

## Capstone (Capsim) Simulation: The Finance Module

During the fall semester 2013 at Georgian Court University in Lakewood, NJ we have six teams competing in the Capstone (Capsim) simulation. There are four students on each of the following companies/teams: Andrews, Baldwin, Chester and Digby. The computer has two simulation companies/teams Erie and Ferris. The simulation begins with four basic modules: research and development, marketing, production and finance. We add human resources in the second round and total quality management in the fourth round. The competition is seven rounds beginning Saturday October 27, 2013 through Saturday December 8, 2013. On Saturday December 15, 2013 each company will make a power point presentation that includes the company mission statement, corporate vision, segment analysis, round analysis and financial statistical analysis compared to the other companies. Segment analysis describes company products in the traditional, low-end, high end, performance and size segments.

This lesson is a brief synopsis of section 4.4 Finance on page 15 of the Capstone team member guide 2013. The finance department manager for each company/team will make decisions according to that company's business model and strategy.

The finance manager should not make any financial decisions until all other departments: research and development, marketing, production, human resources and total quality management have entered their decisions.

The finance module simulation begins its online display with plant improvements. Let's use company/team Andrews as an example. First the production manager, within the production module, buys capacity and increases automation for product Able. He enters [100] in the buy/sell capacity box. The manager then increases automation from [4.0] to [4.5] in the automation box. The simulation calculates within the investment box [\$6,000] for Able. Six thousand in the box is a \$6 million investment. The production manager repeats this process for product Acre entering [100] in the capacity box and changing [5.0] to [5.5] in the automation box. The investment box for Acre displays [\$5,600] or \$5.6 million. The total investment box displays [\$11,600] or \$11.6 million. Note that the total buy/sell capacity box will show an increase of [200]. The student then goes to the finance module. Under plant improvements in the total investment box [\$11,600] is displayed.

Now the production manager wants to sell capacity. The manager desires to get out of the size segment and sells capacity for product Agape. The production capacity for Agape is [600]. The production manager enters [-599] (negative 599) in the buy/sell capacity box for Agape. Therefore the simulation calculates a negative/red in parenthesis [(\$7,008)] in the Agape investment box. This changes the total investment box number to [\$4,592] which is (\$11,600 - \$7,008). The total buy/sell capacity box now displays a decrease in red of [(399)]. We return to the finance module. Under plant improvements, the sales of plant & equipment box, displays the red negative cash amount of [(\$7,008)].

In the finance module the next section is common stock. Shares outstanding in thousands will display [2,000] which are 2 million shares. The price per share box shows [\$33.99]. The simulation adjusts price per share each round. After company Andrews makes plant improvements the earnings per share box changes from [\$0.50] earnings per share. The box shows a loss, displayed in red of [(\$0.70)] per share. Company Andrews will have to input

appropriate changes in the research and development module and the marketing module pricing and forecasting sections to increase company net income and earnings per share. The company must check the proforma balance sheet, cash flow and income statements to modify financing.

The common stock section of the finance module displays the max stock issue box which is set at [\$13,596]. The computer simulation adjusts automatically the max stock issue. In the issue stock box, company Andrews can issue more stock if they develop a new product. Let's say Andrews wants to produce a new low end product Apple. The finance manager will finance Apple by issuing half the cost in new stock and half the cost in new bonds. Metrics for Apple will be entered by company managers into sections of research and development, marketing pricing, advertising, sales promotion and sales forecasting. Production for Apple would include buying capacity and automation. These changes would make Apple ready for sale in the following year/round of competition.

The max stock retire box is set at [\$3,399] and changes during the course of the simulation. Company Andrews can retire stock. If Andrews wants to retire 200,000 shares of stock the finance manager enters [200] in the box. Usually companies retire stock when they want to increase earnings per share. However if a company has a loss per share of stock, retiring stock will increase the loss per share. If Andrews retires 200,000 shares of stock the loss per share will increase to [(\$0.71)]. Companies can pay a dividend per share of stock by entering an amount in the dividend per share box.

Under the current debt section there are boxes for interest rate, current debt due this year and borrow. The more debt your company has the higher the interest rate because your company presents more risk to debt holders. The current debt box displays the current debt due from the previous year. On January 1<sup>st</sup> of the current round, last year's debt is paid off automatically. Section 4.4.1 on page 15 of the Capstone team member guide gives an excellent explanation of current debt.

The finance module also includes a cash position section displaying two cash amount boxes. One box is for the end of the preceding year and the other box is for the end of this year's round. These boxes will show any negative cash flow in red.

In the long term debt section a company can retire or issue long term debt. The Andrew's finance manager can issue long term debt in order to finance the new low end product Apple. The manager inputs [\$2000] or \$2 million into the issue long term debt box.

The last section contains outstanding bonds. There are boxes for series number, face amount, current year and bond yearly closing value. Bonds are explained in section 4.4.2 of the Capstone team member guide.

There are three other sections under finance in the team member guide: section 4.4.3 stocks; section 4.4.4 emergency loans from Big Al; and section 4.4.5 credit policy.