% of the cost
  - add $10,000 as a net income, but
  - $50,000 asset is decreasing by $10,000 each year

What do we have coming in?

- Income
  - sales
  - service income
  - subscriptions
  - commissions or royalties
  - investment returns
  - grants
  - sponsorships
    - events, conferences, or marketing campaigns

What do we have going out?

- Outgoings
  - cost of goods sold
    - raw materials, labor costs directly involved in production, and manufacturing overhead
  - operating expenses
    - include rent, utilities, salaries and wages, insurance, marketing and advertising expenses, office supplies, and other administrative costs.
  - tax
  - loan & interest payments
  - utilities (bills)
  - maintenance & repairs
  - depreciation & amortization

How much money do we have?

- Balance
  - balance on month 1st
  - - money paid by us
    - rent, salaries, bills, loan repayments, transport, marketing, web/phone development / maintenance etc.
    - materials, supplies, transport costs, bank charges
  - + money paid to us
    - money paid into our account
      - *does not include money owed to us*

Financial Statements

Financial statements

Balance sheet

- informs the financial condition of a company at a particular time

Income statement

describes a company's profitability. It is a measurement of the company's financial performance over a period of time

Statement of cash flows

- explains changes in cash flows resulting from operations, investing and financing activities

https://www.youtube.com/watch?v=pnqArkr_aTM&feature=emb_logo

Balance Sheet

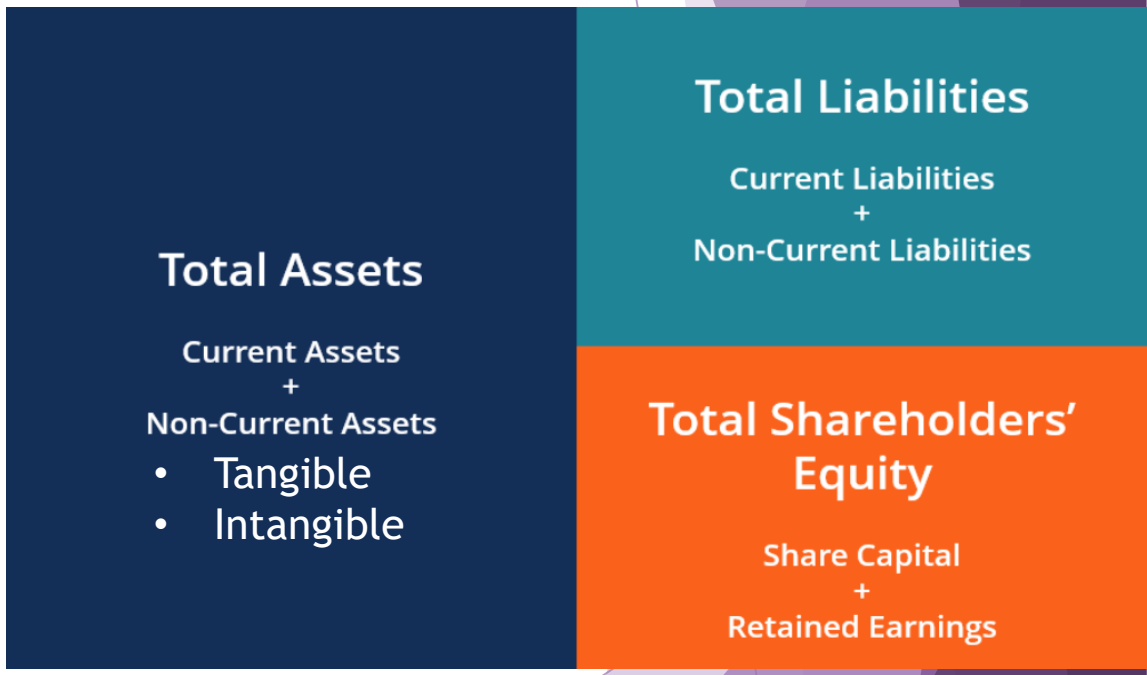
https://www.youtube.com/watch?v=CMv1zlZhb4Q

The Balance Sheet

- A company's assets, liabilities and stockholders' equity at ***a particular time***.
- Balance Sheet Information

Total Assets =

Total Liabilities + Shareholder's equity



The Balance Sheet

Balance Sheet [USD $ millions]	2014	2015	2016	2017	2018
Assets					
Current assets:					
Cash	167,971	181,210	183,715	211,069	239,550
Accounts Receivable	5,100	5,904	6,567	7,117	7,539
Prepaid expenses	4,806	5,513	5,170	5,998	5,682
Inventory	7,805	9,601	9,825	10,531	11,342
Total current assets	185,682	202,228	205,277	234,715	264,112
Property & Equipment	45,500	42,350	40,145	38,602	37,521
Goodwill	3,580	3,460	3,910	3,870	3,850
Total Assets	**234,762**	**248,038**	**249,332**	**277,187**	**305,483**
Liabilities					
Current liabilities:					
Accounts Payable	3,902	4,800	4,912	5,265	5,671
Accrued expenses	1,320	1,541	1,662	1,865	1,899
Unearned revenue	1,540	1,560	1,853	1,952	1,724
Total current liabilities	6,762	7,901	8,427	9,082	9,294
Long-term debt	50,000	50,000	30,000	30,000	30,000
Other long-term liabilities	5,526	5,872	5,565	6,051	5,909
Total Liabilities	**62,288**	**63,773**	**43,992**	**45,133**	**45,203**
Shareholder's Equity					
Equity Capital	170,000	170,000	170,000	170,000	170,000
Retained Earnings	2,474	14,265	35,340	62,053	90,280
Shareholder's Equity	**172,474**	**184,265**	**205,340**	**232,053**	**260,280**
Total Liabilities & Shareholder's Equity	**234,762**	**248,038**	**249,332**	**277,187**	**305,483**

Assets

2 types of assets

1. current
2. non-current/long-term

Current Assets

items that can be converted into cash within one year

includes:

- cash,
- account receivables,
- inventory,
- marketable securities and
- prepaid expenses

Non-Current Assets

items that can not be converted into cash within one year

- original cost minus the accumulated depreciation

includes:

- buildings,
- land,
- equipment,
- vehicles and
- patents

Liabilities

A company's liabilities consist of the amount that the company owes to its creditors

1. current
2. non-current/long-term

Current Liabilities

items that must be paid within one year

includes:

- loan repayments and
- account payables

Non-Current Liabilities

other non-current obligations

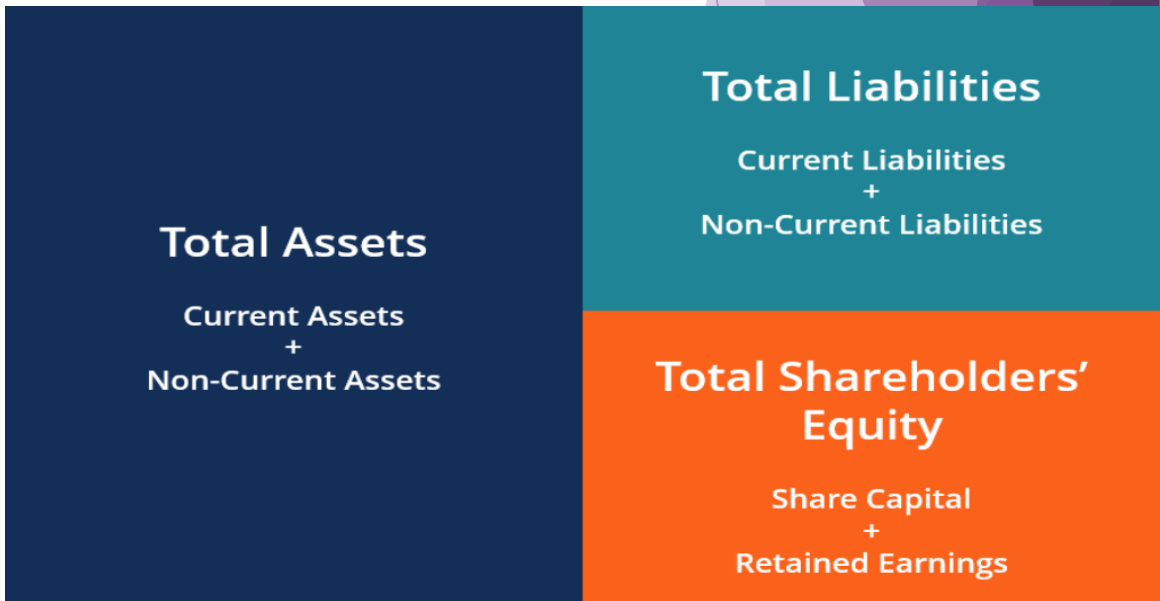
- e.g. total loan balance – current liability

Shareholder's Equity

- The difference between total assets and total liabilities
- It is the net worth of the company including:
  - The stock issued by the company
  - The accumulated earnings that the company has retained each year.

Shareholder's Equity

- Total Assets = Total Liabilities + Shareholder's Equity
- Shareholder's Equity = Total Assets - Total Liabilities
- Net Worth = Total Assets - Total Liabilities
- Net Worth = Shareholder's Equity
- Net Worth ≠ Company's Valuation



Net Working Capital

- A measure of the company's ability to pay its bills
- the company's short-term financial strength.

Net Working Capital = Current Assets – Current Liabilities

Net Working Capital

	Hill Company	Mountain Company
Current assets	$ 1,000,000	$ 600,000
Current liabilities	$ 500,000	$ 100,000
Working capital	**$ 500,000**	**$ 500,000**

- 2 companies have the exact same level of working capital does not mean that they have equal financial strength.

If you are a banker, which company would you prefer to grant a loan? Why?

Net Working Capital

	Hill Company	Mountain Company
Current assets	$ 1,000,000	$ 600,000
Current liabilities	$ 500,000	$ 100,000
Working capital	**$ 500,000**	**$ 500,000**

- Mountain company has greater financial strength than Hill.
- For every dollar that Mountain owes, it has $6 in potentially liquid asset, whereas
- Hill has only $2 in assets for every dollar owed.

Balance sheet

You do not need to do a balance sheet for your project

Income Statements

https://www.youtube.com/watch?v=0--AvwZabIQ

The Income Statement

- the profit and loss statement
- **revenues** (i.e. sales) during that particular period and
- **expenses** (i.e. costs)
- **Revenues – Expenses = Net Income**
  - Total revenues > total expenses **Profit**
  - Total expenses > total revenues **Loss**

The Income Statement

sales 8K

expenses 2K

profit 6K

operating expenses 2.5K

profit now 3.5K

loans 0.2K

tax 1.32K

Revenues	$	8,000
Expenses		
Cost of goods sold	$	2,000
Gross profit	**$**	**6,000**
Operating expenses		
Wages	$	1,000
Rent	$	300
Selling expenses	$	400
Depreciation	$	500
Amortization	$	300
Total operating expenses	$	2,500
Operating profit/profit before interest a	**$**	**3,500**
Interest expenses	$	200
Profit before taxes	**$**	**3,300**
Income tax expense	$	1,320
Net income	**$**	**1,980**

GROSS PROFIT

OPERATING COSTS

EXPENSES

NET INCOME

net income – under 2K

The Income Statement - EBITDA

- The income statement is used to calculate cash flow from operation – EBITDA.

EBITDA ▶ Earnings before interest, taxes, depreciations and amortization.

Net income	$	1,980
+Interest expense	$	200
+Taxes	$	1,320
+Depreciations	$	500
+Amortization	$	300
EBITDA	**$**	**4,300**

The Income Statement - COGS

- **Cost of goods sold (COGS)**
  - The cost of raw materials & direct labor
    - does not include any overhead e.g. utilities

      Revenue - COGS = Gross Profit

    - Other income e.g. interest earned on bank deposits should NOT be included.

Operating Expenses

expenses required to carry on the day-to-day activities of a company.

(Revenue - COGS) - Operating Expenses = Operating Income or EBIT

* **EBIT** - Earnings before interest and taxes

Operating Income - Interest Payment = EBT

* **EBT** - Earnings before taxes

Other Expenses

- **Financing expenses** – interest payments made on loan to the business

  NOT loan repayment

- **Tax expenses** – tax due on company's profit.

  - If a company incur a loss, there will be no tax due to the government.
  - Moreover, the company's losses can be used to reduce tax obligations on future positive profits ***a tax loss carryforward.***

Earnings

At the end of the year, if a company's net income after tax is positive:

- ***retained earnings***
  - in the next year's beginning **balance sheet**, or;
  - distributed to investors as ***dividends***.

Revenues - All Company's Expenses = Net Income

▼

Retained Earnings or Shareholders' Dividends

TASK 1

in your groups

You should make predictions on your income:

calculate expected income

calculate expected expenses

calculate expected ‘monthly net income’

The Income Statement

sales

expenses

profit

operating expenses

profit now

loans

tax

Revenues	$
Expenses	
Cost of goods sold	$
Gross profit	**$**
Operating expenses	
	$
	$
	$
	$
	$
Total operating expenses	$
Operating profit/profit before interest a	**$**
Interest expenses	$
Profit before taxes	**$**
Income tax expense	$
Net income	**$**

net income – ?

You should make predictions on your income

- calculate expected income
- calculate expenses

what will be your ‘monthly net income’?

Cash Flow Statements

https://www.youtube.com/watch?v=DiVPAjgmnj0&t

Cash Flow Statement

uses information from the 2 other financial statements, **the balance sheet** and **the income statement**

to develop a statement that explains changes in (actual) cash flows resulting from

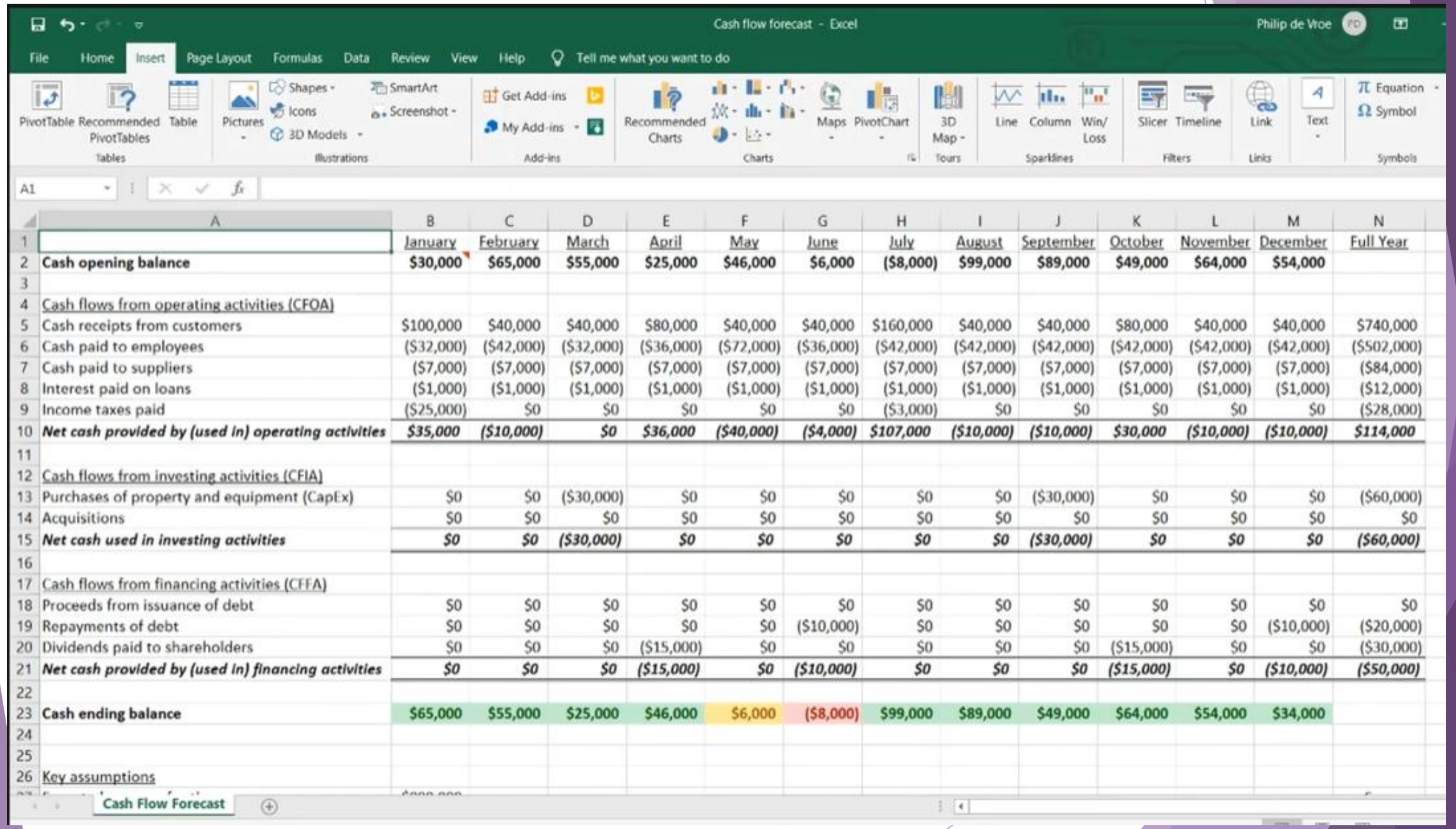
- **Operations**
- **Investing**
- **Financing**

The Statement of Cash Flows

Cash Flow from Operating Activities	
Net income	$23,000
Add: depreciation expense	4,000
Increase in accounts receivable	(6,000)
Decrease in inventory	9,000
Decrease in accounts payable	(5,000)
Cash provided (used) in operating activities	25,000
Cash Flow from Investing Activities	
Capital expenditures	(28,000)
Proceeds from sale of property	7,000
Cash provided (used) by investing activities	(21,000)
Cash Flow from Financing Activities	
Borrowings of long-term debt	10,000
Cash dividends	(5,000)
Purchase of treasury stock	(8,000)
Cash provided (used) by financing activities	(3,000)
Net increase in cash	1,000
Cash at the beginning of the year	1,200
Cash at the end of the year	$ 2,200

= cash balance in bank statement

https://www.youtube.com/watch?v=XVWV1hIsiUs



	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1		January	February	March	April	May	June	July	August	September	October	November	December	Full Year
2	**Cash opening balance**	**$30,000**	**$65,000**	**$55,000**	**$25,000**	**$46,000**	**$6,000**	**($8,000)**	**$99,000**	**$89,000**	**$49,000**	**$64,000**	**$54,000**	
3														
4	Cash flows from operating activities (CFOA)													
5	Cash receipts from customers	$100,000	$40,000	$40,000	$80,000	$40,000	$40,000	$160,000	$40,000	$40,000	$80,000	$40,000	$40,000	$740,000
6	Cash paid to employees	($32,000)	($42,000)	($32,000)	($36,000)	($72,000)	($36,000)	($42,000)	($42,000)	($42,000)	($42,000)	($42,000)	($42,000)	($502,000)
7	Cash paid to suppliers	($7,000)	($7,000)	($7,000)	($7,000)	($7,000)	($7,000)	($7,000)	($7,000)	($7,000)	($7,000)	($7,000)	($7,000)	($84,000)
8	Interest paid on loans	($1,000)	($1,000)	($1,000)	($1,000)	($1,000)	($1,000)	($1,000)	($1,000)	($1,000)	($1,000)	($1,000)	($1,000)	($12,000)
9	Income taxes paid	($25,000)	$0	$0	$0	$0	$0	($3,000)	$0	$0	$0	$0	$0	($28,000)
10	***Net cash provided by (used in) operating activities***	***$35,000***	***($10,000)***	***$0***	***$36,000***	***($40,000)***	***($4,000)***	***$107,000***	***($10,000)***	***($10,000)***	***$30,000***	***($10,000)***	***($10,000)***	***$114,000***
11														
12	Cash flows from investing activities (CFIA)													
13	Purchases of property and equipment (CapEx)	$0	$0	($30,000)	$0	$0	$0	$0	$0	($30,000)	$0	$0	$0	($60,000)
14	Acquisitions	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
15	***Net cash used in investing activities***	***$0***	***$0***	***($30,000)***	***$0***	***$0***	***$0***	***$0***	***$0***	***($30,000)***	***$0***	***$0***	***$0***	***($60,000)***
16														
17	Cash flows from financing activities (CFFA)													
18	Proceeds from issuance of debt	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
19	Repayments of debt	$0	$0	$0	$0	$0	($10,000)	$0	$0	$0	$0	$0	($10,000)	($20,000)
20	Dividends paid to shareholders	$0	$0	$0	($15,000)	$0	$0	$0	$0	$0	($15,000)	$0	$0	($30,000)
21	***Net cash provided by (used in) financing activities***	***$0***	***$0***	***$0***	***($15,000)***	***$0***	***($10,000)***	***$0***	***$0***	***$0***	***($15,000)***	***$0***	***($10,000)***	***($50,000)***
22														
23	**Cash ending balance**	**$65,000**	**$55,000**	**$25,000**	**$46,000**	**$6,000**	**($8,000)**	**$99,000**	**$89,000**	**$49,000**	**$64,000**	**$54,000**	**$34,000**	
24														
25														
26	Key assumptions													

Start-up investment

Start-up investment

- **Start-up investment or seed capital** – the one-time expense of starting a business.
  - E.g. For the restaurant, start-up expenses would include stoves, refrigeration, food processors, tables, chairs, utensils, and other items that would not be replaced very often.
  - Also included might be the one-time cost of buying land and construction a building or the cost of renovating an existing space.
  - Other expenses that may be applied – wages for the time founders put into setting up business, prototype etc.

Start-up investment

Exhibit 7-1 *Seed Capital Estimate for a 24-Hour Fitness Center*

Item/Category	Cost	Estimate or Quote?
Start-Up Expenses		
Debt service (interest on $130,000 at 10%)	$2,167	Estimate
Employee wages, salaries, and benefits	$3,100	Estimate
Financing costs and fees (2% of $130,000)	$2,600	Estimate
Franchise fees	$40,000	Quote
Insurance	$1,000	Quote
Licenses and permits	$300	Quote
Memberships (trade associations, chambers of commerce, and the like)	$900	Mixed
Owner time (valued at $25 per hour)*	$5,000	Estimate
Professional services (attorney, accountant, architect, engineers, and the like)	$3,000	Estimate
Promotions and advertising	$1,800	Mixed
Rent on location identified	$2,000	Quote
Supplies	$400	Estimate
Taxes (wage and other)	$500	Estimate
Training, conventions, and seminars	$1,000	Quote
Utilities	$400	Estimate
Total Start-Up Expenses	$64,167	
Start-Up Assets		
Computers and other technology	$5,000	Quote
Deposits on rent and utilities	$5,600	Quote
Equipment, furniture, and fixtures	$105,000	Quote
Installation of equipment and fixtures	$2,800	Quote
Inventory	$200	Estimate
Leasehold improvements	$3,200	Quote
Petty cash	$300	Quote
Total Start-Up Assets	$122,100	
Total Pre-Opening Investment	$186,267	
Contingency Funds (10%)	$18,626	
Start-Up with Contingency**	**$204,893**	

Predictions (pro-forma)

Development of Pro Forma

- Entrepreneur should develop the pro forma for all new entrepreneur opportunities, including either start-up or existing companies that being purchased.
- **Pro forma financial statement** = projection of financial statements
- Any pro forma should have figure for
  - at least 3 years
  - and 3-scenarios
    - – a best-case,
    - a worst-case and
    - a most-likely-case scenario.

Development of Pro Forma

- no historical data:
  - Conduct **an industry analysis** and select a company within the same industry that can be used as a comparable.

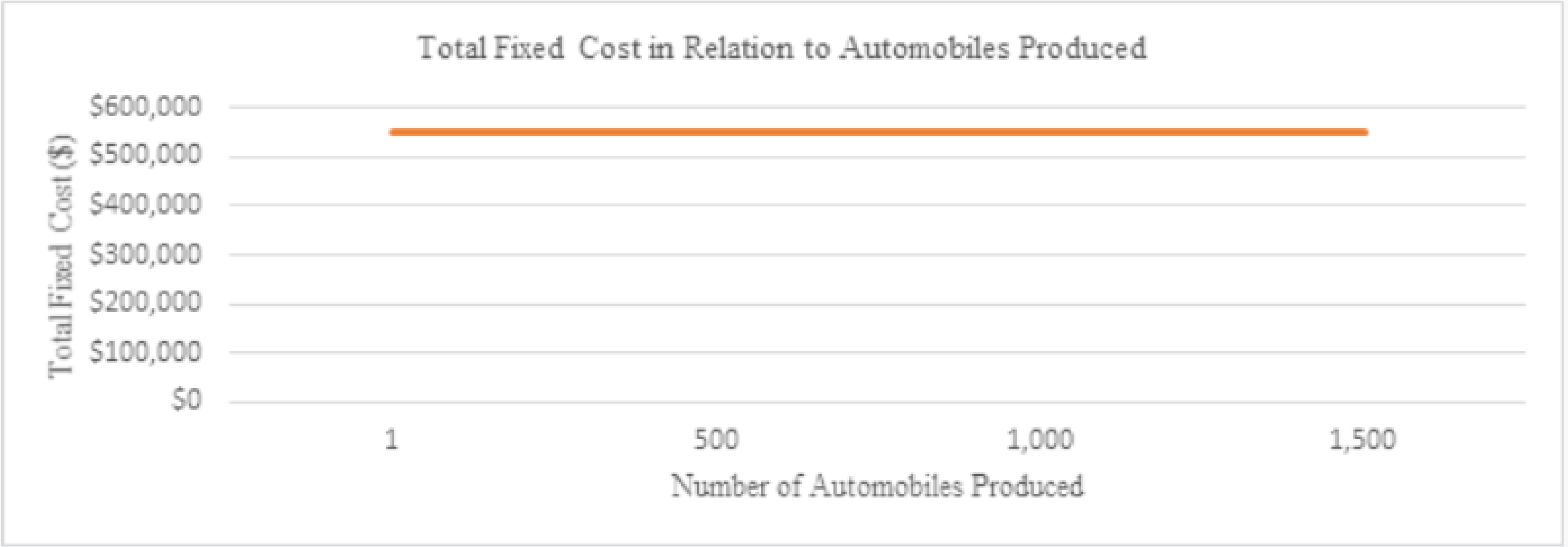
Costs

Variable costs vs fixed costs

	Variable Cost	Fixed Cost
Definition	Costs that vary/change depending on the company's production volume	Costs that do not change in relation to production volume
When Production Increases	Total variable costs increase	Total fixed cost stays the same
When Production Decreases	Total variable costs decrease	Total fixed cost stays the same
Examples	Direct Materials (i.e. kilograms of wood, tons of cement)	Rent
	Direct Labor (i.e. labor hours)	Advertising
		Insurance
		Depreciation

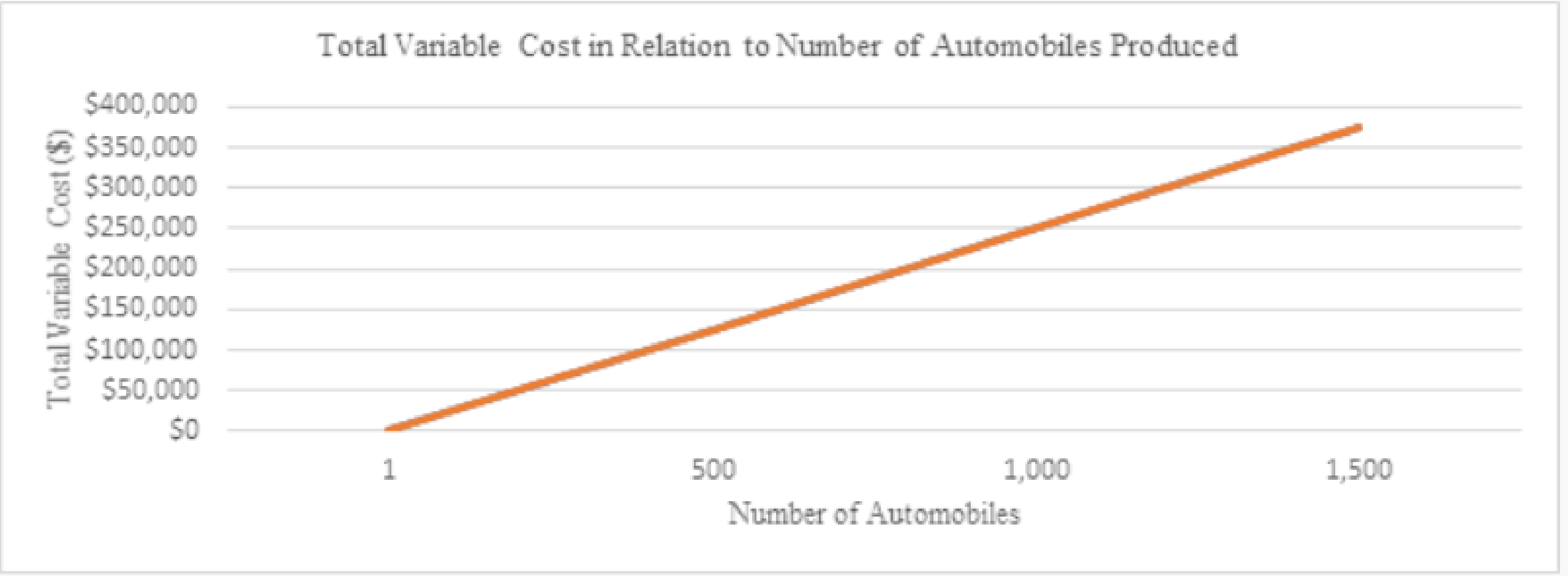
Source: CorporateFinanceInstitute.com

fixed costs



Source: Corporate Finance Institute

Variable costs



Source: Corporate Finance Institute

Variable costs vs fixed costs

Cost	Variable	Fixed
Depreciation of executive jet		x
Cost of shipping finished goods to customers	x	
Wood used in manufacturing furniture	x	
Sales manager's salary		x
Electricity used in manufacturing furniture	x	
Packing supplies for shipping products	x	
Sand used in manufacturing concrete	x	
Supervisor's salary		x
Advertising costs		x
Executive's life insurance		x

Source: Corporate Finance Institute

The Income Statement:

Revenues	$	8,000
Expenses		
Cost of goods sold	$	2,000
Gross profit	**$**	**6,000**
Operating expenses		
Wages	$	1,000
Rent	$	300
Selling expenses	$	400
Depreciation	$	500
Amortization	$	300
Total operating expenses	$	2,500
Operating profit/profit before interest a	**$**	**3,500**
Interest expenses	$	200
Profit before taxes	**$**	**3,300**
Income tax expense	$	1,320
Net income	**$**	**1,980**

FC

VC

FC

VC

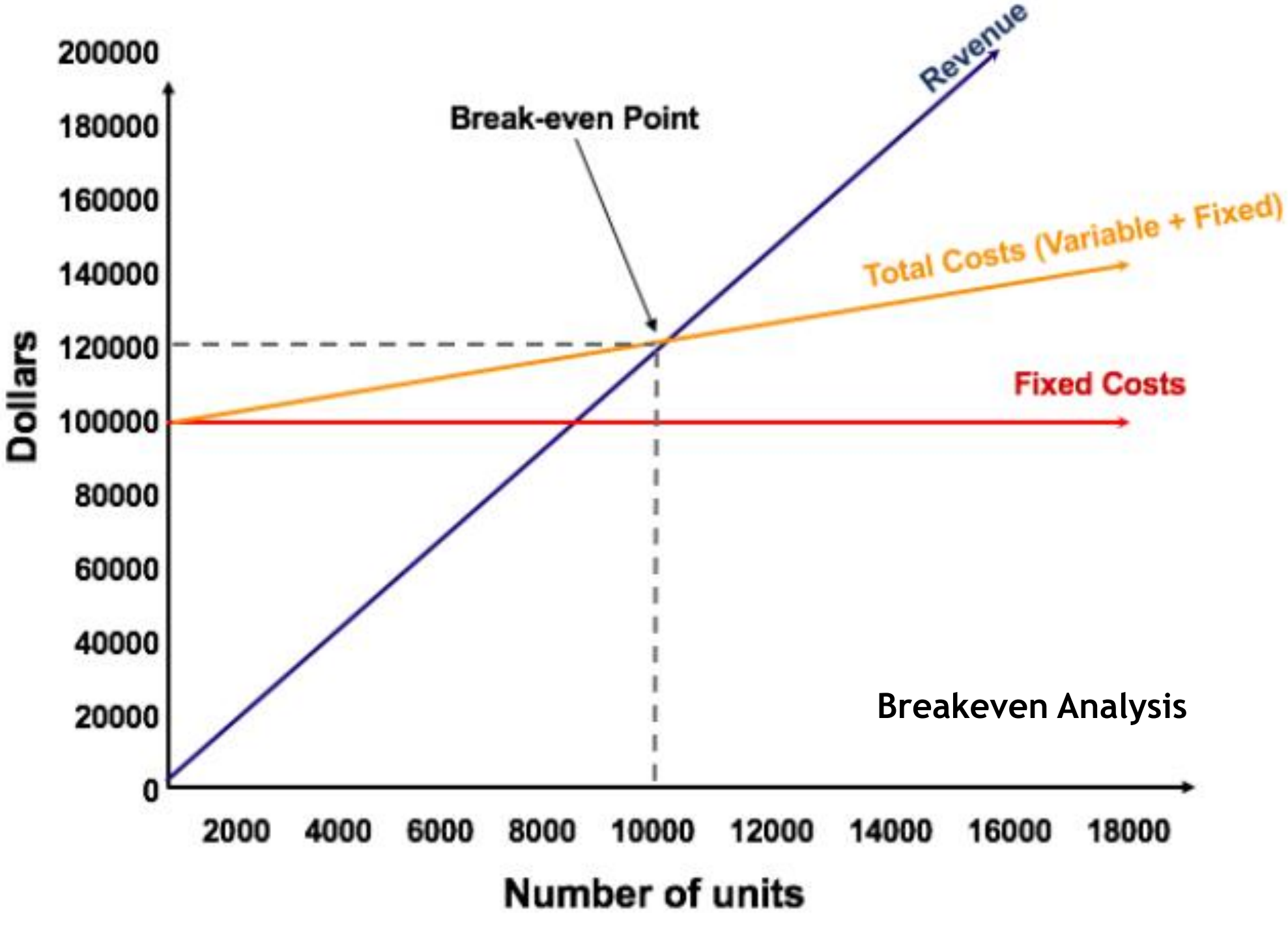
Breakeven analysis

Breakeven Analysis

- You should know how may pieces, meals or hours of service they have to service before attaining the profit.

The breakeven point is the production level where

total revenues = total expenses



Breakeven Analysis

TASK 2

predictions

You should make predictions on

your expected income

your expected expenses

your monthly profit & loss

your debt

your cumulative loss / profit (break even analysis)

at different timeframes e.g. 1, 3, 5 years

THURSDAY

FINANCES

what will be your ‘monthly net income’?

sales

expenses

profit

operating expenses

profit now

loans

tax

Revenues	$
Expenses	
Cost of goods sold	$
Gross profit	**$**
Operating expenses	
	$
	$
	$
	$
	$
Total operating expenses	$
Operating profit/profit before interest a	**$**
Interest expenses	$
Profit before taxes	**$**
Income tax expense	$
Net income	**$**

You should make predictions on your income:

calculate expected income

calculate expected expenses

calculate expected ‘monthly profit & loss, net income’

your cumulative profit or loss (break even analysis)

at different timeframes
e.g. 1, 3, 5 years

Final Exam

Details

Thu, 13th MAR 2025	15.30-18.30	**888111** Innovative Entrepreneurship Theory and Practice	701	77	RB5301 (Max 90)	Asst.Prof Dr. Seamus Lyons Ms. Sureeporn Chaiyaworrakamol
			702	67	RB5401 (Max 90)	Dr. Michael John Harris Dr. Naret Suyaroj

The format of the final exam has not been decided

Example final exam questions

(long form – 30 minutes)

Essay-type questions

students are given 30 minutes to give a complete answer

based (mainly) on lessons after midterm

- business model canvas
- business plan
- constructing a business
  - business structure (e.g. partnership)
  - teamwork, roles & network
  - intellectual property
- marketing plan
- financial plan

can also have questions about the overall course & project

business questions

How do tools like a Business Model Canvas help to develop plans and strategies

Explain what is in a business plan using a small business example (e.g. your project business), why is it important, and how can it be used?

Choose a product or industry and Explain how innovation could help to improve it?

business construction questions

Using an example, explain what makes a good team, and how does this help make a business successful

What are the different types of intellectual property? What types of businesses would use these different types of intellectual property?

Using an example of a product, describe some of the processes, and their benefits, of prototyping and early product design.

marketing questions

Imagine you are creating a marketing campaign for an existing, or imaginary, business on CMU campus.

a) Give examples of how you might use any of the following: *personalized, pervasive, present, proprietary and predictive*.

b) Give examples of how you plan to benefit from *product, price, promotion, place & people*.

or

a) explain the marketing plan,

b) show what it includes, and

c) show how these benefit the business from this marketing

financial questions

What are investors looking for when they decide to invest in a business? What is the most important thing, in your opinion?

or

What are the different types of investment in a business? What are their advantages and disadvantages, for different types of businesses?

Imagine you are planning your finances for a business (e.g. your project business). Use this to help explain:

a) what financial planning is important,
b) what would your planning include, and
c) how is this beneficial?

course & project

In this course, you have worked in groups to develop your own innovation business.

What have you learnt about innovation and business from this experience?

or

What are the advantages and disadvantages of working in a team, and what is the key to making it successful?

Thank you!

any questions?