# Technology Entrepreneur Center

## New Fall course from Prof. Karasek!

go.illinois.edu/courses

## Cozad Awards Ceremony! *RSVP coming soon.*

Join us to see which University of Illinois startups win the top prizes! Dozens of other prizes will be awarded as well, in the form of funding, cash, and in-kind prizes.

# TE 250: Week 13 Financials for Startups

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# Internship Opportunity

- Glendale Heights, IL (hybrid ok)
- High energy RF microwave generator company
- Compensation: $25/hr
- Areas:
  - EE
  - Comp Sci
  - Comp Eng
  - ME
- Reach out to me if you are interested

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# Calendar

- Content Class (2): 4/27, 5/4
  - Attendance 4/27 and 5/4 mandatory – attendance will be taken (20pt penalty per class)
- Content:
  - Financial Projections/Statements
  - Pitching
- Final Presentations (2): 4/27, 5/4
  - 4/27: Sole Switch, Lexilens, Prova
  - 5/4: other 6 teams
- Remaining Assignments (2): 5/4 (T), 5/4 (I)
- Extra Credit – 2 opportunities

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# Agenda

- Remaining Assignments
- Financials for Startups
  - Business Model, Pricing & Financial Projections
  - Financial Statements

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# Due MAY 4

Final Assignments Teams – Team Pitches

Team Rubric (Peer Scoring)

This is **the group portion of the final project**. Each team will be given ~20 minutes. 10 minutes Pitch and 5-minute Q&A. Students will then be given 2 minutes to complete judging form. That will leave a couple of minutes for transitions, but each team needs to be ready to present as soon as their slot starts.

***Presentation schedule***

Class 14 (3 teams):

Class 15 (6 teams):

Teams are free to decide who presents but a minimum of 3 team members are required to present and all teams members should actively participate in the Q&A.

***All students will individually score the other teams, so attendance is mandatory on both dates as is prompt attendance.***

**Q&A and Scoring: ~5 minutes**

Q&A will be led by the team presenting and questioning will primarily come from the class. I may or may not ask any questions at all. Your individual active participation will be considered as part of your overall final participation grade. I will review all recordings before assigning final grades to ensure you are actively engaged in the questioning of your peers.

**EXTRA CREDIT**

In additional, each *student will anonymously score the other teams' presentations.* This is evidence of your ability to critically evaluate your peers' using topics learned in class.

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# Due MAY 5

## Individual Assignments – Persuasion

Your final individual assignment is to **persuade someone to support your effort**. You pick the target: recruit, investor, customer, etc. (make sure your intended audience is clearly identified or is obvious by the nature of your response). Make an argument to convince your target. **Be sure to support your case with things you've learned from working on your team project**, for example, solving customer pain, equity to early hires, or return for investors. **The format or medium is up to you.** A few examples include a recorded sales pitch or commercial that you upload to YouTube, a sample Kickstarter video, a Prezi, a cartoon, or a 1–2-page typed paper... Here's an example of a creative submission from a previous semester: https://youtu.be/eNrq9-sk6Nk

Use your imagination and make it compelling. Be creative and captivate your audience. Holding their attention is half the battle. It doesn't need to be long or elaborate, just convincing. Do what you think best supports your case and choose a medium in which you're confident. Take some risks. You have license to be creative and have fun with this!

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**Due MAY 4**

Individual Assignments – Peer Review

As part of your engagement and participation score and as part of your peer's engagement and participation score, complete the assessment of your teammates using this Google Form. You will have 100 points to allocate in some proportion to each of your teammates with some required commentary on their contributions.

Peer Form

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**Due April 26**

Individual Assignments – Extra Credit

Module at the bottom of the home page.
Read the case study.
Read the example on “counting noses”.
Use the spreadsheet tool to do a new segmentation assessment for your project.

Up to 10 pts extra credit on homework grade
Due April 26, no late submissions accepted.

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# Agenda

- Remaining Assignments
- Financials for Startups
  - Business Model, Pricing & Financial Projections (Tom Parkinson)
  - Financial Statements

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# What’s the Point

Financial projections demonstrate:

- Your aspirations for the business
- Your understanding of key drivers of profits and growth
- Your understanding of key drivers of ROI for investors
- Whether it fits an investor’s profile

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# Good vs. Bad Business Plans

Financial projections should be consistent with the rest of the business plan:

- Value Proposition and Go-to-Market Strategy
- The Revenue Model must work for the Customer
- Pricing Strategy must be reasonable

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# Go-To-Market Strategy

Your *action plan* for delivering your product or service to your target customers

- Marketing channels – to build awareness and generate demand
- Sales channels – to close sales
- Distribution channels – to deliver the solution to customers

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# Revenue (Business) Model

Your *revenue model* describes how you will charge for the goods and services that you provide in order to generate a profit

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# Choosing a Revenue (Business) Model

Focus on your *value proposition*, your *customer segment* and your *customer relationships*:

- Are you selling a vitamin or a pain killer?
- High price/low frequency vs. low price/high frequency

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# What Types of Business Models?

Examples?

- One Time Upfront Charge (plus maintenance)
- Subscription/Leasing
- Consumables
- Upsell High Margin Add Ons
- Advertising
- Transaction %
- Utility model (per usage)
- Freemium to Premium
- Cost Plus
- Cell Phone Plan (or PPA in energy)
- Shared Savings
- O&M (Operating and Maintenance)
- Franchise model
- Micro-transactions
- Parking meter
- Licensing
- Other

# Identify the Business Model

- Hewlett Packard: _____
- Automotive companies: _____
- Salesforce.com: _____
- LinkedIn: _____,_____,_____
- iTunes vs. Spotify: _____
- CIC (Cambridge Innovation Center) vs. Standard Real Estate: _____ vs. _____ (aka units matter)

# Recurring Revenue

Monthly or annual subscriptions, memberships, SaaS, etc.

- Provides steady, predictable revenue
- Easier for new customers to make the initial purchase
- Minimizes impact of seasonality
- Low risk of sudden, steep revenue declines if the market changes suddenly

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# Two-Sided Markets

Business models that involve bringing two (or more) customer segments together to create value

- Buyers and sellers
- Subscribers and advertisers

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# Two-Sided Markets

- Should both sides pay?
- Should you have different revenue models for each side?
- Which customers can afford to pay the most?
- Do you have to have a very large market share on one side to attract anyone on the other?

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# Freemium Models

Types of freemium models:

- Free for a limited time
- Free for a limited number of users
- Free for certain types of users (students, etc.)
- Free for a limited set of features

# Freemium Models

Freemium models work best when:

- You need to acquire large numbers of users very quickly in order to create value
- The cost to add each new user is minimal

# Freemium Models

Your goal must be to convert as many free users into paying customers as you can, as quickly as possible.

- Free users are not customers, they are *leads*!
- "If you're not paying, you're the *product*."

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# Revenue Model Metrics

**Sales conversion rate:**

- What percentage of the prospects you contact will buy?
- What percentage of the visitors to your website will buy?
- What percentage of your free users will convert to paid users?

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# Revenue Model Metrics

**Churn:**

- What percentage of your initial customers will buy again?
- What percentage of your subscribers will renew?

**Viral coefficient:**

- How many new customers will each existing customer bring in?

# Revenue Model Metrics

**Customer acquisition cost (CAC)**

- How much does it cost the business to acquire a new customer?
- (Total sales and marketing expense) / (number of new customers)

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# Revenue Model Metrics

**Customer lifetime value (CLTV):**

- How much profit does an average customer generate over time?
- (Price – cost per transaction) * (average transactions during customer lifetime)
- (Subscription price – monthly customer support cost) * (average number of months before churn)

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# CLTV and CAC

Customer Lifetime Value must be greater than Customer Acquisition Cost

- If *CLTV > CAC*, then the business model is probably viable
- If *CLTV is much higher than CAC*, then the business model is probably scalable

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# Revenue Growth

Traditional Sales Model:

Revenue = Customers * Visits * Average Ticket Price

Subscription Sales Model:

Revenue = Paying Subscribers * Average Months before Churn * Monthly Subscription Price

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# Profitability

“If your goal is anything but profitability - if it's to be big, or to grow fast, or to become a technology leader - you'll hit problems.”

-- Michael Porter

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# Profitability

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

$$\text{Profit} = \left( \frac{\text{Price}}{\text{Unit}} - \frac{\text{Variable Cost}}{\text{Unit}} \right) * \text{Units Sold} - \text{Overhead Exp.}$$

$$\left( \frac{\text{Price}}{\text{Unit}} - \frac{\text{Variable Cost}}{\text{Unit}} \right) = \text{Contribution Margin}$$

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# Profitability

Four ways to grow profits:

1. More Customers
2. Higher Prices
3. Lower Variable Costs
4. Lower Overhead Costs

Which of these can you control?

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# Pricing

Rule #1

*Price must be > Cost*

Rule #2

*Price must be ≤ the customer's willingness to pay*

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# Exercises

- Responsibility for Setting Prices?
  a) Sales
  b) Finance
  c) Product Management
  d) Engineering
- The Love of Nines
  - Why do gas prices always end with as many 9's as possible?
- The Power of Pricing and Not Discounting
  - 1% pricing change = ?% profitability?
  - Is it more profitable to increase prices or add customers?

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# Cost-Based Pricing

The price is based on the per-unit cost to manufacture and deliver the product or service, plus a targeted per-unit profit margin

Price = Variable Cost/Unit + Targeted Profit/Unit

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# Competitive Pricing

The price is based on what competitors are charging for similar or comparable products or services

Price = Competitor’s price (+/- something?)

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# Value Pricing

The price is based on an estimate the total amount of value that the solution creates for the customer.

The goal is to capture as much of that value as possible.

Price = customer's willingness to pay * ??%

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# Value Pricing

How are you creating value for your customers?

- Helping them make more money
- Helping them save money
- Helping them save time
- Helping them reduce their risk
- Providing some non-monetary benefit

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# Value Pricing

Porter's "Five Forces":

- Your ability to charge a high price is limited by the options that your customers have
- Capturing all of the value that you create would leave your customers with no reason to buy

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# Variable Pricing

A way to take advantage of the fact that some customers are willing to pay more than others.

Three-tiered pricing:

- Good, better, best
- Silver, gold, platinum

Some customers want the cheapest solution, others want the very best.  Most are in the middle

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# Variable Pricing

Peak vs. off-peak pricing:

- High prices during periods of high demands

Dynamic Pricing:

- Prices are constantly changing based on changes in demand or other factors

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# Top Down vs. Bottom Up Forecasting

**Top Down Forecasting:**

"It's a huge market, so we only need a 1% market share to be successful…"

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# Top Down vs. Bottom Up

## Bottom Up Forecasting

"Our revenue projection is based on the number of customers we think we can acquire with our go-to-market strategy, and the amount that we think each customer will pay."

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# Estimating Future Revenue

What is your Revenue Model?

What price(s) can you charge?

How many prospects can you reach in your first month, quarter, or year?

What sales conversion/closing rate can you achieve?

How fast can you grow in subsequent periods?

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# Estimating Future Revenue

Number of Customers per period

* Average Price per transaction

* Number of Repeat Purchases per Customer

= Projected Revenue per Period

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# Revenue Forecasting Mistakes

Assuming rapid adoption by new customers

Underestimating the length of the sales cycle

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# Estimating Future Expenses

What will it cost to produce your product or service? – *Cost of Goods Sold*

*Gross Profit = Revenue – Cost of Goods Sold!*

How much will spend on customer acquisition? – *Marketing and Sales*

What will it cost to support the product or service and to operate the company? - *General and Administrative*

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# Getting Cost Information

Some costs are easy to forecast based on information you have; other costs will be harder to predict:

*Industry Comparables*

- Comparable publicly-traded companies

*Industry Averages*

- Common size statements for companies in your industry; from library research, SBDC's, paid databases

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# Expense Forecasting Mistakes

Underestimating General and Administrative (overhead) expenses

Underestimating selling expenses; the cost of maintaining a sales force, in particular

# Estimating Future Cash Flows

Adjustments to Revenue and Expenses based on:

- The time it takes to collect from customers – *Average Collection Period* or *Days Receivable*
- The time it takes to process and sell inventory – *Inventory Turnover*
- The credit terms that vendors offer – *Days Payable*

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# Estimating Future Cash Flows

Investments necessary to operate the business:

- Capital equipment (fixed assets)
- Intangible assets

Bookings vs. Revenue in Software and SaaS business models

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# Cash Flow Forecasting Mistakes

Underestimating the length of the *Cash-to-Cash* or *Operating Cycle*

The time it takes to produce and sell your product or service, plus the amount of time it takes to collect from your customers

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# Resources

SCORE (free templates)

- *https://www.score.org/resource/business-planning-financial-statements-template-gallery*

Foresight (Paid – templates plus tutorials)

- *https://foresight.is/*

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# Balance Sheet

- aka, Statement of Financial Position
- Provides a snapshot of a company's financial position at a given point in time
- Similar to a personal financial statement
- Tells what a company owes, is owed, is it credit worthy?

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# Balance Sheet Notes

- Assets = Liabilities + Equity
  - Assets: things of value that a company owns
    - Tangible & Intangible
  - Liabilities: money owed to others
  - Equity: capital or net worth; $ left if company sold off all assets and paid off all liabilities
- MUST balance!
- Ordered from most liquid to least
  - Current (<1yr to liquidity)
    → Long-Term (> 1 yr to liquidity) incl Fixed

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# Income Statement

- aka, Statement of Activities, Profit & Loss Statement
- Shows income, expenses & resulting profits or losses over a specific period of time
- Revenue – Expense = Profit (Loss)
  - Revenue vs. Profit; NOT synonymous!
  - the literal "Bottom Line"
- Tells whether a company is profitable, compare to prior time periods and spot trends

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# Cash Basis vs. Accrual Accounting

- Cash – record event when cash is paid
- Accrual – record events when committed/earned
  - Cash advantageous when you get paid before you pay vendors
  - Cash-basis is frequently easier for startups to manage cash flow; reduces need for CF Stmt
  - Accrual is *much* more common

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# Depreciation & Amortization

- Expensing of a long-term asset over its useful life
- Depreciation = tangible assets
- Amortization = intangible assets
- Subtract an asset's salvage value from its acquisition cost and spread over the useful life of that asset.
- Non-cash P&L expense
  - EBIT = Earnings Before Interest & Taxes
  - EBITDA = Earnings Before Interest, Taxes, Depreciation & Amortization

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# Cash Flow Statement

- Record of cash inflow & outflows over a defined period of time
  - Similar to a checkbook
- Shows generation and use of cash, as well as timing; ability to pay bills
- Net Cash from Operating Activities + Investing Activities + Financing Activities = Total Net Cash Flow

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# Cash Flow Statement

- **Operating Activities**: all activities that are reported on the income statement under operating income or expenses
- **Investing Activities**: all cash transactions used to buy or sell long-term assets; think of these as the company investing in itself
- **Financing Activities**: all cash transactions that affect long-term liabilities and equity; whenever long-term debt or equity is involved, it is considered a financing activity

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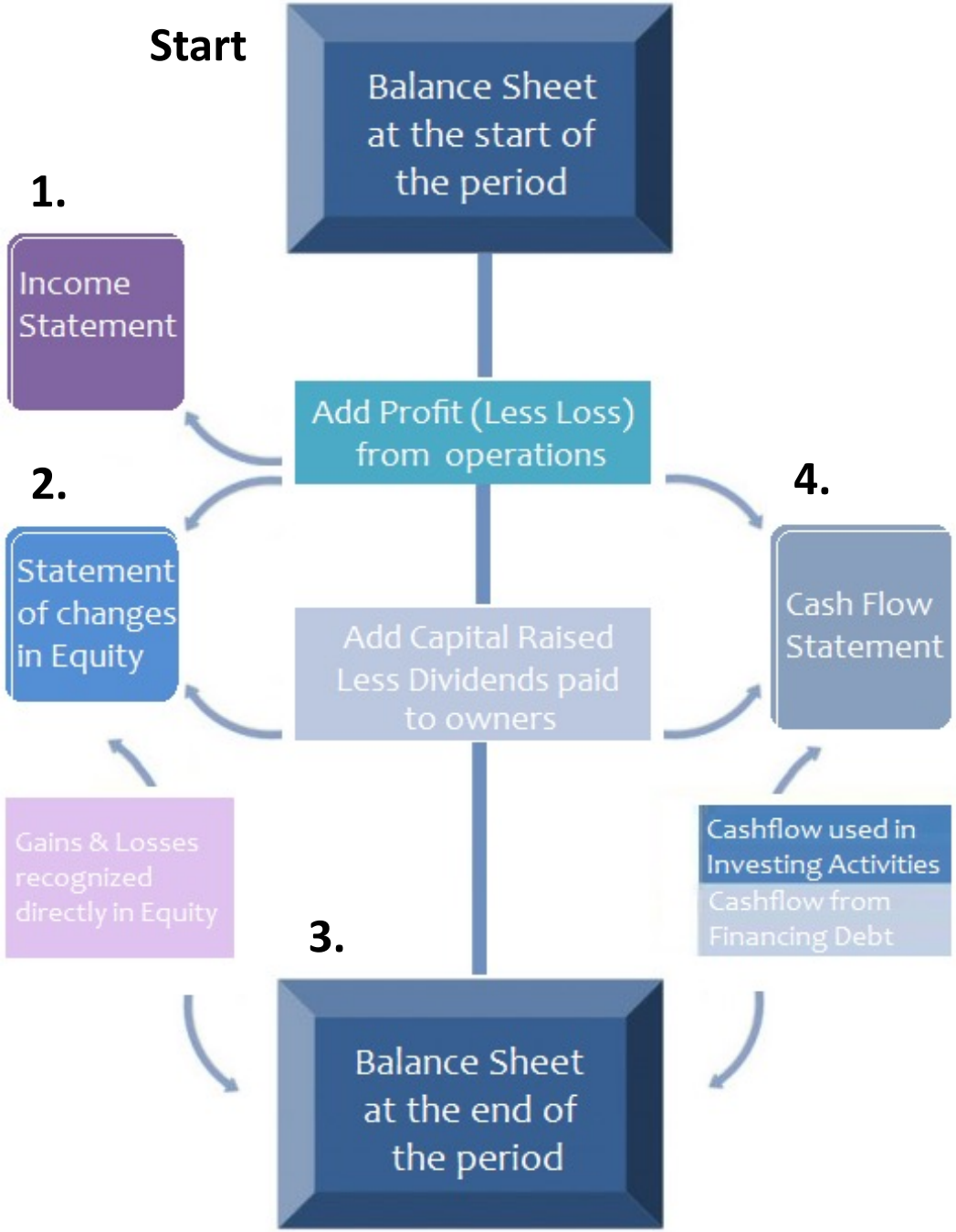
# Accounting Cycle

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# Resources

*Guy Kawasaki:* How to Create an Enchanting Financial Forecast

*Foresight:* Presenting Financials

*The Capital Network:* Financial Projections Presentation

*BizClarity.com*

*J. Skyler Fernandes:* The Best Startup Pitch Deck

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