

## **Industry and Team Specific Points**

### **C130943**

**General:** Except Andrews, all teams made losses this year. Low sales for Digby. The reasons for your low sales are known to you all by now and are given below in the sales paragraph. The top-line for Erie has shown good growth in the last financial year. Contribution margins are low for Chester. You will find it hard to make a profit with contribution margins below 30%. Emergency loan was seen for Chester. Please read the paragraph on emergency loans below.

Some teams are still repeating the mistakes made in the practice round. Stay away from large unsold inventories and emergency loans.

**Stock Price and Market Cap:** Andrews, Baldwin and Erie's stock price remained constant at \$1/share. Chester, Digby and Ferris had a fall in stock price of \$13/share, \$6/share and \$2/share respectively.

Digby is the most valuable company measured by market cap.

**Stock price is affected by performance, asset base, debt, dividend policy, and number of shares outstanding.** In a year of aggressive investment in plant expansion and automation, you would expect that the necessary debt load would cause some uneasiness on the part of shareholders. But, if the stock price dips more than \$15.00, it may be a warning sign of too much debt. The stock price can also suffer in profitable years. For example, liquidation of plant brings in cash, but makes shareholders wonder about the long term competitive ramifications. Paying dividends in excess of profits, or obtaining a Big Al emergency loan, will have a negative effect on stock price.

This shows that investors are losing confidence in your companies. Don't let that happen. **Profits and cash: both are imperative and foundational. Remember your company could be profitable but still have a cash crisis. Profits do not equal cash!**

**Sales:** Andrews, Baldwin and Erie had a rise in market share of 1.6%, 1.6% and 3.4% respectively. Chester, Digby and Ferris had a fall in market share of 3.2%, 2% and 1.3% respectively.

**Low sales for Digby.** This was caused by:

- Poor product specifications (performance and size) for Duck, Dot and Dune; 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.
- High price /pricing outside the price range for Daze, Dell, Duck, Dot and Dune.

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

Except Chester, all 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.

**Remember everyone started with a market share of 16.67%. Had you maintained this, your sales for this round would be \$140M.** Where does your team stand?

### **Sales to Current Assets: Examine this**

This ratio asks the question, "Given our sales base, do we have adequate current assets to operate the company?" Current assets are comprised of Cash, Accounts Receivable and Inventory. In the worst case scenario, cash has dwindled to \$1 as inventory expanded. The accounts receivable policy (for example, 30 day terms) is a direct function of Sales.

Given the A/R policy in days, inventory policy in days, and sales, it is easy to calculate whether a company has adequate Current Assets to operate the company. For example, suppose the company projects worst case sales to be \$120 million, sets A/R policy to 30 days, and is willing to carry 90 days of inventory. If its gross margin is 30%, then it will spend  $70\% * \$120$  million on inventory during the year, or \$84 million, and a 90-day inventory policy translates to  $90/365 * \$84 = \$21$  million. Accounts Receivable will be  $30/365 * \$120$  million = \$10 million. In the worst case the company will have only \$1 in cash. Current Assets = \$1 + \$10 million + \$21 million = \$31 Million. Sales/Current Assets = 3.8.

**Too low a ratio risks a visit from Big Al. Too high a ratio indicates idle current assets which should either be put to work or given back to shareholders as a dividend or stock repurchase.**

**Profits: Baldwin, Chester, Digby, Erie and Ferris** had bottom lines in red. The reasons are known to you: –

- Low Contribution Margin for Chester
- High Unsold Inventory Levels for Chester and Digby
- Unnecessarily high depreciation due to low plant utilization for Baldwin and Erie
- High Interest expense for Chester and Erie
- High investment in TQM for Baldwin, Erie and Ferris. But this is an investment and would pay off in the later rounds.

**Contribution Margin: Chester needs to improve their contribution margins.** There are fixed costs and SG&A costs that need to be covered from sales. This will be difficult if your margins are not above 30%. Even your profit will come out from this margin!

**Emergency Loans: Chester** has an emergency loan. The reasons are –

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

- You spent (wrote out cheques) for \$2.4M 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 \$96M. That is causing a cash flow crisis by blocking cash. This also imposed 12% (almost \$11.6M as inventory carrying costs) and depressed profits
- Previous years' emergency loan and long term debt of \$16.7M which was repaid in the current year.

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 maximum funds from long term and current debt to repay this emergency loan.**

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).**

**It would be prudent to develop worst case and best case scenario's using the forecasting (marketing module) and production modules.**

**Plant Size and Utilization: Andrews, Baldwin and Erie** need improvement in plant utilization. Your plant can produce up to twice the first shift capacity. Use it more optimally.

#### **Overall Plant Utilization: Consider this**

Overall Plant Utilization asks the question, "Are we working our plant hard?" It is calculated as Total Production / Total Capacity.

It is easy to demonstrate that second shift is nearly always more profitable than first shift. This often surprises participants who look at the 50% second shift wage premium and assume that second shift must be something to avoid. But suppose we only run one shift – by necessity it must pay all of the fixed costs – depreciation, R&D, Promotion, Sales Budget, Admin, and Interest. Anything on second shift only pays for the 50% premium on labor.

It follows that we want to run as much second shift as possible. In a perfect world, we would run two shifts, our best case demand forecast would come true, and we would have only one unit of inventory left at the end of the year. On the other hand, if we max out second shift, there is a good chance we could stock out, and stock outs are very costly. Therefore, 170% plant utilization or more is considered excellent and 130% satisfactory.

**Asset Turnover: Chester, Erie and Ferris** need to work their assets harder. They have an asset turnover of less than one.

**Forecasting and Inventory: Andrews, Chester and Digby** have high levels of unsold inventory. This results from poor forecasting and being overly optimistic. Remember the high degree of competition in the industry.

For example, Andrews has an inventory of \$32M. Had they sold all that, it would mean sales of another \$45M approximately. They already had sales of \$179M in this round, if this expected sales is added to it, it comes out to \$224M! Did you actually think you can sell all that in Round 3 itself? That would be overly optimistic.

Be prepared for the worst and best case scenarios (in terms of sales) so that you don't have such large stock piles of inventory. **Please do not go by computer forecasts.** Read the explanation on forecasting in the Capstone online guide.

### Segment Wise Product Analysis: How are your products faring?

- **Traditional Segment:** **Eat** leads the industry. **Acre2, Ebb, B\_Trad and Able2** have low market share in this segment. **Ebb** has inappropriate age (too high) for the segment (age has an importance of 47% in this segment). **Daze and Cake** are overpriced (outside the price range thereby diminishing demand). Remember, price has an importance of 23% in this segment). **Acre2 and Ebb** need improvement in their position (performance and size) in the segment. **B\_Trad** needs increased levels of awareness. (It has awareness of only 25% and hence 75% of the market does not know about your product).
- **Low End Segment:** **Acre** leads the industry. **Acre2 and Dell** have low market share in this segment. **Cedar and Dell** are overpriced (outside the price range, Price has an importance of 53% in this segment). **Bead** has inappropriate age (too low) for the segment (Age has an importance of 24% in this segment).
- **High End Segment:** **Bid** leads the industry. **Duck, Flip and Able2** have low market share in this segment. **Except Bid and Echo2, all products** need improvement in their position (performance and size) in the segment (Ideal position has an importance of 43% in the segment). **Adam and Duck** have inappropriate age (too high) for the segment (Age has an importance of 29% in this segment). **Able2** has poor MTBF. **Bid, Cid and Duck** are overpriced (outside the price range).
- **Performance Segment:** **Bold** leads the industry. **Aft** has low market share in this segment. **Dot, Coat and Aft** need improvement in their position (performance and size) in the segment (Ideal Position has an importance of 29% in the segment). **Coat and Dot** are overpriced (outside the price range). **Coat and Dot** have inappropriate age (too high) for the segment. **Aft** needs increased levels of awareness and accessibility.
- **Size Segment:** **Buddy** leads the industry. **Flip** has low market share in this segment. **Dune, Agape, Cure, Egg and Flip** need improvement in their position (performance and size) in the segment (Ideal Position has an importance of 43% in the segment). **Buddy, Dune and Egg** are overpriced (outside the price range). **Agape** needs increased levels of awareness and accessibility.

**Financial Management:** **Digby** is low on leverage. **Make sure it will not hurt you on your preferred measurements.**

### Credit Policy

Your company determines the number of days between transactions and payments. For example, your company could give customers 30 days to pay their bills ( accounts receivable) while holding up payment to suppliers for 60 days ( accounts payable).

Shortening A/R (accounts receivable) lag from 30 to 15 days in effect recovers a loan made to customers. Similarly, extending the A/ P (accounts payable) lag from 30 to 45 days extracts a loan from your suppliers.

The accounts receivable lag impacts the customer survey score. If your company offers no credit terms, your product's customer survey score falls to about 60% of maximum. At 30

days, the score is 93%. At 60 days, the score is 99.3%. At 90 days there is no reduction. The longer the lag, the more cash is tied up in receivables.

The accounts payable lag has implications for Production. Suppliers become concerned as the lag grows and they start to withhold material for production. At 30 days, they withhold 1%. At 60 days, they withhold 8%. At 90 days, they withhold 26%. At 120 days, they withhold 63%. At 150 days, they withhold all material. Withholding material creates shortages on the assembly line. As a result, workers stand idle and per-unit labor costs rise.

**HR Module:** **Andrews, Baldwin and Erie** have improved the productivity of their employees well.

In Round 3, TQM initiatives have started. Please read the flags on each cell and make investments accordingly – TQM investments can cut material cost, reduce R&D cycle time, improve worker productivity and increase demand. Please ensure you manage your cash account as you make these investments. While inputting your decisions in the TQM sheet on Capstone, observe the worst case and best case benefits that accrue to you.

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### **C130944**

**General:** Well played round. Expect to see more ups and downs as the years pass. **Andrews, Erie and Ferris** made losses this year. Low sales for **Ferris**. The reasons for your low sales are known to you all by now and are given below in the sales paragraph. The top-line for **Digby** has shown good growth in the last financial year. Contribution margins are low for **Andrews, Baldwin and Ferris**. You will find it hard to make a profit with contribution margins below 30%.

Some teams are still repeating the mistakes made in the practice round. Stay away from large unsold inventories and emergency loans.

**Stock Price and Market Cap:** **Baldwin, Chester and Digby** had a rise in stock price of \$8/share, \$9/share and \$13/share respectively. **Ferris's** stock price remained constant at \$1/share. **Andrews and Erie** had a fall in stock price of \$2/share and \$12/share respectively.

**Digby** is the most valuable company measured by market cap.

**Stock price is affected by performance, asset base, debt, dividend policy, and number of shares outstanding.** In a year of aggressive investment in plant expansion and automation, you would expect that the necessary debt load would cause some uneasiness on the part of shareholders. But, if the stock price dips more than \$15.00, it may be a warning sign of too much debt. The stock price can also suffer in profitable years. For example, liquidation of plant brings in cash, but makes shareholders wonder about the long term competitive ramifications. Paying dividends in excess of profits, or obtaining a Big AI emergency loan, will have a negative effect on stock price.

This shows that investors are losing confidence in your companies. Don't let that happen. **Profits and cash: both are imperative and foundational. Remember your company could be profitable but still have a cash crisis. Profits do not equal cash!**

**Sales:** **Andrews and Digby** had a rise in market share of 2.5% and 3.7% respectively. **Baldwin, Chester, Erie and Ferris** had a fall in market share of 0.1%, 0.2%, 1.1% and 4.9% respectively.

**Low sales for Ferris.** This was caused by:

- Poor product specifications (performance and size) for Fast, Fist, Foam and Fume; 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.
- Low MTBF for Foam. Pay attention to the MTBF ranges for the segment.
- High price /pricing outside the price range for Fume.
- Low customers awareness levels due to low promo budgets for Fist, Foam and Fume.
- Poor distribution reach and accessibility caused by low sales budget for Fast, Fist, Foam and Fume.

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

Except **Erie**, all 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.

**Remember everyone started with a market share of 16.67%. Had you maintained this, your sales for this round would be \$140M.** Where does your team stand?

### **Sales to Current Assets: Examine this**

This ratio asks the question, "Given our sales base, do we have adequate current assets to operate the company?" Current assets are comprised of Cash, Accounts Receivable and Inventory. In the worst case scenario, cash has dwindled to \$1 as inventory expanded. The accounts receivable policy (for example, 30 day terms) is a direct function of Sales.

Given the A/R policy in days, inventory policy in days, and sales, it is easy to calculate whether a company has adequate Current Assets to operate the company. For example, suppose the company projects worst case sales to be \$120 million, sets A/R policy to 30 days, and is willing to carry 90 days of inventory. If its gross margin is 30%, then it will spend  $70\% * \$120$  million on inventory during the year, or \$84 million, and a 90-day inventory policy translates to  $90/365 * \$84 = \$21$  million. Accounts Receivable will be  $30/365 * \$120$  million = \$10 million. In the worst case the company will have only \$1 in cash. Current Assets = \$1 + \$10 million + \$21 million = \$31 Million. Sales/Current Assets = 3.8.

**Too low a ratio risks a visit from Big AI. Too high a ratio indicates idle current assets which should either be put to work or given back to shareholders as a dividend or stock repurchase.**

**Profits: Andrews, Erie and Ferris** had bottom lines in red. The reasons are known to you:

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- Low Contribution Margin for Andrews and Ferris
- High Unsold Inventory Levels for Erie and Ferris
- Unnecessarily high depreciation due to low plant utilization for Erie and Ferris

**Contribution Margin: Andrews, Baldwin and Ferris need to improve their contribution margins.** There are fixed costs and SG&A costs that need to be covered from sales. This will be difficult if your margins are not above 30%. Even your profit will come out from this margin!

**Emergency Loans:** 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).**

**It would be prudent to develop worst case and best case scenario's using the forecasting (marketing module) and production modules.**

**Plant Size and Utilization: Erie and Ferris** need improvement in plant utilization. Your plant can produce up to twice the first shift capacity. Use it more optimally.

**Overall Plant Utilization: Consider this**

Overall Plant Utilization asks the question, “Are we working our plant hard?” It is calculated as Total Production / Total Capacity.

It is easy to demonstrate that second shift is nearly always more profitable than first shift. This often surprises participants who look at the 50% second shift wage premium and assume that second shift must be something to avoid. But suppose we only run one shift – by necessity it must pay all of the fixed costs – depreciation, R&D, Promotion, Sales Budget, Admin, and Interest. Anything on second shift only pays for the 50% premium on labor.

It follows that we want to run as much second shift as possible. In a perfect world, we would run two shifts, our best case demand forecast would come true, and we would have only one unit of inventory left at the end of the year. On the other hand, if we max out second shift, there is a good chance we could stock out, and stock outs are very costly. Therefore, 170% plant utilization or more is considered excellent and 130% satisfactory.

**Asset Turnover:** **Erie and Ferris** need to work their assets harder. They have an asset turnover of less than one.

**Forecasting and Inventory:** **Erie and Ferris** have high levels of unsold inventory. This results from poor forecasting and being overly optimistic. Remember the high degree of competition in the industry.

Be prepared for the worst and best case scenarios (in terms of sales) so that you don't have such large stock piles of inventory. **Please do not go by computer forecasts.** Read the explanation on forecasting in the Capstone online guide.

### **Segment Wise Product Analysis: How are your products faring?**

- **Traditional Segment:** **Able** leads the industry. **Dota and Fast** have low market share in this segment. **Fast** has inappropriate age (too high) for the segment (age has an importance of 47% in this segment). **Dota** is overpriced (outside the price range thereby diminishing demand). Remember, price has an importance of 23% in this segment). **Cinghi, Eat and Fast** need improvement in their position (performance and size) in the segment. **Fast** needs improvement in accessibility.
- **Low End Segment:** **Acre** leads the industry. **Chyati** has low market share in this segment. **Chyati** needs increased levels of awareness. **Dell and Bead** need improvement in accessibility.
- **High End Segment:** **Duck** leads the industry. **Echo and Fist** have 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). **Duck, Bid and Cid** are overpriced (outside the price range). **Fist** needs increased levels of awareness and accessibility.
- **Performance Segment:** **Bold** leads the industry. **Foam** has low market share in this segment. **Foam** has low MTBF (MTBF has an importance of 43% in the segment). **All products** need improvement in their position (performance and size) in the segment (Ideal Position has an importance of 29% in the segment). **Coat** is overpriced (outside the price range). **Edge and Foam** have inappropriate age (too high) for the segment. **Foam** needs increased levels of awareness. **Bold, Dot, Aft and Foam** need improvement in accessibility.

- **Size Segment:** **Buddy** leads the industry. **Fume and Egg** have 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). **Buddy, Dune, Cure and Egg** are overpriced (outside the price range). **Fume** needs increased levels of awareness. **Buddy, Agape, Dune and Fume** need improvement in accessibility.

**Financial Management:** **Except Ferris, all teams** are low on leverage. **Make sure it will not hurt you on your preferred measurements.**

### **Credit Policy**

Your company determines the number of days between transactions and payments. For example, your company could give customers 30 days to pay their bills ( accounts receivable) while holding up payment to suppliers for 60 days ( accounts payable).

Shortening A/R (accounts receivable) lag from 30 to 15 days in effect recovers a loan made to customers. Similarly, extending the A/ P (accounts payable) lag from 30 to 45 days extracts a loan from your suppliers.

The accounts receivable lag impacts the customer survey score. If your company offers no credit terms, your product's customer survey score falls to about 60% of maximum. At 30 days, the score is 93%. At 60 days, the score is 99.3%. At 90 days there is no reduction. The longer the lag, the more cash is tied up in receivables.

The accounts payable lag has implications for Production. Suppliers become concerned as the lag grows and they start to withhold material for production. At 30 days, they withhold 1%. At 60 days, they withhold 8%. At 90 days, they withhold 26%. At 120 days, they withhold 63%. At 150 days, they withhold all material. Withholding material creates shortages on the assembly line. As a result, workers stand idle and per-unit labor costs rise.

**HR Module:** **Andrews and Digby** have improved the productivity of their employees well.

In Round 3, TQM initiatives have started. Please read the flags on each cell and make investments accordingly – TQM investments can cut material cost, reduce R&D cycle time, improve worker productivity and increase demand. Please ensure you manage your cash account as you make these investments. While inputting your decisions in the TQM sheet on Capstone, observe the worst case and best case benefits that accrue to you.

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### **C130945**

**General:** Except Digby, all teams made losses this year. Low sales for Andrews. The reasons for your low sales are known to you all by now and are given below in the sales paragraph. The top-line for Erie has shown good growth in the last financial year. Contribution margins are low for Andrews and Erie. You will find it hard to make a profit with contribution margins below 30%.

Some teams are still repeating the mistakes made in the practice round. Stay away from large unsold inventories and emergency loans.

**Stock Price and Market Cap:** Baldwin and Digby had a rise in stock price of \$2/share and \$4/share respectively. Ferris's stock price remained constant at \$1/share. Andrews, Chester and Erie had a fall in stock price of \$5/share, \$1/share and \$3/share respectively.

Baldwin is the most valuable company measured by market cap.

**Stock price is affected by performance, asset base, debt, dividend policy, and number of shares outstanding.** In a year of aggressive investment in plant expansion and automation, you would expect that the necessary debt load would cause some uneasiness on the part of shareholders. But, if the stock price dips more than \$15.00, it may be a warning sign of too much debt. The stock price can also suffer in profitable years. For example, liquidation of plant brings in cash, but makes shareholders wonder about the long term competitive ramifications. Paying dividends in excess of profits, or obtaining a Big Al emergency loan, will have a negative effect on stock price.

This shows that investors are losing confidence in your companies. Don't let that happen. **Profits and cash: both are imperative and foundational. Remember your company could be profitable but still have a cash crisis. Profits do not equal cash!**

**Sales:** Baldwin, Digby and Erie had a rise in market share of 1.5%, 1% and 1.7% respectively. Andrews, Chester and Ferris had a fall in market share of 1.5%, 0.2% and 2.4% respectively.

**Low sales for Andrews.** This was caused by:

- Poor product specifications (performance and size) for Adam, Aft and Agape; 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 Acre and Aft.

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

Except Andrews and Ferris, all 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.

Remember everyone started with a market share of 16.67%. Had you maintained this, your sales for this round would be \$140M. Where does your team stand?

**Sales to Current Assets: Examine this**

This ratio asks the question, "Given our sales base, do we have adequate current assets to operate the company?" Current assets are comprised of Cash, Accounts Receivable and Inventory. In the worst case scenario, cash has dwindled to \$1 as inventory expanded. The accounts receivable policy (for example, 30 day terms) is a direct function of Sales.

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**Too low a ratio risks a visit from Big AI. Too high a ratio indicates idle current assets which should either be put to work or given back to shareholders as a dividend or stock repurchase.**

**Profits: Andrews, Baldwin, Chester, Erie and Ferris** had bottom lines in red. The reasons are known to you: –

- Low Contribution Margin for Andrews and Erie
- High Unsold Inventory Levels for Andrews
- Unnecessarily high depreciation due to low plant utilization for Baldwin, Chester, Digby and Erie
- High SG&A compared to sales for Chester and Ferris. But this is an investment and would pay off in the later rounds.

**Contribution Margin: Andrews and Erie need to improve their contribution margins.** There are fixed costs and SG&A costs that need to be covered from sales. This will be difficult if your margins are not above 30%. Even your profit will come out from this margin!

**Emergency Loans: 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).**

**It would be prudent to develop worst case and best case scenario's using the forecasting (marketing module) and production modules.**

**Plant Size and Utilization: Baldwin, Chester, Digby and Erie** need improvement in plant utilization. Your plant can produce up to twice the first shift capacity. Use it more optimally.

**Overall Plant Utilization: Consider this**

Overall Plant Utilization asks the question, "Are we working our plant hard?" It is calculated as Total Production / Total Capacity.

It is easy to demonstrate that second shift is nearly always more profitable than first shift. This often surprises participants who look at the 50% second shift wage premium and

assume that second shift must be something to avoid. But suppose we only run one shift – by necessity it must pay all of the fixed costs – depreciation, R&D, Promotion, Sales Budget, Admin, and Interest. Anything on second shift only pays for the 50% premium on labor.

It follows that we want to run as much second shift as possible. In a perfect world, we would run two shifts, our best case demand forecast would come true, and we would have only one unit of inventory left at the end of the year. On the other hand, if we max out second shift, there is a good chance we could stock out, and stock outs are very costly. Therefore, 170% plant utilization or more is considered excellent and 130% satisfactory.

**Asset Turnover:** **Andrews, Baldwin and Chester** need to work their assets harder. They have an asset turnover of less than one.

**Forecasting and Inventory:** **Andrews** has high levels of unsold inventory. This results from poor forecasting and being overly optimistic. Remember the high degree of competition in the industry.

Be prepared for the worst and best case scenarios (in terms of sales) so that you don't have such large stock piles of inventory. **Please do not go by computer forecasts.** Read the explanation on forecasting in the Capstone online guide.

#### **Segment Wise Product Analysis: How are your products faring?**

- **Traditional Segment:** **Baker** leads the industry. **Cake and Coolsy** have low market share in this segment. **Cake and Coolsy** need improvement in their position (performance and size) in the segment.
- **Low End Segment:** **Ebb** leads the industry. **Coolsy** has low market share in this segment. **Cedar** has inappropriate age (too low) for the segment (Age has an importance of 24% in this segment). **Acre** needs improvement in accessibility.
- **High End Segment:** **Adam** leads the industry. **BeerH** 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). **Fist and Deigo** are overpriced (outside the price range). **Echo** needs improvement in accessibility.
- **Performance Segment:** **Bold** leads the industry. **BewdaP** has low market share in this segment. **Except Bold, all products** need improvement in their position (performance and size) in the segment (Ideal Position has an importance of 29% in the segment). **Foam and Dot** are overpriced (outside the price range). **Coat** has inappropriate age (too high) for the segment. **Coat, Edge and Aft** need improvement in accessibility.
- **Size Segment:** **Cure** leads the industry. **Dune** 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). **Fume and Dune** are overpriced (outside the price range).

**Financial Management:** **Baldwin** has idle cash worth \$87M. That is high. Please reconcile and use it to fund your growth.

#### **Credit Policy**

Your company determines the number of days between transactions and payments. For example, your company could give customers 30 days to pay their bills ( accounts receivable) while holding up payment to suppliers for 60 days ( accounts payable).

Shortening A/R (accounts receivable) lag from 30 to 15 days in effect recovers a loan made to customers. Similarly, extending the A/ P (accounts payable) lag from 30 to 45 days extracts a loan from your suppliers.

The accounts receivable lag impacts the customer survey score. If your company offers no credit terms, your product's customer survey score falls to about 60% of maximum. At 30 days, the score is 93%. At 60 days, the score is 99.3%. At 90 days there is no reduction. The longer the lag, the more cash is tied up in receivables.

The accounts payable lag has implications for Production. Suppliers become concerned as the lag grows and they start to withhold material for production. At 30 days, they withhold 1%. At 60 days, they withhold 8%. At 90 days, they withhold 26%. At 120 days, they withhold 63%. At 150 days, they withhold all material. Withholding material creates shortages on the assembly line. As a result, workers stand idle and per-unit labor costs rise.

**HR Module: Andrews and Erie** have improved the productivity of their employees well.

In Round 3, TQM initiatives have started. Please read the flags on each cell and make investments accordingly – TQM investments can cut material cost, reduce R&D cycle time, improve worker productivity and increase demand. Please ensure you manage your cash account as you make these investments. While inputting your decisions in the TQM sheet on Capstone, observe the worst case and best case benefits that accrue to you.

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## **C130946**

**General:** All teams made losses this year. Low sales for **Baldwin**. The reasons for your low sales are known to you all by now and are given below in the sales paragraph. The top-line for **Digby** has shown good growth in the last financial year. Contribution margins are low for **Andrews, Chester, Erie and Ferris**. You will find it hard to make a profit with contribution margins below 30%. Emergency loan was seen for **Chester**. Please read the paragraph on emergency loans below.

Some teams are still repeating the mistakes made in the practice round. Stay away from large unsold inventories and emergency loans.

**Stock Price and Market Cap:** **Ferris** had a rise in stock price of \$2/share. **Chester and Erie's** stock price remained constant at \$1/share. **Andrews, Baldwin and Digby** had a fall in stock price of \$1/share, \$3/share and \$2/share respectively.

**Ferris** is the most valuable company measured by market cap.

**Stock price is affected by performance, asset base, debt, dividend policy, and number of shares outstanding.** In a year of aggressive investment in plant expansion and automation, you would expect that the necessary debt load would cause some uneasiness on the part of shareholders. But, if the stock price dips more than \$15.00, it may be a warning sign of too much debt. The stock price can also suffer in profitable years. For example, liquidation of plant brings in cash, but makes shareholders wonder about the long term competitive ramifications. Paying dividends in excess of profits, or obtaining a Big Al emergency loan, will have a negative effect on stock price.

This shows that investors are losing confidence in your companies. Don't let that happen. **Profits and cash: both are imperative and foundational. Remember your company could be profitable but still have a cash crisis. Profits do not equal cash!**

**Sales:** **Andrews, Chester, Digby and Ferris** had a rise in market share of 0.3%, 0.8%, 2.1% and 0.4% respectively. **Baldwin and Erie** had a fall in market share of 0.9% and 2.6% respectively.

**Low sales for Baldwin.** This was caused by:

- Poor product specifications (performance and size) for Bid, Bold and Buddy; 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.

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

Except **Andrews and Erie**, all 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.

**Remember everyone started with a market share of 16.67%. Had you maintained this, your sales for this round would be \$140M.** Where does your team stand?

**Sales to Current Assets: Examine this**

This ratio asks the question, "Given our sales base, do we have adequate current assets to operate the company?" Current assets are comprised of Cash, Accounts Receivable and Inventory. In the worst case scenario, cash has dwindled to \$1 as inventory expanded. The accounts receivable policy (for example, 30 day terms) is a direct function of Sales.

Given the A/R policy in days, inventory policy in days, and sales, it is easy to calculate whether a company has adequate Current Assets to operate the company. For example, suppose the company projects worst case sales to be \$120 million, sets A/R policy to 30 days, and is willing to carry 90 days of inventory. If its gross margin is 30%, then it will spend  $70\% * \$120$  million on inventory during the year, or \$84 million, and a 90-day inventory policy translates to  $90/365 * \$84 = \$21$  million. Accounts Receivable will be  $30/365 * \$120$  million = \$10 million. In the worst case the company will have only \$1 in cash. Current Assets = \$1 + \$10 million + \$21 million = \$31 Million. Sales/Current Assets = 3.8.

**Too low a ratio risks a visit from Big AI. Too high a ratio indicates idle current assets which should either be put to work or given back to shareholders as a dividend or stock repurchase.**

**Profits: Andrews, Baldwin, Chester, Digby, Erie and Ferris** had bottom lines in red. The reasons are known to you: –

- Low Contribution Margin for Andrews, Chester, Erie and Ferris
- Unnecessarily high depreciation due to low plant utilization for Baldwin, Digby, Erie and Ferris

**Contribution Margin: Andrews, Chester, Erie and Ferris need to improve their contribution margins.** There are fixed costs and SG&A costs that need to be covered from sales. This will be difficult if your margins are not above 30%. Even your profit will come out from this margin!

**Emergency Loans: Chester** has an emergency loan. The reasons are –

**Chester** – You have negative cash flow from operations worth almost \$6M. In the next round, remember to raise funds from 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).**

**It would be prudent to develop worst case and best case scenario's using the forecasting (marketing module) and production modules.**

**Plant Size and Utilization: Baldwin, Digby, Erie and Ferris** need improvement in plant utilization. Your plant can produce up to twice the first shift capacity. Use it more optimally.

**Overall Plant Utilization: Consider this**

Overall Plant Utilization asks the question, "Are we working our plant hard?" It is calculated as Total Production / Total Capacity.

It is easy to demonstrate that second shift is nearly always more profitable than first shift. This often surprises participants who look at the 50% second shift wage premium and assume that second shift must be something to avoid. But suppose we only run one shift – by necessity it must pay all of the fixed costs – depreciation, R&D, Promotion, Sales Budget, Admin, and Interest. Anything on second shift only pays for the 50% premium on labor.

It follows that we want to run as much second shift as possible. In a perfect world, we would run two shifts, our best case demand forecast would come true, and we would have only one unit of inventory left at the end of the year. On the other hand, if we max out second shift, there is a good chance we could stock out, and stock outs are very costly. Therefore, 170% plant utilization or more is considered excellent and 130% satisfactory.

**Asset Turnover:** **Baldwin** needs to work their assets harder. They have an asset turnover of less than one.

**Forecasting and Inventory:** **Andrews, Baldwin, Chester and Digby** have stocked out in some segments. Please ensure that you are able to fulfil the entire demand for your products without stocking out. Be prepared for the worst and best case scenarios (in terms of sales) so that you don't have such large stock piles of inventory. **Please do not go by computer forecasts.** Read the explanation on forecasting in the Capstone online guide.

#### **Segment Wise Product Analysis: How are your products faring?**

- **Traditional Segment:** **Cake** leads the industry. **Eat** has low market share in this segment. **Eat** has inappropriate age (too high) for the segment (age has an importance of 47% in this segment). **Eat** needs improvement in their position (performance and size) in the segment.
- **Low End Segment:** **Acre** leads the industry. **Eat** and **Feat** have low market share in this segment. **Cedar and Feat** have inappropriate age (too low) for the segment (Age has an importance of 24% in this segment).
- **High End Segment:** **Fist** leads the industry. **Cid and Citrus** have low market share in this segment. **Except Citrus, all products** need improvement in their position (performance and size) in the segment (Ideal position has an importance of 43% in the segment).
- **Performance Segment:** **Dot** leads the industry. **Edge and Bold** have low market share in this segment. **Aft, Edge and Bold** need improvement in their position (performance and size) in the segment (Ideal Position has an importance of 29% in the segment). **Coat and Aft** are overpriced (outside the price range). **Edge and Bold** have inappropriate age (too high) for the segment.
- **Size Segment:** **Cure** leads the industry. **Buddy and Egg** have low market share in this segment. **Fume, Agape, Buddy 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).

**Financial Management:** **Chester and Erie** need to rework their D/E ratio. The ideal leverage in Capstone is between 1.8 and 2.8.

#### **Credit Policy**

Your company determines the number of days between transactions and payments. For example, your company could give customers 30 days to pay their bills ( accounts receivable) while holding up payment to suppliers for 60 days ( accounts payable).

Shortening A/R (accounts receivable) lag from 30 to 15 days in effect recovers a loan made to customers. Similarly, extending the A/ P (accounts payable) lag from 30 to 45 days extracts a loan from your suppliers.

The accounts receivable lag impacts the customer survey score. If your company offers no credit terms, your product's customer survey score falls to about 60% of maximum. At 30 days, the score is 93%. At 60 days, the score is 99.3%. At 90 days there is no reduction. The longer the lag, the more cash is tied up in receivables.

The accounts payable lag has implications for Production. Suppliers become concerned as the lag grows and they start to withhold material for production. At 30 days, they withhold 1%. At 60 days, they withhold 8%. At 90 days, they withhold 26%. At 120 days, they withhold 63%. At 150 days, they withhold all material. Withholding material creates shortages on the assembly line. As a result, workers stand idle and per-unit labor costs rise.

**HR Module: None of the teams** have improved the productivity of their employees. Do consider it.

In Round 3, TQM initiatives have started. Please read the flags on each cell and make investments accordingly – TQM investments can cut material cost, reduce R&D cycle time, improve worker productivity and increase demand. Please ensure you manage your cash account as you make these investments. While inputting your decisions in the TQM sheet on Capstone, observe the worst case and best case benefits that accrue to you.

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### **C130947**

**General:** **Baldwin, Digby, Erie and Ferris** made losses this year. Low sales for **Erie**. The reasons for your low sales are known to you all by now and are given below in the sales paragraph. The top-line for **Chester** has shown good growth in the last financial year. Contribution margins are low for **Baldwin, Digby and Ferris**. You will find it hard to make a profit with contribution margins below 30%.

Some teams are still repeating the mistakes made in the practice round. Stay away from large unsold inventories and emergency loans.

**Stock Price and Market Cap:** **Andrews and Chester** had a rise in stock price of \$3/share and \$1/share respectively. **Erie and Ferris's** stock price remained constant at \$1/share. **Baldwin and Digby** had a fall in stock price of \$1/share and \$3/share respectively.

**Andrews** is the most valuable company measured by market cap.

**Stock price is affected by performance, asset base, debt, dividend policy, and number of shares outstanding.** In a year of aggressive investment in plant expansion and automation, you would expect that the necessary debt load would cause some uneasiness on the part of shareholders. But, if the stock price dips more than \$15.00, it may be a warning sign of too much debt. The stock price can also suffer in profitable years. For example, liquidation of plant brings in cash, but makes shareholders wonder about the long term competitive ramifications. Paying dividends in excess of profits, or obtaining a Big Al emergency loan, will have a negative effect on stock price.

This shows that investors are losing confidence in your companies. Don't let that happen. **Profits and cash: both are imperative and foundational. Remember your company could be profitable but still have a cash crisis. Profits do not equal cash!**

**Sales:** **Baldwin, Chester and Erie** had a rise in market share of 0.5%, 1% and 0.8% respectively. **Andrews, Digby and Ferris** had a fall in market share of 0.2%, 1.4% and 0.7% respectively.

**Low sales for Erie.** This was caused by:

- Poor product specifications (performance and size) for Echo, Edge and Egg; 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.
- High price /pricing outside the price range for Echo, Edge and Egg.
- Poor distribution reach and accessibility caused by low sales budget for Edge.

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

**Andrews, Digby and Ferris** have **introduced new products in the market**. Each team can launch up to three new products. More products help you capture more market share.

**Remember everyone started with a market share of 16.67%. Had you maintained this, your sales for this round would be \$140M.** Where does your team stand?

**Sales to Current Assets: Examine this**

This ratio asks the question, “Given our sales base, do we have adequate current assets to operate the company?” Current assets are comprised of Cash, Accounts Receivable and Inventory. In the worst case scenario, cash has dwindled to \$1 as inventory expanded. The accounts receivable policy (for example, 30 day terms) is a direct function of Sales.

Given the A/R policy in days, inventory policy in days, and sales, it is easy to calculate whether a company has adequate Current Assets to operate the company. For example, suppose the company projects worst case sales to be \$120 million, sets A/R policy to 30 days, and is willing to carry 90 days of inventory. If its gross margin is 30%, then it will spend  $70\% * \$120$  million on inventory during the year, or \$84 million, and a 90-day inventory policy translates to  $90/365 * \$84 = \$21$  million. Accounts Receivable will be  $30/365 * \$120$  million = \$10 million. In the worst case the company will have only \$1 in cash. Current Assets = \$1 + \$10 million + \$21 million = \$31 Million. Sales/Current Assets = 3.8.

**Too low a ratio risks a visit from Big Al. Too high a ratio indicates idle current assets which should either be put to work or given back to shareholders as a dividend or stock repurchase.**

**Profits: Baldwin, Digby, Erie and Ferris** had bottom lines in red. The reasons are known to you: –

- Low Contribution Margin for Baldwin, Digby and Ferris
- Unnecessarily high depreciation due to low plant utilization for Erie

**Contribution Margin: Baldwin, Digby and Ferris need to improve their contribution margins.** There are fixed costs and SG&A costs that need to be covered from sales. This will be difficult if your margins are not above 30%. Even your profit will come out from this margin!

**Emergency Loans: 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).**

**It would be prudent to develop worst case and best case scenario's using the forecasting (marketing module) and production modules.**

**Plant Size and Utilization: Erie** needs improvement in plant utilization. Your plant can produce up to twice the first shift capacity. Use it more optimally.

**Overall Plant Utilization: Consider this**

Overall Plant Utilization asks the question, “Are we working our plant hard?” It is calculated as Total Production / Total Capacity.

It is easy to demonstrate that second shift is nearly always more profitable than first shift. This often surprises participants who look at the 50% second shift wage premium and assume that second shift must be something to avoid. But suppose we only run one shift – by necessity it must pay all of the fixed costs – depreciation, R&D, Promotion, Sales Budget, Admin, and Interest. Anything on second shift only pays for the 50% premium on labor.

It follows that we want to run as much second shift as possible. In a perfect world, we would run two shifts, our best case demand forecast would come true, and we would have only one unit of inventory left at the end of the year. On the other hand, if we max out second shift, there is a good chance we could stock out, and stock outs are very costly. Therefore, 170% plant utilization or more is considered excellent and 130% satisfactory.

**Asset Turnover:** **Andrews and Ferris** need to work their assets harder. They have an asset turnover of less than one.

**Forecasting and Inventory:** **Baldwin, Chester and Digby** have stocked out in some segments. Please ensure that you are able to fulfil the entire demand for your products without stocking out. Be prepared for the worst and best case scenarios (in terms of sales) so that you don't have such large stock piles of inventory. **Please do not go by computer forecasts.** Read the explanation on forecasting in the Capstone online guide.

### **Segment Wise Product Analysis: How are your products faring?**

- **Traditional Segment:** **Cake** leads the industry. **Eat** has low market share in this segment.
- **Low End Segment:** **Cedar** leads the industry. **Feat and Acre** have low market share in this segment. **Cedar and Acre** have inappropriate age (too low) for the segment (Age has an importance of 24% in this segment).
- **High End Segment:** **Cid** leads the industry. **Duck3, Duck2 and Fist** have low market share in this segment. **Except Adam, all products** need improvement in their position (performance and size) in the segment (Ideal position has an importance of 43% in the segment). **Fist** has poor MTBF. **Echo and Duck3** are overpriced (outside the price range).
- **Performance Segment:** **Coat** leads the industry. **Aft and Edge** have low market share in this segment. **Foam, Dot and Edge** need improvement in their position (performance and size) in the segment (Ideal Position has an importance of 29% in the segment). **Edge** is overpriced (outside the price range). **Dot** has inappropriate age (too high) for the segment. **Foam, Aft and Edge** need improvement in accessibility.
- **Size Segment:** **Cure** leads the industry. **Dune and Egg** have low market share in this segment. **Fume, Agape, Dune and Egg** need improvement in their position (performance and size) in the segment (Ideal Position has an importance of 43% in the segment). **Fume, Dune and Egg** have inappropriate age (too high) for the segment (Age has an importance of 29% in the segment). **Egg** is overpriced (outside the price range).

**Financial Management:** **Andrews and Digby** have idle cash worth \$66M and \$52M respectively. That is high. Please reconcile and use it to fund your growth.

### **Credit Policy**

Your company determines the number of days between transactions and payments. For example, your company could give customers 30 days to pay their bills ( accounts receivable) while holding up payment to suppliers for 60 days ( accounts payable).

Shortening A/R (accounts receivable) lag from 30 to 15 days in effect recovers a loan made to customers. Similarly, extending the A/ P (accounts payable) lag from 30 to 45 days extracts a loan from your suppliers.

The accounts receivable lag impacts the customer survey score. If your company offers no credit terms, your product's customer survey score falls to about 60% of maximum. At 30 days, the score is 93%. At 60 days, the score is 99.3%. At 90 days there is no reduction. The longer the lag, the more cash is tied up in receivables.

The accounts payable lag has implications for Production. Suppliers become concerned as the lag grows and they start to withhold material for production. At 30 days, they withhold 1%. At 60 days, they withhold 8%. At 90 days, they withhold 26%. At 120 days, they withhold 63%. At 150 days, they withhold all material. Withholding material creates shortages on the assembly line. As a result, workers stand idle and per-unit labor costs rise.

**HR Module: Digby and Ferris** have improved the productivity of their employees well.

In Round 3, TQM initiatives have started. Please read the flags on each cell and make investments accordingly – TQM investments can cut material cost, reduce R&D cycle time, improve worker productivity and increase demand. Please ensure you manage your cash account as you make these investments. While inputting your decisions in the TQM sheet on Capstone, observe the worst case and best case benefits that accrue to you.

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## **C130948**

### **Chester missed this round.**

**General:** Immensely competitive industry. **Andrews and Erie** are locked in a fight for market leadership in the industry. Expect to see more ups and downs as the years pass.

**Chester and Digby** made losses this year. Low sales for **Chester**. The reasons for your low sales are known to you all by now and are given below in the sales paragraph. The top-line for **Andrews** has shown good growth in the last financial year. Contribution margins are low for **Chester and Digby**. You will find it hard to make a profit with contribution margins below 30%. Emergency loan was seen for **Digby**. Please read the paragraph on emergency loans below.

Some teams are still repeating the mistakes made in the practice round. Stay away from large unsold inventories and emergency loans.

**Stock Price and Market Cap:** **Andrews, Baldwin and Erie** had a rise in stock price of \$13/share, \$2/share and \$4/share respectively. **Chester and Digby** had a fall in stock price of \$12/share and \$4/share respectively.

**Andrews** is the most valuable company measured by market cap.

**Stock price is affected by performance, asset base, debt, dividend policy, and number of shares outstanding.** In a year of aggressive investment in plant expansion and automation, you would expect that the necessary debt load would cause some uneasiness on the part of shareholders. But, if the stock price dips more than \$15.00, it may be a warning sign of too much debt. The stock price can also suffer in profitable years. For example, liquidation of plant brings in cash, but makes shareholders wonder about the long term competitive ramifications. Paying dividends in excess of profits, or obtaining a Big Al emergency loan, will have a negative effect on stock price.

This shows that investors are losing confidence in your companies. Don't let that happen. **Profits and cash: both are imperative and foundational. Remember your company could be profitable but still have a cash crisis. Profits do not equal cash!**

**Sales:** **Andrews, Erie and Ferris** had a rise in market share of 4.4%, 2.6% and 1.9% respectively. **Baldwin, Digby and Chester** had a fall in market share of 1.1%, 5.9% and 1.8% respectively.

**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.
- High price /pricing outside the price range for Cake, Cid, Coat and Cure.
- Poor distribution reach and accessibility caused by low sales budget for Cedar, Cid, Coat and Cure.

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

Except **Chester**, all 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.

**Remember everyone started with a market share of 16.67%. Had you maintained this, your sales for this round would be \$140M. Where does your team stand?**

### **Sales to Current Assets: Examine this**

This ratio asks the question, "Given our sales base, do we have adequate current assets to operate the company?" Current assets are comprised of Cash, Accounts Receivable and Inventory. In the worst case scenario, cash has dwindled to \$1 as inventory expanded. The accounts receivable policy (for example, 30 day terms) is a direct function of Sales.

Given the A/R policy in days, inventory policy in days, and sales, it is easy to calculate whether a company has adequate Current Assets to operate the company. For example, suppose the company projects worst case sales to be \$120 million, sets A/R policy to 30 days, and is willing to carry 90 days of inventory. If its gross margin is 30%, then it will spend  $70\% * \$120$  million on inventory during the year, or \$84 million, and a 90-day inventory policy translates to  $90/365 * \$84 = \$21$  million. Accounts Receivable will be  $30/365 * \$120$  million = \$10 million. In the worst case the company will have only \$1 in cash. Current Assets = \$1 + \$10 million + \$21 million = \$31 Million. Sales/Current Assets = 3.8.

**Too low a ratio risks a visit from Big AI. Too high a ratio indicates idle current assets which should either be put to work or given back to shareholders as a dividend or stock repurchase.**

**Profits: Chester and Digby** had bottom lines in red. The reasons are known to you: –

- Low Contribution Margin
- High Unsold Inventory Levels
- Unnecessarily high depreciation due to low plant utilization for Chester

**Contribution Margin: Chester and Digby need to improve their contribution margins.**

There are fixed costs and SG&A costs that need to be covered from sales. This will be difficult if your margins are not above 30%. Even your profit will come out from this margin!

**Emergency Loans: Digby** has an emergency loan. The reasons are –

**Digby** – You raised sufficient funds but have high unsold inventory worth \$31.7M 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 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).**

**It would be prudent to develop worst case and best case scenario's using the forecasting (marketing module) and production modules.**

**Plant Size and Utilization:** **Chester** needs improvement in plant utilization. Your plant can produce up to twice the first shift capacity. Use it more optimally.

**Overall Plant Utilization: Consider this**

Overall Plant Utilization asks the question, “Are we working our plant hard?” It is calculated as Total Production / Total Capacity.

It is easy to demonstrate that second shift is nearly always more profitable than first shift. This often surprises participants who look at the 50% second shift wage premium and assume that second shift must be something to avoid. But suppose we only run one shift – by necessity it must pay all of the fixed costs – depreciation, R&D, Promotion, Sales Budget, Admin, and Interest. Anything on second shift only pays for the 50% premium on labor.

It follows that we want to run as much second shift as possible. In a perfect world, we would run two shifts, our best case demand forecast would come true, and we would have only one unit of inventory left at the end of the year. On the other hand, if we max out second shift, there is a good chance we could stock out, and stock outs are very costly. Therefore, 170% plant utilization or more is considered excellent and 130% satisfactory.

**Asset Turnover:** **Baldwin and Chester** need to work their assets harder. They have an asset turnover of less than one.

**Forecasting and Inventory:** **Chester and Digby** have high levels of unsold inventory. This results from poor forecasting and being overly optimistic. Remember the high degree of competition in the industry.

Be prepared for the worst and best case scenarios (in terms of sales) so that you don't have such large stock piles of inventory. **Please do not go by computer forecasts.** Read the explanation on forecasting in the Capstone online guide.

**Segment Wise Product Analysis: How are your products faring?**

- **Traditional Segment:** **Able** leads the industry. **Fast and Cake** have low market share in this segment. **Cake** has inappropriate age (too high) for the segment (age has an importance of 47% in this segment). **Cake** is overpriced (outside the price range thereby diminishing demand). Remember, price has an importance of 23% in this segment). **Cake** needs improvement in its position (performance and size) in the segment.
- **Low End Segment:** **Acre** leads the industry. **Fast** has low market share in this segment. **Bead** has inappropriate age (too low) for the segment (Age has an importance of 24% in this segment). **Cedar** needs improvement in accessibility.
- **High End Segment:** **Exel** leads the industry. **Duck and Cid** have low market share in this segment. **Echo, Duck and Cid** need improvement in their position (performance and size) in the segment (Ideal position has an importance of 43% in the segment). **Cid** has inappropriate age (too high) for the segment (Age has an importance of 29% in this segment). **Bid, Duck and Cid** are overpriced (outside the price range). **Cid** needs improvement in accessibility.
- **Performance Segment:** **Aft** leads the industry. **Coat** has low market share in this segment. **Coat** needs improvement in their position (performance and size) in the

segment (Ideal Position has an importance of 29% in the segment). **Dot, Bold and Coat** are overpriced (outside the price range). **Coat** has inappropriate age (too high) for the segment. **Except Aft, all products** need improvement in accessibility.

- **Size Segment:** **Agape** leads the industry. **Cure** has low market share in this segment. **Dune and Cure** need improvement in their position (performance and size) in the segment (Ideal Position has an importance of 43% in the segment). **Cure** has inappropriate age (too high) for the segment (Age has an importance of 29% in the segment). **Dune and Cure** are overpriced (outside the price range). **Cure** needs improvement in accessibility.

**Financial Management:** **Baldwin** has idle cash worth \$65M. That is high. Please reconcile and use it to fund your growth.

### **Credit Policy**

Your company determines the number of days between transactions and payments. For example, your company could give customers 30 days to pay their bills (accounts receivable) while holding up payment to suppliers for 60 days (accounts payable).

Shortening A/R (accounts receivable) lag from 30 to 15 days in effect recovers a loan made to customers. Similarly, extending the A/ P (accounts payable) lag from 30 to 45 days extracts a loan from your suppliers.

The accounts receivable lag impacts the customer survey score. If your company offers no credit terms, your product's customer survey score falls to about 60% of maximum. At 30 days, the score is 93%. At 60 days, the score is 99.3%. At 90 days there is no reduction. The longer the lag, the more cash is tied up in receivables.

The accounts payable lag has implications for Production. Suppliers become concerned as the lag grows and they start to withhold material for production. At 30 days, they withhold 1%. At 60 days, they withhold 8%. At 90 days, they withhold 26%. At 120 days, they withhold 63%. At 150 days, they withhold all material. Withholding material creates shortages on the assembly line. As a result, workers stand idle and per-unit labor costs rise.

**HR Module:** **Andrews and Erie** have improved the productivity of their employees well.

In Round 3, TQM initiatives have started. Please read the flags on each cell and make investments accordingly – TQM investments can cut material cost, reduce R&D cycle time, improve worker productivity and increase demand. Please ensure you manage your cash account as you make these investments. While inputting your decisions in the TQM sheet on Capstone, observe the worst case and best case benefits that accrue to you.

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## **C130949**

### **Chester missed this round.**

**General:** **Andrews and Chester** made losses this year. Low sales for **Andrews**. The reasons for your low sales are known to you all by now and are given below in the sales paragraph. The top-line for **Ferris** has shown good growth in the last financial year. Contribution margins are low for **Andrews and Chester**. You will find it hard to make a profit with contribution margins below 30%. Emergency loans were seen for **Andrews and Chester**. Please read the paragraph on emergency loans below.

Some teams are still repeating the mistakes made in the practice round. Stay away from large unsold inventories and emergency loans.

**Stock Price and Market Cap:** **Baldwin** had a rise in stock price of \$3/share. **Andrews and Chester's** stock price remained constant at \$1/share.

**Baldwin** is the most valuable company measured by market cap.

**Stock price is affected by performance, asset base, debt, dividend policy, and number of shares outstanding.** In a year of aggressive investment in plant expansion and automation, you would expect that the necessary debt load would cause some uneasiness on the part of shareholders. But, if the stock price dips more than \$15.00, it may be a warning sign of too much debt. The stock price can also suffer in profitable years. For example, liquidation of plant brings in cash, but makes shareholders wonder about the long term competitive ramifications. Paying dividends in excess of profits, or obtaining a Big AI emergency loan, will have a negative effect on stock price.

This shows that investors are losing confidence in your companies. Don't let that happen. **Profits and cash: both are imperative and foundational. Remember your company could be profitable but still have a cash crisis. Profits do not equal cash!**

**Sales:** **Digby, Erie and Ferris** had a rise in market share of 3.7%, 3.5% and 5.4% respectively. **Andrews, Baldwin and Chester** had a fall in market share of 2.5%, 2.5% and 7.6% respectively.

**Low sales for Andrews.** This was caused by:

- Poor product specifications (performance and size) for Aft and Agape; 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.
- Low MTBF for Aft. Pay attention to the MTBF ranges for the segment.
- Low customers awareness levels due to low promo budgets for Acre, Aft and Agape.
- Poor distribution reach and accessibility caused by low sales budget for Acre, Aft and Agape.

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

Except **Chester**, all human 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.

Remember everyone started with a market share of 16.67%. Had you maintained this, your sales for this round would be \$140M. Where does your team stand?

### **Sales to Current Assets: Examine this**

This ratio asks the question, "Given our sales base, do we have adequate current assets to operate the company?" Current assets are comprised of Cash, Accounts Receivable and Inventory. In the worst case scenario, cash has dwindled to \$1 as inventory expanded. The accounts receivable policy (for example, 30 day terms) is a direct function of Sales.

Given the A/R policy in days, inventory policy in days, and sales, it is easy to calculate whether a company has adequate Current Assets to operate the company. For example, suppose the company projects worst case sales to be \$120 million, sets A/R policy to 30 days, and is willing to carry 90 days of inventory. If its gross margin is 30%, then it will spend  $70\% * \$120$  million on inventory during the year, or \$84 million, and a 90-day inventory policy translates to  $90/365 * \$84 = \$21$  million. Accounts Receivable will be  $30/365 * \$120$  million = \$10 million. In the worst case the company will have only \$1 in cash. Current Assets = \$1 + \$10 million + \$21 million = \$31 Million. Sales/Current Assets = 3.8.

**Too low a ratio risks a visit from Big AI. Too high a ratio indicates idle current assets which should either be put to work or given back to shareholders as a dividend or stock repurchase.**

**Profits: Andrews and Chester** had bottom lines in red. The reasons are known to you: –

- Low Contribution Margin
- High Unsold Inventory Levels
- Unnecessarily high depreciation due to low plant utilization for Andrews

**Contribution Margin: Andrews and Chester need to improve their contribution margins.** There are fixed costs and SG&A costs that need to be covered from sales. This will be difficult if your margins are not above 30%. Even your profit will come out from this margin!

**Emergency Loans: Andrews and Chester** have emergency loans. The reasons are –

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

- You spent (wrote out cheques) for \$9.1M 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 \$42M. That is causing a cash flow crisis by blocking cash. This also imposed 12% (almost \$5M as inventory carrying costs) and depressed profits
- You repurchased your common stock worth \$50K
- Previous years' emergency loan, long term and current debt of \$85.5M which was repaid in the current year.

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.**
- **Retire Adam and Agape by selling their entire plant capacity. This will free up your cash. Launch new products in their place.**
- Do not spend further on plant improvements until you have used the entire two shift capacity of your plant.
- Keep doing RnD on your products (remember the older inventory gets a free ride to the new specs)
- **Sell surplus unused plant capacity**
- **Raise maximum funds from long term and current debt to repay this emergency loan.**

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

- You have large unsold inventories of over \$150M. That is causing a cash flow crisis by blocking cash. This also imposed 12% (almost \$18M as inventory carrying costs) and depressed profits
- Previous years' emergency loan and long term debt of \$34.7M which was repaid in the current year.

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.**
- **Retire Cake, Cid and Cure by selling their entire plant capacity. This will free up your cash. Launch new products in their place.**
- Keep doing RnD on your products (remember the older inventory gets a free ride to the new specs)
- **Sell surplus unused plant capacity**
- **Raise maximum funds from long term and current debt to repay this emergency loan.**

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).**

**It would be prudent to develop worst case and best case scenario's using the forecasting (marketing module) and production modules.**

**Plant Size and Utilization: Andrews** needs improvement in plant utilization. Your plant can produce up to twice the first shift capacity. Use it more optimally.

**Overall Plant Utilization: Consider this**

Overall Plant Utilization asks the question, "Are we working our plant hard?" It is calculated as Total Production / Total Capacity.

It is easy to demonstrate that second shift is nearly always more profitable than first shift. This often surprises participants who look at the 50% second shift wage premium and assume that second shift must be something to avoid. But suppose we only run one shift – by necessity it must pay all of the fixed costs – depreciation, R&D, Promotion, Sales Budget, Admin, and Interest. Anything on second shift only pays for the 50% premium on labor.

It follows that we want to run as much second shift as possible. In a perfect world, we would run two shifts, our best case demand forecast would come true, and we would have only one unit of inventory left at the end of the year. On the other hand, if we max out second shift, there is a good chance we could stock out, and stock outs are very costly. Therefore, 170% plant utilization or more is considered excellent and 130% satisfactory.

**Asset Turnover:** **Andrews, Baldwin and Chester** need to work their assets harder. They have an asset turnover of less than one.

**Forecasting and Inventory:** **Andrews, Baldwin and Chester** have high levels of unsold inventory. This results from poor forecasting and being overly optimistic. Remember the high degree of competition in the industry.

For example, Baldwin has an inventory of \$42M. Had they sold all that, it would mean sales of another \$55M approximately. They already had sales of \$180M in this round, if this expected sales is added to it, it comes out to \$235M! Did you actually think you can sell all that in Round 3 itself? That would be overly optimistic.

Be prepared for the worst and best case scenarios (in terms of sales) so that you don't have such large stock piles of inventory. **Please do not go by computer forecasts.** Read the explanation on forecasting in the Capstone online guide.

### **Segment Wise Product Analysis: How are your products faring?**

- **Traditional Segment:** **Daze** leads the industry. **Bead2 and Baker2** have low market share in this segment. **Cake** has inappropriate age (too high) for the segment (age has an importance of 47% in this segment). **Baker** is overpriced (outside the price range thereby diminishing demand). Remember, price has an importance of 23% in this segment). **Cake and Bead2** need improvement in their position (performance and size) in the segment. **Baker2** needs increased levels of awareness. (It has awareness of only 46% and hence 54% of the market does not know about your product).
- **Low End Segment:** **Bead** leads the industry. **Bead2, Eat, Fast and Cake** have low market share in this segment. **Cake** is overpriced (outside the price range, Price has an importance of 53% in this segment). **Cedar** has inappropriate age (too low) for the segment (Age has an importance of 24% in this segment). **Acre** needs increased levels of awareness and accessibility.
- **High End Segment:** **Fist** leads the industry. **Bid and Cid** have low market share in this segment. **Bid and Cid** need improvement in their position (performance and size) in the segment (Ideal position has an importance of 43% in the segment). **Bid and Cid** have inappropriate age (too high) for the segment (Age has an importance of 29% in this segment). **Bid and Cid** are overpriced (outside the price range). **Bid** needs improvement in accessibility.

- **Performance Segment:** **Coat** leads the industry. **Doom and Aft** have low market share in this segment. **Aft** has low MTBF (MTBF has an importance of 43% in the segment). **Coat, Bold and Aft** need improvement in their position (performance and size) in the segment (Ideal Position has an importance of 29% in the segment). **Bold** is overpriced (outside the price range). **Coat, Bold and Aft** have inappropriate age (too high) for the segment. **Aft** needs increased levels of awareness. **Except Coat, all products** need improvement in accessibility.
- **Size Segment:** **Dune** leads the industry. **Agape** has low market share in this segment. **Buddy, Cure and Agape** need improvement in their position (performance and size) in the segment (Ideal Position has an importance of 43% in the segment). **Buddy, Cure and Agape** have inappropriate age (too high) for the segment (Age has an importance of 29% in the segment). **Buddy and Cure** are overpriced (outside the price range). **Agape** needs increased levels of awareness. **Except Cure, all products** need improvement in accessibility.

**Financial Management:** **Baldwin** is low on leverage. **Make sure it will not hurt you on your preferred measurements.**

### **Credit Policy**

Your company determines the number of days between transactions and payments. For example, your company could give customers 30 days to pay their bills ( accounts receivable) while holding up payment to suppliers for 60 days ( accounts payable).

Shortening A/R (accounts receivable) lag from 30 to 15 days in effect recovers a loan made to customers. Similarly, extending the A/ P (accounts payable) lag from 30 to 45 days extracts a loan from your suppliers.

The accounts receivable lag impacts the customer survey score. If your company offers no credit terms, your product's customer survey score falls to about 60% of maximum. At 30 days, the score is 93%. At 60 days, the score is 99.3%. At 90 days there is no reduction. The longer the lag, the more cash is tied up in receivables.

The accounts payable lag has implications for Production. Suppliers become concerned as the lag grows and they start to withhold material for production. At 30 days, they withhold 1%. At 60 days, they withhold 8%. At 90 days, they withhold 26%. At 120 days, they withhold 63%. At 150 days, they withhold all material. Withholding material creates shortages on the assembly line. As a result, workers stand idle and per-unit labor costs rise.

**HR Module:** **Baldwin** has improved the productivity of their employees well.

In Round 3, TQM initiatives have started. Please read the flags on each cell and make investments accordingly – TQM investments can cut material cost, reduce R&D cycle time, improve worker productivity and increase demand. Please ensure you manage your cash account as you make these investments. While inputting your decisions in the TQM sheet on Capstone, observe the worst case and best case benefits that accrue to you.

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