

Module 2: Preparing for Capital Venture Financing Building Pro-Forma Financial Statements

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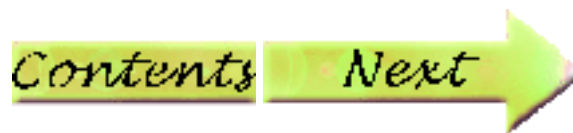
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1.0 Building Pro-Forma Financial Statements

1.01 Introduction

In this section of the course you will learn how to apply the financial forecasting methods you learned in the previous section. You will also learn how to tap the power of electronic spreadsheets to build financial models. The content that follows assumes that you understand the basics of spreadsheets. If you do not, it is recommended that you learn spreadsheet basics before proceeding.

In the remainder of this section you will be presented with a step-by step guide to building an integrated financial model that consists of a pro-forma income statement, balance sheet and statement of changes in financial position for the company TME.com. As you proceed through this model you should be aware that it is not possible to build one financial model for all businesses. Each business has its own unique features. However, there are common elements of the financial statements of all businesses. If you develop a good understanding of the financial model presented in this section you should develop the skills to develop a customized model for any business.



2.0 Model Structure

Most spreadsheets enable the analyst to set up several pages/sheets in a single work file. Furthermore, linkages can be created among the different pages/sheets through the use of linking formulas. This is a very useful feature in financial analysis, as you will see in the **TME.com** model.

When developing a financial model that contains the three typical financial statements it is useful to put each of the three statements on a separate page so that they can be found easily. It is also useful to set up an assumptions page that sets up all of the critical assumptions that will have a significant influence on financial results. The assumptions page enables the analyst to perform “what if” sensitivity analysis on key assumptions to assess the impact of changes on these assumptions on key financial results. The key results might be components of the three financial statements (e.g. net income, cash flow) or commonly used financial ratios (e.g. current ratio, return on investment, return on equity).

Open the Excel file **TME.com** now and click on each of the page tabs at the bottom of the spreadsheet to see the structure of this financial model. Then return to the assumptions page.

Please note that the worksheets have been protected so that you can only enter values in cells that are shaded grey. If you want to change protected cells you must first click on Tools, then Protection, and then Unprotect Sheet. If you decide to make changes to protected cells, be very careful! You may create formula errors that will destroy the integrity of the model.



2.01 The Key Assumptions/Key Results Page

The assumptions/key results page of TME.com provides an illustration of the kinds of assumptions and key results that may be of interest to someone evaluating a company that is seeking venture capital financing.

How sensitive are the results to the price of the product, the cost of goods sold, working capital management, interest rates, etc.? What is the impact of changes in each on net income, ROI, current ratio etc.?

Let's begin building pro-forma financial statements for TME.com by establishing key assumptions.

Assume that the price of TME.com's product will be \$350 in year 1, declining to \$340 in year 2 and \$325 in year 3 due to increased competition. Enter these values in cells B3, C3 and D3 respectively.

Assume that cost of goods sold as a percentage of sales will be 60% in year 1, declining to 58% in year 2 and 56% in year 3 as TME.com's production system becomes more efficient. Enter 60, 58, and 56 in cells B4, C4 and D4 respectively.

Assume that TME.com will collect 30% of its sales in the same month they are booked, 60% in the next month and the balance (10%) in the following month. The same assumptions apply to payment of payables. Enter 30, 60 and 10 in cells B6, B7 and B8 respectively.

Assume that TME.com will spend 5% of sales on promotional expenses. Enter 5 in cell B9. Assume that the company will not pay dividends in the next two years but that it is planning on paying dividends equivalent to 25% of earnings in year 3. Enter 25 in cell D10.

Assume that the annual depreciation rates on fixed assets acquired by TME.com will be 5% on buildings, 33% on equipment and 20% on vehicles. Enter 5, 33 and 20 in cells B12, B13 and B14 respectively.

Assume that the interest rate on the long term debt is 7.75% and the interest rate on the mortgage is 6.25%. Enter 7.75 and 6.25 in cells B18 and B19 respectively.

Assume that the company is in a 29% tax bracket. Enter 29 in cell B21.

All critical assumptions have now been entered and it is now time to begin building the rest of the pro-forma financial statements.



2.02 The Income Statement

First, you will note in cell C3 that the fiscal year for TME.com is the same as the calendar year. You may wish to change this if the fiscal year for your company is different than the calendar year.

The top portion of the income statement (sales and cost of goods sold) is protected. In order to generate the sales forecast you must first click on the sales page.

Go to cell C6 on the Sales page where you can begin to enter the projected unit sales for TME.com. Let us assume that the company is projecting high growth in sales over the three year forecast period and that there is some seasonality in the sales.

In year 1 enter 100 units per month from Jan to Aug and 200 units per month from Sept to Dec.

In year 2 enter 250 units per month from Jan to Aug and 325 units from Sept to Dec.

In year 3 enter 350 units per month from Jan to Aug and 700 per month from Sept to Dec.

You will note that total sales have been calculated for each month by multiplying unit sales by the price for each year that was set on the Assumptions page. Total sales are posted to row 6 in the Income Statement page by a linking formula.

You will also note that sales collections and accounts receivable have been calculated on the Sales page using the collections rates that were set on the Assumptions page. Closing accounts receivable is posted to row 9 on the Balance Sheet page and the (increase)/decrease in accounts receivable is posted to row 9 of the Cash Flow page.

Click on the Income Statement page.

Go to cell C11 on the Income Statement page. You will now begin entering projected monthly expenses for the relevant categories of expenses for TME.com. Please note that advertising and promotion expenses in row 16 are calculated using a percentage of sales set on the Assumptions page. Also depreciation expenses will be calculated on the Balance Sheet page later and then posted to row 23 of the Income Statement page by a linking formula.

Like many businesses, TME.com is projecting annual increases in all expense categories. The monthly entries for each of the three forecast years are summarized below. Please enter these values now.

Row	Expenses Category	Year 1	Year 2	Year 3
11	Salaries	\$7,000	\$8,000	\$9,000
12	Wages	\$3,000	\$3,500	\$4,000
13	Administration	\$2,000	\$2,500	\$3,000
14	Utilities	\$500	\$750	\$1,000
15	Insurance	\$400	\$600	\$800
17	Sales Expenses	\$3,000	\$3,500	\$4,000
18	Lease Payments	\$200	\$500	\$1,000
19	Travel	\$5,000	\$6,000	\$7,000
20	Office Supplies	\$750	\$1,000	\$1,500

21	Maintenance	\$1,000	\$1,500	\$2,000
22	Allowance for Bad Debts	\$800	\$1,000	\$1,500



2.03 The Balance Sheet

Click on the Balance Sheet tab and go to cell C8.

Assets

Cash is posted to the Balance Sheet by linking formula from the Cash Flow page. This will be the last step in building the TME.com pro-forma.

In row 9, Accounts Receivable is posted to the Balance Sheet from the Sales page. In row 10, inventory is posted to the Balance Sheet from the Inventory page. Click on the Inventory page and go to cell C7.

The Inventory page calculates both Inventory and Accounts Payable. Inventory purchases are related to Cost of Goods Sold. The page has been set up such that the analyst enters inventory purchases for each month, ensuring that closing inventory in row 21 is greater than \$0. In row 21 enter \$30,000 per month for Jan, Year 1 to Aug. Enter \$50,000 per month from Sept, Year 1 to Aug, Year2. Enter \$60,000 per month from Sept, Year 2 to Aug, Year 3. Enter \$120,000 per month from Sept, Year 3 to Dec, Year 3.

Once the inventory purchases have been entered, closing inventory (row 21) is posted to the Balance Sheet (row 10). (Increases)/Decreases in inventory (row 22) are posted to the Cash Flow page (row 10). Accounts Payable (row 28) is calculated from the payment rates set on the Assumption Page. Closing Accounts Payable (row 28) is posted to the Balance Sheet (row 31) and Increases/(Decreases) in Accounts Payable are posted to the Cash Flow page (row 11).

Click on the Balance Sheet page and got to cell C14. We will now begin projecting TME.com's fixed assets. Assume that the company will acquire land for \$50,000. Enter \$50,000 in cell C14.

Now go to cell C53. Assume that TME.com will build a building at a cost of \$250,000 to house its operations. Enter \$250,000 in cell C53. Similarly assume that the company will acquire equipment at a cost of \$125,000 (enter in cell C59) and vehicles at a cost of \$100,000 (enter in cell C65). Note that a depreciation schedule is automatically calculated for the building, equipment and vehicles using the depreciation rates that were set on the Assumptions Page (note the annual depreciation rates on the Assumptions page have been converted to monthly rates on the Balance Sheet page). The net book values and accumulated depreciation for the building, equipment and vehicles are posted to the fixed assets section of the Balance Sheet in rows 16 to 23.

It should be noted that for financial planning purposes, the depreciation calculations have been simplified somewhat by using a constant depreciation rate and the "declining balance" method of depreciation accounting. When preparing financial statements for management purposes, accountants are free to use the depreciation method that best approximates the actual rate of deterioration of the value of the asset. For certain methods they might use the straight line method for example.

However, when preparing financial statements for tax reporting purposes, accountants must use the depreciation methods set out by Revenue Canada. Revenue Canada specifies the appropriate capital cost allowance (CCA) ie. depreciation rate that should be used for various categories of assets.

Go to cell B75 on the Balance Sheet page. This section of the work sheet enables the analyst to incorporate some debt financing of fixed assets. A term loan amortization schedule can be generated for a term loan on equipment and vehicles. Similarly, a mortgage amortization schedule can be generated for a mortgage on real estate.

Assume that TME.com arranges a five-year term loan of \$100,000 with monthly payments to finance the \$225,000 purchase of equipment and vehicles. Enter \$100,000 in cell B75 and 60 months in B76.

Also assume that the company arranges a \$200,000, 20-year mortgage to finance the \$300,000 cost of the land and building. Enter \$200,000 in B86 and 240 months in B87.

Given the above assumptions, the loan amortization schedules are generated using the interest rates that were set on the Assumptions page. It is recommended that you examine the formulas in the loan amortization schedules to see how they are calculated.

The total interest expense each month on the loan and mortgage are summed in row 97 and posted to row 31 on the Income Statement page.

The total principal paid each month on the loan and mortgage are summed in row 98 and posted to row 24 on the Cash Flow page. The total proceeds of the two loans are posted to cell C23 on the Cash Flow page.

The current portion of long term debt for the two loans is summed in row 99 of the Balance Sheet page and posted to row 33 on the Balance Sheet.

The closing principal on the term loan and mortgage are posted to rows 37 and 38 respectively on the Balance Sheet.

Go to cell C32 on the Balance Sheet. You will note that the income tax liability is calculated in rows 37 to 43 of the Income Statement page using the corporate income tax rate set on the Assumptions page.

Go to cell C43 on the Balance Sheet. You will note that retained earnings is calculated in rows 45 to 50 of the Income Statement page using the net income from the Income Statement and the dividend payout assumption set on the Assumptions page.

This completes the balance sheet with the exception of share capital (row 42) and cash (row 8). Both of these values are determined on the Cash Flow page.



2.04 The Cash Flow Statement

Click on the Cash Flow tab and go to cell C4.

Opening cash for TME.com is set at \$0, i.e. it is a start-up company. Otherwise it would be set at closing cash for the last Balance Sheet date before the forecast period.

Cash Flow from Operations

Net Income is linked from row 43 of the Income Statement page.

Depreciation is linked from row 23 of the Income Statement page.

(Increase)/Decrease in Accounts Receivable is linked from row 21 on the Sales page.

(Increase)/Decrease in Inventory is linked from row 22 of the Inventory page.

Increase/(Decrease) in Accounts Payable is linked from row 29 of the Inventory page.

Increase/(Decrease) in Income Tax Payable is linked from row 43 of the Income Statement page.

Cash Flow from Investing Activities

(Increase)/Decrease in Land is linked from row 14 of the Balance Sheet page.

(Increase)/Decrease in Building is linked from row 53 of the Balance Sheet page.

(Increase)/Decrease in Equipment is linked from row 59 of the Balance Sheet page.

(Increase)/Decrease in Vehicles is linked from row 65 of the Balance Sheet page.

Cash Flow from Financing Activities

Increase in borrowed funds is linked from cell C96 of the Balance Sheet page.

Principal re-payments are linked from row 98 of the Balance Sheet page.

Dividend payments are linked from row 48 of the Income Statement page.

The only entry that is made on the Cash Flow page is in cell C24 where share capital is entered.

The financial model is structured such that the minimum share capital requirement is determined by the peak cash deficiency on the cash flow statement after all other entries have been made. It can be seen on row 31 of the Cash Flow statement that the peak cash flow deficiency occurs in the month of August in year two where the deficiency is \$484,499. Hence equity capital of at least that amount will be needed to provide enough cash for TME.com. Assume that TME.com will raise \$750,000 in equity capital in order to allow margin for error in the projections. Enter \$750,000 in cell C25.

The last step in the construction of the pro-forma model is to post closing cash from row 31 of the Cash Flow page to row 8 of the Balance Sheet page. Click on the Balance Sheet page and go to cell C8.

Create a linking formula to row 31 of the Cash Flow page.

After creating the linking formula, check to see if your Balance Sheet is balanced. Row 48 of the Balance Sheet page calculates the difference between Total Assets and Total Liabilities and Equities. If the Balance Sheet is balanced, the difference should be \$0.



2.05 Annual Income Statement Summary and Breakeven Analysis

Click on the Income Statement page and go to cell A53. In this section of the work sheet a summary of the Income Statement is provided for each of the three years of the forecast period.

Go to cell A89 of the Income Statement page. In this section of the work sheet a breakeven analysis is done for each of the 3 years in the forecast period. The selling price is obtained from the Assumptions page. The variable cost per unit is obtained by multiplying the cost of goods sold percentage by the selling price. Fixed costs are assumed to be total operating expenses plus interest expenses.



2.06 Key Results

Click on the Assumptions page.

On the right side of this screen several key financial results are provided for TME.com. The analyst is now in a position to re-assess some of the critical assumptions that were made in building the pro-forma financial model and see how changes in the assumptions affect key results.

It should be noted that the structure of the TME.com financial model is somewhat restrictive in a number of areas. However, by studying this model and the linkages between its different components you should be able to build your own customized financial model for any business.

