In the Capstone competition rounds, hope you have paid due attention to:

- Have you sat and brainstormed as a company (team) – what is your **company's passion, what is your company's DNA, what excites you**, what does your company want to do? Remember, your company reflects you – your thoughts, fears, aspirations, predilections, caution, risk, etc. Now....

- Given your passions and given the resources and capabilities that you possess, what is **your company's vision**. Your vision is simply an expression of a desired end state (eight years from now) that you wish to accomplish. Try and visualize it as accurately as possible. Now given your vision and your strengths (capabilities and resources) what is the best for you to do given a competitive environment. Thus, you now...

- Perform a **Market Analysis,** i.e. market segments, market sizes, their growths and what is the share you intend to capture. Remember, analysis of the market sizes, growths and your share are a foundational part of your strategy.

- Now formulate your **strategy** – company and segment wide. Your strategy is nothing but integrated and coordinated set of actions taken to exploit core competencies and gain competitive advantage. Securing a competitive advantage is vital; else you will get what everybody else gets.

- And remember, the heart of business lies in the execution. Wonderful strategy, but poor execution will let you down.

- Please read the note on Outlining Your Strategy (at the end of this debrief): this was sent to you during the practice rounds as well.

- Please read the note (at the end of the debrief) on
    - Outlining Your Strategy
    - Competitive Advantage. Please read these notes carefully. **Think about how you will generate competitive advantage for your company on Capstone**.

IMP: Some of you were curious about the individual business competency graded examination (CompXM) after you finish the competition rounds. The Comp-XM is similar to Capstone. Here you would run a business (far simpler and miniaturized as compared to Capstone) of your own, INDIVIDUALLY as CEO. Instructions for the same will be mailed to you shortly. Please do Capstone well. It is the best practice for the exam.

Industry and Team Specific Points
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General: An interesting start to the competition round. Observe how the business and financial results of the teams have changed in the very first year of business. All teams started on a perfectly level playfield. Run your businesses deliberately; losing customers and profits weakens you and strengthens your competitors. The gap widens faster than one anticipates. Remember the objective: profit maximization; therefore it's not only growth but profitable growth that is of significance. Think long term. Please make those growth investments now. But in the bargain, do not bleed so unsustainably that you become bankrupt in the short and mid-term…..

Digby made losses this year. Low sales for Chester. The reasons for your low sales are given below in the sales paragraph. The top-line for Andrews and Erie have shown good growth in the last financial year. Contribution margins are low for Baldwin, Digby and Erie. You will find it hard to make a profit with contribution margins below 30%. Emergency loans were seen for Digby and Erie. You are experienced managers now. Please stay away from these cash flow crises. Please read the paragraph on emergency loans below.

Stock Price and Market Cap: **Andrews, Baldwin, Chester and Ferris** had a rise in stock price of $6/share, $0.6/share, $1/share and $1/share respectively. **Digby and Erie** had a fall in stock price of $16/share and $0.2/share respectively. **Andrews** is the most valuable company with a market capitalization of **$93M**.

The impact of Dividends:

Remember, dividends are averaged over the past two rounds. Second, stockholders will ignore dividend amounts above either:

- This year's EPS, or
- Or if EPS is falling, the average EPS over the past two years

One other factor drives stock price — Book Value. If you pay out more than the EPS, it follows that book value must fall and with it the stock price.

Sales: **Andrews and Erie** had a rise in market share of 2% each. **Baldwin, Chester, Digby and Ferris had a fall** in market share of 1.1%, 1.8%, 0.5% and 0.6% respectively.

Each 1% market share in this round was worth almost $10M. Large losses in market share often mean some high profile firings: think of the consequences in the real world. Your sales should have been in the region of $115 M if you were retaining market share.

Low sales for Chester. This was caused by:

- Poor product specifications (performance and size) for Cake, Cid, Coat and Cure; look at the ideal spot on the perceptual map. Look at your product specifications. If you do not offer the customers the specifications they desire, sales will suffer.
- Poor distribution reach and accessibility caused by low sales budget for Cedar, Coat and Cure.

Please pay more attention to the 4P's of marketing: improve your sales.

None of the teams have **introduced new products in the market**. Each team can launch up to three new products. More products help you capture more market share.

Profits: Digby had bottom line in red. The reasons for your lower profits are easy to see now. Let us not repeat mistakes:

- Low Contribution Margin
- High Unsold Inventory and the attendant carrying cost.

Profits are important: That's our raison d'être for running the company.

Contribution Margin: Baldwin, Digby and Erie have low contribution margins. Please maintain your margins above 30%. Please automate your plants to bring down your labor bill. Please price better.

Once again to jog your memory:

Contribution margin is defined as:

$$\frac{\text{Sales - (Direct Labour + Direct Materials + Inventory Carry)}}{\text{Sales}}$$

It is reported on Page 1 of the Capstone Courier as an aggregate average of each team's product portfolio. A good benchmark for contribution margin is 30%. A product-by-product margin computation is available on the Income Statement portion of your company's annual reports.

Margins are driven by both price and cost. Check to see which of these problems you have:

- **Are your prices too low?** "Variable Margin" is the margin that you make on each unit. It is defined as:
  - $$\frac{\text{Price - (Direct Labour + Direct Materials)}}{\text{Price}}$$
  - From your variable margin you pay for depreciation, R&D, promotion, sales, admin costs, etc. A good benchmark for variable margin is 38%. You will find Contribution Margins on the Production Sheet in your Capstone software.
- **Are your MTBF ratings set too high**? MTBF ratings affect material costs. Check the MTBF ratings of each product against the "Customer Buying Criteria" on pages 5-9 of the Courier. Are they higher than they need to be? Example: If the MTBF range is 12,000-17,000, and it is the 4th buying criteria (as it is in the Low End segment), there is little benefit in having MTBF set higher than the minimum. The Low End customer is saying to you that given a choice between reliability and price, they prefer price.

- **Is your positioning too advanced**? Material costs at the leading edge of a segment are $4 higher than at the trailing edge. If the customer values price more than positioning, sacrifice positioning.
- **Is your labour content too high?** Labour content is the percentage of Cost of Goods (COG) consumed by labour expense. For example, if COG is $10, and labour costs are $4, your labour content is 40%. You can reduce labour content with automation. To a lesser degree, you can also limit labour content by eliminating overtime and by negotiating for a more favourable labour contract. A good benchmark for labour content in Capstone is 30%.
- **Are you dropping price to increase market share?** If so, recognize that Capstone customers have no loyalty based upon past purchases, and they endure no switching costs. Customer behaviour is driven by product attributes, awareness, and accessibility.
- **Are you dropping price to respond to competition?** Check your competitor's margins. Are they making money? Losing money? If they are losing money, resist the temptation to follow them. While your unit volume will fall, it is more important to stay profitable. Thank your competitor for losing money. They will soon discover that they cannot sustain the losses and will want to raise their price. If you have lowered yours, the industry will be trapped in a price war. On the other hand, if you discover that they are making money because they have attacked their cost structure and are passing along savings to customers, you have a serious problem. Address your costs, differentiate so you can maintain your price, or get out of the segment.

Emergency Loans: Digby and Erie have emergency loans. As experienced managers now, you should avoid emergency loans at all cost. Your company will get pummel on the bourses if you cannot manage your cash. The reasons for your emergency loans are –

Digby - The reasons for your emergency loan were large cash outflows arising from:

- You spent (wrote out cheques) for $17.6M for plant. Assets increased but you did not fund it adequately with debt and equity. Where will the cash come from?
- You have large unsold inventories of over $22M. That is causing a cash flow crisis by blocking cash.
- You bought back (retired) long term debt of $18M

All this caused a huge outflow (and blocking) of cash that you did not have:
Therefore, in the next round:

- Make realistic sales forecasts and do not overproduce inventory
- Reduce your production to cater to the large unsold inventory.
- Keep doing RnD on your products (remember the older inventory gets a free ride to the new specs)
- Sell surplus unused plant capacity
- **Raise funds from long term and current debt to repay this emergency loan.**

Erie – For a cash outflow of $16.7M (plant improvements), you raised $6M through debt and equity. Remember assets = liabilities plus equity. You increased assets (larger plant) but did not fund it adequately with debt and equity. Where will the cash come from? You also have high unsold inventory worth $28.2M which is blocking cash. In the next year, please make realistic forecasts and do not overproduce inventory. In the next round, remember to raise funds from stock issues, long term and current debt to repay this emergency loan. See note in red below:

This emergency loan is current debt. It will automatically get plugged into "current debt due this year". Borrow maximum from long and short term debt and raise funds through stock issues and sale of surplus plant to **ensure your 31 Dec closing cash (bottom left row on Finance sheet of Capstone) balance is a healthy figure (attempt 1-2 months of sales).**

Please remember: emergency loan is current debt: you have to repay it in the next year. Please err on the side of caution when it comes to managing cash. Get rid of your emergency loan ASAP.

This is the growth phase for your company. A small loss could be understood as you've had to make tough decisions considering a long term perspective. **But, an emergency loan is never acceptable.** Cash flow mgmt is foundational.

Plant Size and Utilization: Andrews, Baldwin, Chester and Ferris have not even used the first shift capacity of the plant (the plant has 2 shifts). This has led to an unnecessary depreciation burden. For example: Baldwin could have produced the same 3.6M units with a capacity of 1.8M units instead of the current capacity of 5.3M units. By this they would have a depreciation expense of only of $3.1M instead of the $9.1M they currently have. This means $6M more in EBIT. Interesting!

Asset Turnover: Digby and Ferris have asset turnover of below one. Please work your assets harder. Your assets have to justify their place on their balance sheet. Make them generate more sales per unit of asset.

Forecasting and Inventory: Digby and Erie have high levels of unsold inventory. Please restrict your production in the next round so that you may reduce this inventory level. Inventory levels create an excess burden in terms of carrying costs on profits and block cash. Remember, producing more does not mean selling more. On the other hand, stocking out means huge opportunity cost. Ideally, inventory levels should be one unit for every product. But this is quite difficult (impossible) to achieve. Forecast better and try to reduce inventory to the minimum possible level without stocking out.

Inventory Reserves

Inventory expansions are the number one cause of emergency loans. This can be further broken down into two root causes – forecasting, and inadequate inventory reserves.

By inventory reserves we mean, "How much inventory are we willing to accumulate during the year in our worst case?" We express this as "days of inventory."

Suppose the gross margin is 30%. If so, then the cost of inventory consumes 70% of every sales dollar. If sales are $100 million, over the course of a year the company spends $70 million on inventory. In one day it spends $191 thousand. In 30 days it spends $5.7 million. In 90 days $17.3 million.

We are interested in how many days of inventory the company planned to be able to absorb, because if inventory expanded beyond this, it would see Big Al for an emergency loan.

To find inventory reserves we determine cash and inventory positions on January 2nd, after all the dust has settled from borrowing, stock issues, bond issues, debt retirement, etc.

Inventory reserves in days = ((Starting Cash + Starting Inventory)/COG) * 365. For example, if starting cash and inventory totalled 30 million on January 2nd, and annual cost of goods is expected to be $120 million, then days of inventory was $30/$120 * 365 or 91 days.

If the company sells its entire inventory, it converts it all to cash. The more inventory accumulated, the more that cash is crystallized as inventory. Eventually the company runs out of cash and turns to Big Al to pay for the inventory that has accumulated in the warehouse.

Companies can develop an inventory reserves policy by considering their worst case forecast for sales. If the inventory policy is 90 days, they can plan the production schedule so that they will have (1 + 90/365) = 125% of their worst case forecast, including any starting inventory.

Companies cannot predict what competitors will do in detail. Therefore, companies plan for the worst and hope for the best.

Trouble is highly likely to occur when inventory reserves are less than 30 days. The company may get away with it, but that requires both precise forecasting and predictable competitors or, more likely, lots of luck.

Trouble appears in a different form when inventory reserves exceed five months. Now the company has idle assets, which should either have been put to work or given back to the stockholders.

Segment Wise Product Analysis: How are your products faring?

- **Traditional Segment:** Eat leads the industry. Cake and Daze have low market share in this segment. Daze has inappropriate age (too high) for the segment (age has an importance of 47% in this segment). Cake needs improvement in its position (performance and size) in the segment.
- **Low End Segment:** Dell leads the industry. Feat and Cedar have low market share in this segment. Except Acre, all products need improvement in accessibility.
- **High End Segment:** Adam leads the industry. Echo has low market share in this segment. All products need improvement in their position (performance and size) in the segment (Ideal position has an importance of 43% in the segment). Echo is overpriced (outside the price range). Adam, Fist, Bid and Echo need improvement in accessibility.
- **Performance Segment:** Aft leads the industry. Edge has low market share in this segment. Bold and Edge have low MTBF (MTBF has an importance of 43% in the segment). Coat, Foam and Edge need improvement in their position (performance and size) in the segment (Ideal Position has an importance of 29% in the segment). Coat, Bold, Dot and Foam have inappropriate age (too high) for the segment. Bold,

Dot and Edge need increased levels of awareness. All products need improvement in accessibility.

- **Size Segment:** Fume leads the industry. Egg has low market share in this segment. Cure, Dune and Egg need improvement in their position (performance and size) in the segment (Ideal Position has an importance of 43% in the segment). Agape is overpriced (outside the price range). Dune, Buddy and Egg need increased levels of awareness. All products need improvement in accessibility.

Financial Management: Andrews, Chester, Digby and Ferris are low on leverage. ROA time leverage is ROE. Remember?

Plant Purchases Funded

Failure to fully fund plant purchase is another cause of emergency loans. The error occurs because companies often count on profits or perhaps inventory reductions that do not materialize.

Funding sources include:

1. Depreciation

2. Stock issue

3. Bond issues

4. Excess current assets

Depreciation often confuses participants as a source of funding. While we do pay cash for expenses like promotion or inventory, we never actually pay cash for depreciation. And yet governments allow businesses to deduct depreciation as an expense, thereby reducing profits and taxes. Why?

Governments want businesses to continue to pay taxes, and they agree that equipment wears out and must be replaced. **The purpose of depreciation is to set aside a guaranteed cash flow that can be used** for the purchase of new plant and equipment. Teams can successfully argue that cash from depreciation is a valid source of funding.

Stock and bond issues raise long term funds for any investment in the company.

Excess current assets can be defined as “anything greater than the current assets required to operate in our worst case scenario”. For our purposes, we assume that teams need a minimum of 90 days of inventory, 30 days of accounts receivable, and $1 of cash. Of course, teams might want to have deeper reserves, but in applying the rubric to Plant Purchases, we allow companies to apply anything above this minimum to plant purchases. We use the January 1st balance sheet (same as the December 31st balance sheet from last year’s reports) to discover starting current assets.

If the sum of the company’s funding sources is greater than its plant purchases, the company fully funded the purchase. If the shortfall is less than $4 million, it is plausible that its intention was to reduce the current asset base by $4 million. If the funding shortfall is $8 million, it is conceivable albeit unlikely that the shortfall was planned. Anything more than $8 million is cutting deeply into current assets, and will likely result in an emergency loan.