Financial Modeling for Entrepreneurs

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I’m Taylor

BA Economics, UVA

MBA Finance, Tepper School of Business at Carnegie Mellon

Former strategy consultant, startup business development, private equity, business manager for “big financial services company”, finance consultant, photographer. Can code HTML and CSS. Entrepreneur-ish.

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What do you **want** to learn?

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What is the point of a **financial model**?

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"To tell a story about your business with math."

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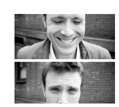
The key is to show someone **how you think**.

What someone wants to see in a model is how you approach building a business, what are the most important drivers of your business, and how you understand the equation underlining your business.



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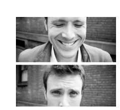
Every financial model you build will be wrong.

But being "right" isn't important.

Creating a financial model is about going through the process of detailing how a business "works".

The goal: Make the business model in your head explicit.



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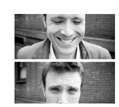
What do I often hear about financial models?

“**… they are largely BS.** The fact is, a financial model is a framework that shows you how things go up or down as you change certain inputs - but without knowing the inputs, it's impossible to really derive any useful data.

In the end, the most important thing isn't a really detailed financial model - it's having a grasp of what the major influencing factors are on your model (hint: sales and growth) and then getting some kind of data that helps you accurately predict these variables.

In the end, a financial model is just a fancy equation with a bunch of input variables. If the input variables are mistaken, it doesn't matter how good the equation is, the whole thing is useless - or even worse than useless, as it breeds false confidence.”

Direct feedback from http://unstructuredventures.com/survey.html



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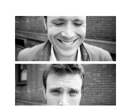
Accuracy is a misguided goal.

Start with well-grounded assumptions, good structure, and scenario analysis of key inputs, and that's as good as we can get.



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Instead of focusing on the bottom-line income statement and the hockey-stick growth in year 5, focus on your process, assumptions, key drivers, and scenarios and build a detailed month-by-month model that you can modify and update over time.

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Building Blocks

Turning Business Models into Financial Models

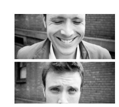
Unit Economics

Bottoms-up and Top-down

Verifying Inputs

Point Estimates and Range Estimates

Scenario Planning



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Make your business model explicit.

There is an equation underlying your business. Take the ideas in your head, and outline how a business works in detail.

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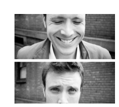
Unit Economics

i.e. Revenue per user, cost per user, cost to acquire a user, cost to retain a user, cost to serve a user.

i.e. Revenue per sale, cost per sale, COGS per sale, marketing costs per sale, shipping costs per sale



Bottoms-up

Build estimates from the bottom-up.

Top-down

Verify from the top-down.

i.e. “We’ll capture x% of a $500 MM market” should be the result of your estimates, not the start of your estimates.

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Inputs. How do I know if they are accurate?

Research. Public information. Test in-market. Ask other entrepreneurs.

Don’t obsess over how accurate your assumptions are.

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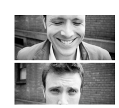
Focus on range estimates, not point estimates.

i.e. Spending time figuring out if $5 or $10 is the best price point is very tough, and probably wrong. Instead of deciding if $5 of $10 is correct, estimate using both, and understand the range of results.

Even better, estimate using ranges and probabilities of outcomes.



Plan out scenarios.

Analyze key metrics and drivers. Which assumptions have the most impact on your projections? Will a small change in price have a big impact on profits?

Develop best, worst, and "normal" cases.

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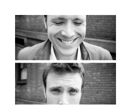
Combine everything into financial statements.

i.e. Do the math.

Income statement first, then balance sheet and statement of cash flows as necessary.

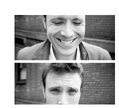


Is it reasonable? Verify.

How big is the addressable market for your product or service, and is it growing or declining?

Who are your major competitors and what portion of the market do they currently have?

What percentage of the market are you estimating you'll be capturing within 3 months, 6 months and a year?



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Metrics matter

LTV

CPA

Viral cycle and viral coefficient

Churn

% Paying Users

MRR

DAU, MAU

CPM

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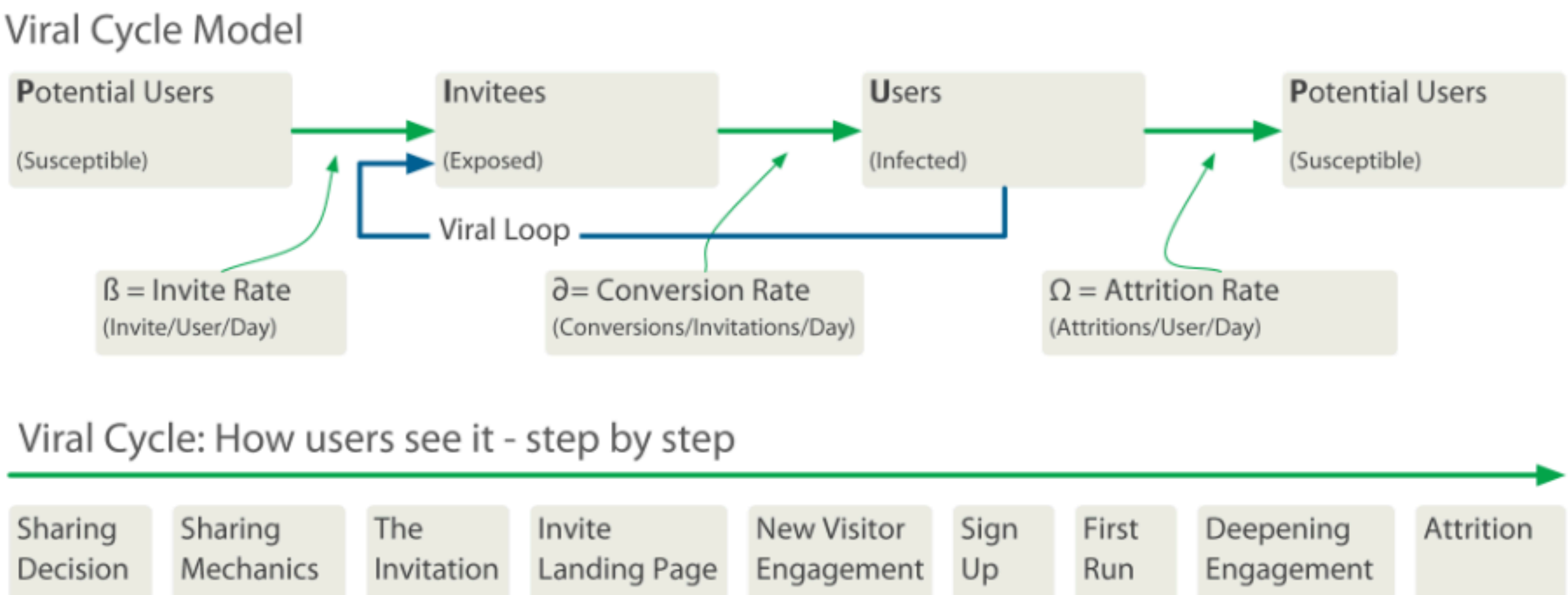
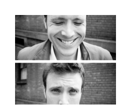
Modeling Viral Growth



Virality Study, http://worklogistics.com



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Key to Viral Growth

% of users who invite others

*

# of people that each user invites

*

% that convert

*

time that it takes to convert

Virality Study, http://worklogistics.com

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Cohort Analysis

Cohort = Groups of similar users

(by time joined, by subscription type, by engagement, by primary access device, etc.)

Goal is to deaverage usage to pull out important insights

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Presenting your results: Always remember the goal.

The goal of a fundraising pitch / conversation can range from getting someone interested, to getting them involved, to getting a decision. Match the information presented to the desired outcome.

Fundraising: Focus on the big picture.

Focus on the market size, the business model and the fundamental economics.

Revenue and Net Income projections are far less interesting or meaningful.

Fundraising: focus on the big picture, but have the details ready.

Focus on the business model and the fundamental economics. Don't cut straight to the Revenue or Net Income.

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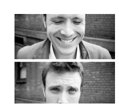
"Don't build a detailed financial model if you don't have past earnings, a significant financial history, or insight into the issue. Instead, include your current status and milestones for the next 1-3 quarters for product, team, marketing, sales, and quarterly and cumulative burn"

Venture Hacks, http://venturehacks.com/articles/deck

Also, see http://investors.dressrush.com/



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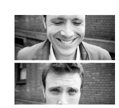
"You can't predict your revenue with any kind of precision, but you should be able to manage your expenses exactly to plan."

Brad Feld and Jason Mendelson, Venture Deals, p 21



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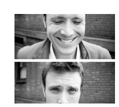
"… we focus on two things: (1) the assumptions underlying the revenue forecast (which we don't need a spreadsheet for – we'd rather just talk about them) and (2) the monthly burn rate or cash consumption of the business."

Brad Feld and Jason Mendelson, Venture Deals, p 21



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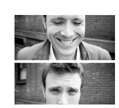
What this all means: build a simple model that plans out what you expect to spend for the next 3-12 months, how you plan to spend it, and what you expect to achieve from it.

Explain your fundraising requirements simply.



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Raising $750K

Primary expenses on hiring 1 FT back-end developer, 1 FT front-end developer, 1 community manager, and opening an office.

16 months of runway

Increase burn from 30K to 60K

Key milestones

Complete v1 beta product, sign 15 customers, build and launch v2 production product

Simplicity wins.

i.e. Graphs, charts, simple descriptions of revenue models and budgets. Find easy ways to communicate complex thoughts.

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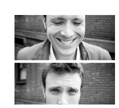
Common misconceptions

Don’t get lost in details. (i.e. don’t slap a screenshot of your projections on a slide)

Everybody shows a hockey stick. Be careful.

All projections are “conservative”. Don’t game the projections to the reactions, focus on the fundamentals first.



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Resources

1) Read more on the web.

Start with http://www.avc.com/a_vc/mba-mondays

2) Download more financial models to see how financial statements work:

http://unstructuredventures.com/build.html -> links to other templates

3) Customer acquisition, cohort analysis, viral loops:

http://andrewchenblog.com

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