CSC454/2527 - ASSIGNMENT 5

Financial Modeling and Projections (10%)

PLEASE SET UP TWO APPOINTMENTS NOW WITH THE TEACHING TEAM SO THAT WE CAN ASSIST AND MENTOR YOU THROUGH THIS ASSIGNMENT. The only way to learn this material is to read through the financial model spreadsheet workbook, interact with us, independent research, digging in and just get started.

It will take three or so meetings as a team for a couple of hours each sitting to work through this exercise. Remember when I said at the beginning of the semester that this course is designed to give you a distinct competitive advantage over those that do not take it; well learning the material in this assignment is the pinnacle of that achievement. The shameful reality is that most professionals, technical or otherwise, do not understand the financials of the business that their livelihood depends on. That's like having a car with no instrument gauges and driving it on the freeway with the car cover still on it.

OBJECTIVE

The financial plan and associated projected statements are major underpinnings for startups. They reveal the strategies and the tactics of how to bring a product to market. Credible startup financials are an invaluable tool for business planning now and evaluating your company's financial health longer term. They are also crucial when you are seeking funding.

Many entrepreneurs actually refuse to do financial projections beyond the first year, insisting that no one can predict the future. Although on the surface this argument seems rational the terminal error on the entrepreneurs' part is that investors ask for projections, not merely as predictions, but more as commitments from the founders and the team. Investors use the projections to uncover a wide variety of characteristics (both good and bad) about the business model but especially about the team, such as

- Does the team know what they are talking about and are they in the "real zone"?
- Does the team have superior critical thinking skills and high emotional intelligence?
- Does the team have contingency plans in case things do go exactly as planned?
- Does the team understand how to engage on a business level?
- Does the team have the intellectual horse power to conceive of reasonable numbers?
- Does the team have the forethought and the discipline to execute the business operations?
- Does the team understand the customer, market, sales cycle and industry?
- Does the team know how to use the money that funds the operation?
- Does the team know how to get the investors' money out of the deal and at what multiple?

If you are not willing to commit, don't expect anyone to back you. Try it – and you will see!

Furthermore, you need to set these projections as goals for your own use, to convince employees as well as investors that you have a business which is challenging, but achievable. Projecting the financials should be the last step of your business plan preparation, since it assumes you already know the opportunity size, customer buying habits, value proposition, pricing, costs, and competition.

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ASSIGNMENT SUBMISSION

The DEADLINE for submitting Assignment 5 to Basecamp is 10pm, Tuesday, November 21, 2017. This assignment is worth 10% of your grade. Your submission for the Financial Model must use the template provided to you. These documents will be uploaded to Basecamp in Excel workbook format and labeled [TEAM-NAME] – Assignment 5.xlsx

This template is an Excel workbook which has been customized for tech startups. It organizes key financial data quarter-by-quarter for four years. Make sure to include the details and sources of any assumptions used in your Financial Model. Fill out only cells that are "input cells" in the spreadsheets in the workbook marked by the red tabs and titled, Sales Plan, COGS, Staffing Plan, Expenses, and Balance Sheet. The input cells are discernible by the red text in the cells. As you populate the input cells the underlying equations will feed off of the input to generate the numbers needed to create the output of the green tabs in the Excel workbook titled, P&L by Year, P&L by Qtr, and Capex and Cash Flow.

Please fill out all of the input cells that are applicable to your business. If you have questions – ask quickly and often! Part of the grade is on completeness of the spreadsheets; part on our estimation of whether you demonstrate an understanding of what the numbers mean, the assumptions behind them and for clarity.

IF POSSIBLE AVOID ALTERING THE EQUATIONS IN THE CELLS UNLESS YOU ARE AN ADVANCED USER OF EXCEL. BETTER YET, TALK TO ME FIRST.

Embed "Comments" directly on the spreadsheets in which to capture and articulate the key assumptions that you make, on the input sheets marked with a red tabs – please use them continually so as to give us a clear indication of the rationale you are basing your forecasted numbers. Over communication is highly encouraged, the converse is terminal.

Part 1: Financial Model

Using the template provided produce and deliver a Financial Model that depicts the projected financial performance for your venture over a 4-year timeframe, including the following components;

1. An Income Statement (P&L by Year, P&L by Qtr) that forecasts:
    a. Revenues and gross margins over the plan's 4-year timeline;
    b. Direct and indirect expenses incurred in generating these revenues and margins;
    c. Earnings before interest, taxes, depreciation, and amortization (EBITDA).

2. A Balance Sheet that forecasts the venture's projected net financial position over the 4-year term of the plan.

3. A Statement of Cash Flow (Capex and Cash Flow) that forecasts the venture's anticipated cash position and funding requirements over the 4-year term of the plan;

4. A written summary level (1 page max) year-by-year overview of the venture's projected financial performance, accompanied by a line graph, for the four-year term of the plan.

    a. Calculate the breakeven point and prepare a chart/graph that shows when breakeven will be reached. The double line graph used in breakeven analysis estimates when the total sales revenue line will equal total costs. This is the point where losses ends and profits begin to accumulate. Usually, the number of units sold is plotted on the horizontal ('X') axis and the total sales dollars with the total costs are plotted along the vertical ('Y') axis. The point where the two lines or curves intersect is called the breakeven-point. This link shows an example graph and its components. Also indicate how many months it will take your venture to reach the breakeven point.

    b. To accomplish the above tasks and deliverables you will need to determine how you will price your product/services as it will dictate the revenue stream that will flow into your venture. You will want to consider the following items and include them in your written summary of the projected financial performance;
        i. Describe the dominant sales model in the space that your venture will operate in. What are the average revenues per buyer?
        ii. Describe the steps in a typical sales cycle? What is the likelihood and frequency of repeat sales?
        iii. Describe your venture's pricing policy compared with those of your major competitors or substitute competitors, now that you know who they are.
        iv. Consider your venture's gross profit margin and indicating whether this margin is large enough to allow for your expenses including distribution, warranties, training or service.

    c. Discuss the breakeven for your venture and whether it will be easy or difficult to obtain, including a discussion of the size of breakeven sales volume relative to objective total sales, the size of gross margins and price sensitivity, and how the breakeven point might be reduced in case the venture falls short of sales projections.

5. The method by which a venture capitalist or business owner intends to get out of an investment that s/he has made is known as an exit. The exit is a way of "cashing out" out of an investment. It's more difficult for a VC or entrepreneur to get money out of an investment because they are generally dealing with private companies. When a firm is private, the shares cannot be sold nearly as easily as when the firm is publicly traded on a stock exchange. So, even though a private startup firm could be worth millions of dollars, the VC/entrepreneur has little access to this wealth. You can think of the exit strategy as the first opportunity to trade an illiquid asset (shares in a private firm) for a very liquid asset (cash). What type of exit strategy would best suit your venture and why?

Basically, the above items are generated by forecasting revenues and expenses. Mechanically, this is accomplished by populating the control sheets of the spreadsheet model workbook

Inputting your forecasts into the input cells of the control sheets will force your team to clearly understand and question aspects of your business model. You will have anticipated pretty much any question that will be thrown at you from investors. Think out of the box because investors will ask you the wildest things just to see how you react to the unexpected – and in the startup world the "unexpected" is the norm!

A Few Things to Consider to Get You Started

Revenue growth indicates how quickly a company can grow under the current way of doing business. The top line shows whether the market affords steady growth or somewhat irregular revenue growth created by the long sales cycles to business-to-business scenarios and whether the company must sell one product or a collection of complementary products. The revenue growth projections indicate the potential of the business.

You will run into a term called the Gross margin. This is a measure of how expensive it is make the product. It's calculated by taking the revenue and subtracting all the COGS (costs of goods sold), which in software businesses includes serving and hosting costs, software licenses used, and revenue share agreements in the case of ad networks. Most software businesses have gross margins of 80% or more, which make them very attractive. Gross margin is the upper ceiling of profitability because the net margin can never exceed the gross margin.

The Net Income, otherwise known as the "bottom line" or "burn rate" if negative, is the revenue minus all the costs incurred. Net Income dictates the minimum amount a startup needs to raise to become profitable. By comparing Cash, Net Income and Revenue, you can calculate when a startup will need to raise its next round, what its financial profile might be when it does go to market and get a sense of follow-on financing risk.

The single biggest expense for most startups is salary. By looking at salaries across functional areas, you can get a sense for how a startup pays its employees relative to market rates. Low salaries could spell employee retention questions in the future. Excessive salaries reduce the company's runway. Compare salaries to a set of benchmarks across venture backed companies as a litmus test. Google is your best friend here.

Non-personnel (not including people) marketing spend is the most significant controllable expense in a business. It typically includes ad spending and event spending. This expense bucket can be turned on and off from month to month unlike salaries or rent. It's important to you because it provides an indicator of how well understood the marketing process has become. Most startups see, demand generation budgets range from 5 to 20% of total expenses. The optimal ratio depends on the payback period. That is how quickly you can get a return through sales on that invested marketing dollar before running out of budgeted marketing dollars.

This is cliché but "Cash Reigns Supreme" so as you build your revenues keep your expenses in a reality check so that the company does not become starved for cash. Keep your eyes on the Cash Flow Statement. It tells you what cash you have on hand because it removes latencies inherently built into the Income Statement's accrual method that measures the performance and position of a company by recognizing economic events

regardless of when cash transactions occur. On the other hand don't be a cheap miser and kill the business that way. Not eating so that you can save all of your pay cheque usually doesn't end well. If you want to read a little on the two accounting methods I only spoke to briefly in the lectures go to this link http://www.dummies.com/business/accounting/understanding-accounting-methods/.

In the beginning your company will be spending more money than it makes – that is why you need a cash infusion from investors to carry your venture long enough for it to propel itself on its own financial engine which you as the founding team are busily building. Remember what I said in the lecture on this subject. You can have a magnificent looking Income Statement and Balance Sheet but your venture can still be cash starved which means functionally broke because you can't pay the operational recurring bills like payroll which include the people that build your product, generate demand for it, and get it sold.

Again I can't overstate how important it is to meet with us super soon so that we can make sure you get on the right path and learn a ton of useful material that will serve you your entire career! Thanks for persevering.

Good Luck