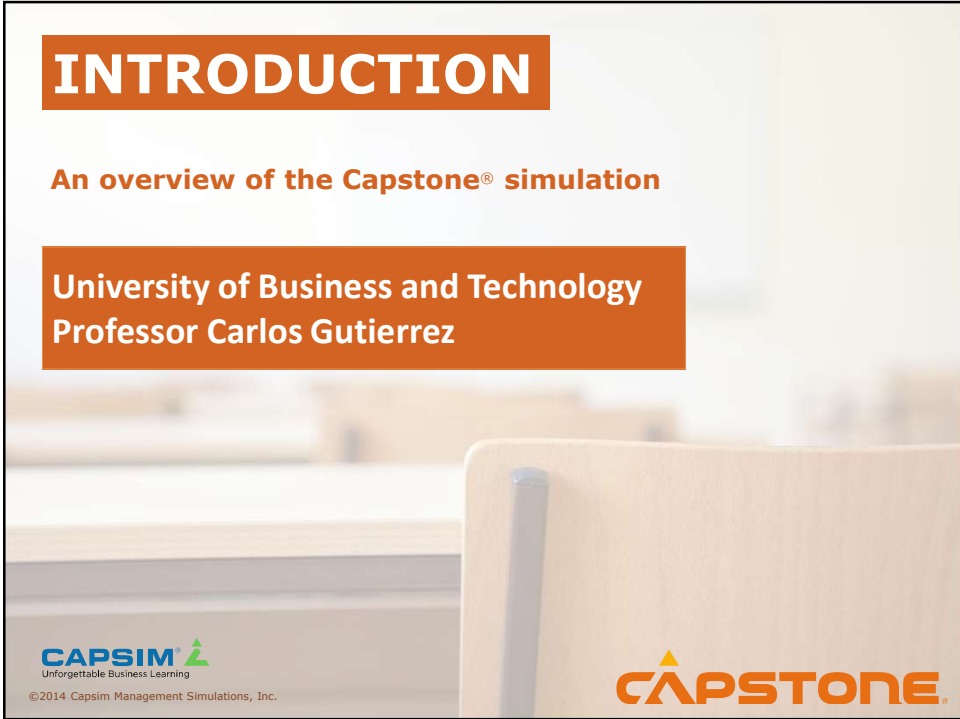




INTRODUCTION

An overview of the Capstone® simulation

University of Business and Technology
Professor Carlos Gutierrez

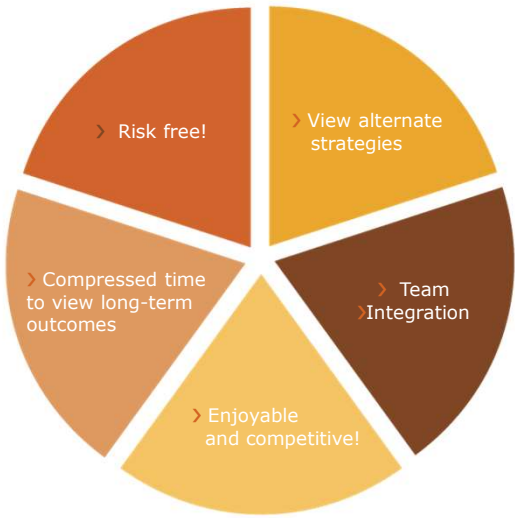


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Unforgettable Business Learning
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CAPSTONE 

0

WHY SIMULATE?



- > Risk free!
- > View alternate strategies
- > Team Integration
- > Enjoyable and competitive!
- > Compressed time to view long-term outcomes

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1

OBJECTIVES OF THE CAPSTONE® SIMULATION

- ▶ Demonstrate effectiveness of multi-discipline teams working together.
- ▶ Use strategic thinking.
- ▶ Take away practical skills in business management.
- ▶ Test your business acumen.
- ▶ Understand overall interaction and impact of various parts of a business on one another.
- ▶ Grow the awareness of competition.

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2



3

THE STORY: THE START OF STRATEGY

When Sensor, Inc. breaks up, each of the new companies start off with the following scenario:

- ▶ \$100 million in Sales
- ▶ 5 Product Lines
- ▶ 5 Market Segments
- ▶ Closed Marketplace



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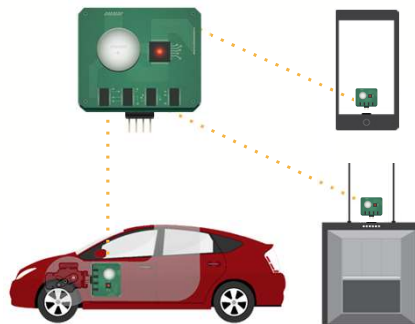
THE STORY: AN OVERVIEW OF YOUR COMPANY'S PRODUCT

- ▶ Customers (OEMs) need sensors for their products to function.
- ▶ Used for diverse applications

Customer demands vary between the five segments

Five market segments:

- ▶ Low End
- ▶ Traditional
- ▶ High End
- ▶ Performance
- ▶ Size



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THE MARKETPLACE: A LOOK INTO THE SEGMENTS

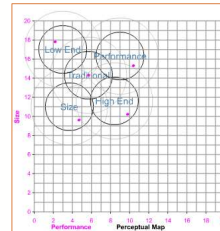
- ▶ Perceptual map used to track changing consumer demands in size and performance.
- ▶ Each year, consumers will expect faster (higher performance) and smaller products (smaller size)
 - This causes the segment circles to drift to the lower right constantly
- ▶ Market segments continue to diverge over time.

Note the drift towards the lower right (expectations of faster and smaller products)

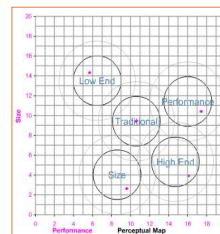
Also note the divergence of the segments.

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Consumer segment expectations



ROUND 1



ROUND 8

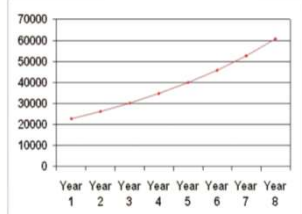


6

THE MARKETPLACE: SEGMENT GROWTH

According to a Market Analyst, there will be continuous growth in the sensor market.

Sensor market



"I see the entire market growing at around 14% or 15% per year. The high tech market alone will be growing at a whopping 20%."

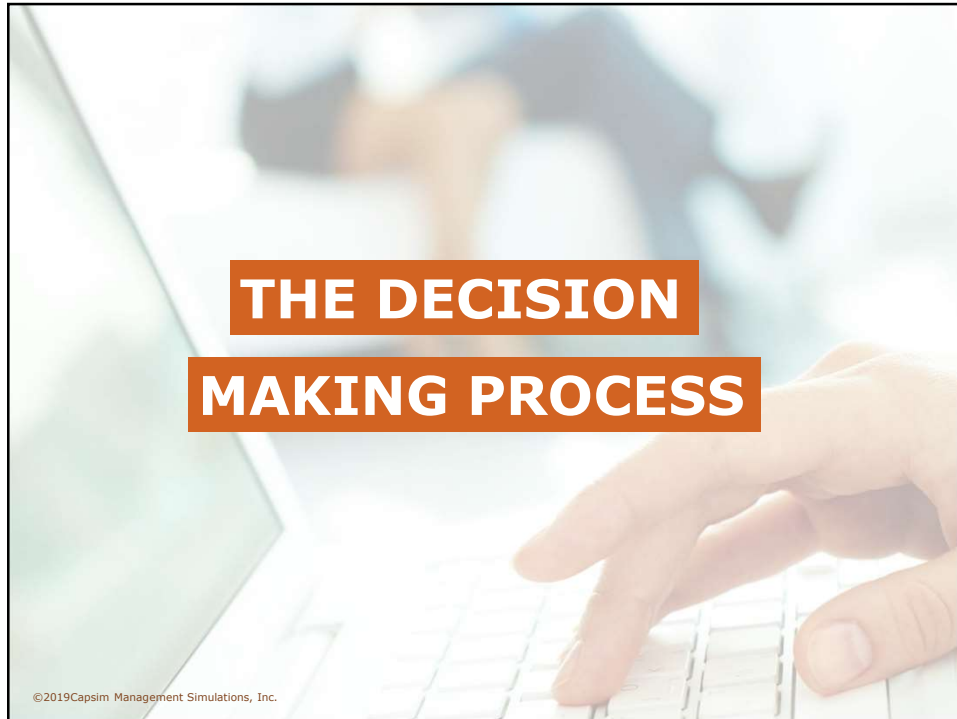
YOUR GOAL

- ▶ Prepare your company's products to meet the needs of the growing market.

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DECISION AREAS

Students need to coordinate strategy and tactics across the following areas of their company:

-  **R&D (Research & Development)**
-  **MARKETING**
-  **PRODUCTION**
-  **FINANCE**

ADDITIONAL MODULES

- ▶ HR
- ▶ TQM (Total Quality Management)
- ▶ Labor Negotiations
- ▶ Advanced Marketing

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R&D



- ▶ Ensure the perceived age of the product meets customer demands
- ▶ Build the quality and reliability (MTBF) of the products
- ▶ Invent new products to address the changing marketplace and take advantage of new opportunities
- ▶ Determine the specifications of the products to meet customer expectations



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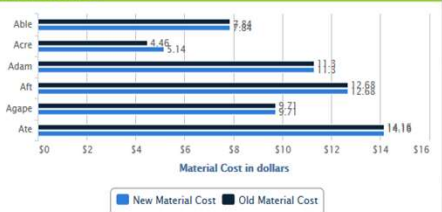
10

CAPSTONE Coach File Undo Decisions Proformas Reports Help
Teamname: Andrews | SimID: C99073 | Round: 5 | Year: 2023
Draft saved at Jun 21, 2018 08:31AM CST

Recalculate
Research & Development


Name	Pfmm	Size	MTBF	Revision Date	Age at Revision	R&D Cost
Able	6.7	13.3	14000	09-May-23	4.5	\$0
Acre	4.2	15.9	12000			\$359
Adam	9.4	10.7	19000			\$0
Aft	10.1	14.9	27000			\$0
Agape	4.0	10.8	19000			\$0
Ate	11.6	8.4	23000			\$0
NA	0.0	0.0	0			\$0
NA	0.0	0.0	0	\$0		
Total						\$359

Material Cost



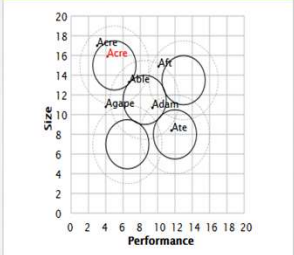
Product	New Material Cost	Old Material Cost
Able	7.84	7.84
Acre	4.46	3.14
Adam	11.3	11.3
Aft	12.68	12.68
Agape	9.21	9.21
Ate	14.16	14.16


Age Profile



Product	Perceived Age in Years
Able	1.7
Acre	2.7
Adam	1.4
Aft	8.6
Agape	5.1
Ate	4

Perceptual Map (at end of this year)



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MARKETING



- ▶ Set the price of your products
- ▶ Build customer awareness through investing in promotion
- ▶ Establish a sales force and distribution channels
- ▶ Set the sales forecast for your products
- ▶ Set credit policies (A/R and A/P)



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CAPSTONE Coach File Undo Decisions Proformas Reports Help

Recalculate **Marketing** Teamname: Andrews | SimID: C99073 | Round: 5 | Year: 2023
Draft saved at Jun 21, 2018 08:34AM CST

Name	Price	Promo Budget	Sales Budget	Benchmark Prediction	Your Forecast	Gross Revenue	Variable Costs	Contrib Margin	Less Promo/Sales
Able	\$ 26.50	\$ 1150	\$ 1506	1,799	1900	\$ 50,350	\$ 28,731	\$ 21,619	\$ 18,963
Acre	\$ 20.50	\$ 1150	\$ 1506	1,955	2000	\$ 41,000	\$ 19,253	\$ 21,747	\$ 19,091
Adam	\$ 27.50	\$ 1150	\$ 1506	2,456	1200	\$ 33,000	\$ 18,964	\$ 14,036	\$ 11,380
Aft	\$ 33.50	\$ 1000	\$ 660	318	300	\$ 10,050	\$ 7,338	\$ 2,712	\$ 1,052
Agape	\$ 33.50	\$ 500	\$ 970	2	50	\$ 1,675	\$ 1,074	\$ 601	(\$ 869)
Ate	\$ 38.00	\$ 1150	\$ 1506	891	500	\$ 19,000	\$ 9,521	\$ 9,479	\$ 6,823
NA	\$0.0	\$ 0	\$ 0	0	-	\$ 0	\$ 0	\$ 0	\$ 0
NA	\$0.0	\$ 0	\$ 0	0	-	\$ 0	\$ 0	\$ 0	\$ 0
Total		\$ 6,100	\$ 7,654	7,420	5,950	\$ 155,075	\$ 84,881	\$ 70,194	\$ 56,440

A/R Lag (days): 30 A/P Lag (days): 30

Revenue Forecast

Product	Variable Cost	Marketing	Margin After Marketing
Able	\$50,350	\$28,731	\$21,619
Acre	\$41,000	\$19,253	\$21,747
Adam	\$33,000	\$18,964	\$14,036
Aft	\$10,050	\$7,338	\$2,712
Agape	\$1,675	\$1,074	\$601
Ate	\$19,000	\$9,521	\$9,479

Unit Sales Forecast

Product	Unit Sales Forecast (in 000's)
Able	1,900
Acre	2,000
Adam	1,200
Aft	300
Agape	50
Ate	500

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PRODUCTION



- ▶ Purchase machinery to automate them in your facilities
- ▶ Buy or sell capacity on your product lines
- ▶ Set production schedule
- ▶ Manage the majority of the company's fixed assets
- ▶ Staff your facility with workers



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CAPSTONE Coach ▾ File ▾ Undo ▾ Decisions ▾ Proformas ▾ Reports ▾ Help ▾
Teamname: Andrews | SimID: C99073 | Round: 5 | Year: 2023
Draft saved at Jun 21, 2018 06:35AM CST

Recalculate
Production

Production										
Schedule	Able	Acre	Adam	Aft	Agape	Ate	NA	NA	Total	
Unit Sales Forecast	1,900	2,000	1,200	300	50	500	0	0	5,950	
Inventory On Hand	19	414	0	0	20	183	0	0	636	
Production Schedule	2000	1900	1000	360	60	450			6,050	
Production After Adj.	1,980	1,881	1,287	2	2	446	0	0	5,599	
Margins										
2nd Shift Production%	100.0%	35.7%	44.5%	0.0%	0.0%	0.0%	0	0		
Labor Cost/Unit	\$8.01	\$4.37	\$4.45	\$11.21	\$11.21	\$3.88	0	0		
Material Cost/Unit	\$7.84	\$4.90	\$11.30	\$12.68	\$9.71	\$14.16	0	0		
Total Unit Cost	\$15.86	\$9.27	\$15.75	\$23.89	\$20.92	\$18.04	0	0		
Contribution Margin	40.2%	54.8%	42.7%	28.7%	37.5%	52.5%	0	0		
Physical Plant										
1st Shift Capacity	1,000	1,400	900	1	1	500	0	0	3,802	Total
Buy/Sell Capacity	0	0	0	0	0	0			0	
Automation Rating	6.0	8.0	8.0	4.0	4.0	8.0	0.0	0.0		
New Autom. Rating	6.0	8.0	8.0	4.0	4.0	8.0				
Investment (\$000)	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	
Workforce										
Complement	Last Year: 415	Needed: 489	This Year %: 100%	This Year: 489	1st Shift: 309	2nd Shift: 180	Overtime: 0.0%	Max Invest: \$ 50,761	A/P Lag: 30	

Production vs Capacity

Price vs Unit Cost

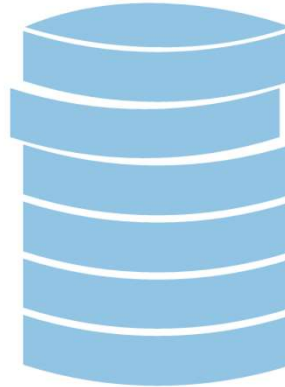
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FINANCE



- ▶ Acquire capital to fund growth and operations
 - Issue stock
 - Short-term debt
 - Issue long-term bonds
- ▶ Issue dividends to your shareholders
- ▶ Balance your debt portfolio
- ▶ Manage your Proformas



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Coach ▾ File ▾ Undo ▾ Decisions ▾ Proformas ▾ Reports ▾ Help ▾

Teamname: Andrews | SimID: C99073 | Round: 5 | Year: 2023
Draft saved at Jun 21, 2018 08:36AM CST

Recalculate

Finance

Finances

Plant Improvements

Total Investments (\$000)	\$ 0
Sales of Plant & Equipment	\$ 0

Common Stock

Shares Outstanding (000)	1,825
Price Per Share	\$ 70.71
Earnings Per Share	\$ 12.55
Max Stock Issue (\$000)	\$ 25,809
Issue Stock (\$000)	\$ 0
Max Stock Retire (\$000)	\$ 6,452
Retire Stock (\$000)	\$ 0
Dividend Per Share	\$ 0.00

Current Debt

Interest Rate	12.2%
Due This Year	\$ 22,900
Borrow (\$000)	\$ 0

Cash Positions

December 31, 2022	\$ 27,456
December 31, 2023	\$ 35,695

Liabilities & Owner's Equity

Long Term Debt

Retire Long Term Debt (\$000)	\$ 0
Issue Long Term Debt (\$000)	\$ 0
Long Term Interest Rate	13.6%
Maximum Issue This Year	\$ 24,952
A/R Lag (days)	30
A/P Lag (days)	30

Outstanding Bonds

Series Number	Face Amount	Current Yield	2022 Close
14.052024	\$ 20,850	13.9%	\$ 100.66
11.352029	\$ 8,000	12.6%	\$ 90.02
12.252030	\$ 8,000	13.1%	\$ 93.42
12.852032	\$ 2,000	13.4%	\$ 95.76

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PROFORMAS: A LOOK INTO THE FUTURE



- ▶ Proformas use decisions made in the current year to project company performance for the next year
- ▶ Analyzing them is critical for company success
- ▶ The following Proformas are available:
 - Balance Sheet
 - Income Statement
 - Cash Flow Statement
 - Financial Ratios
 - Balanced Scorecard

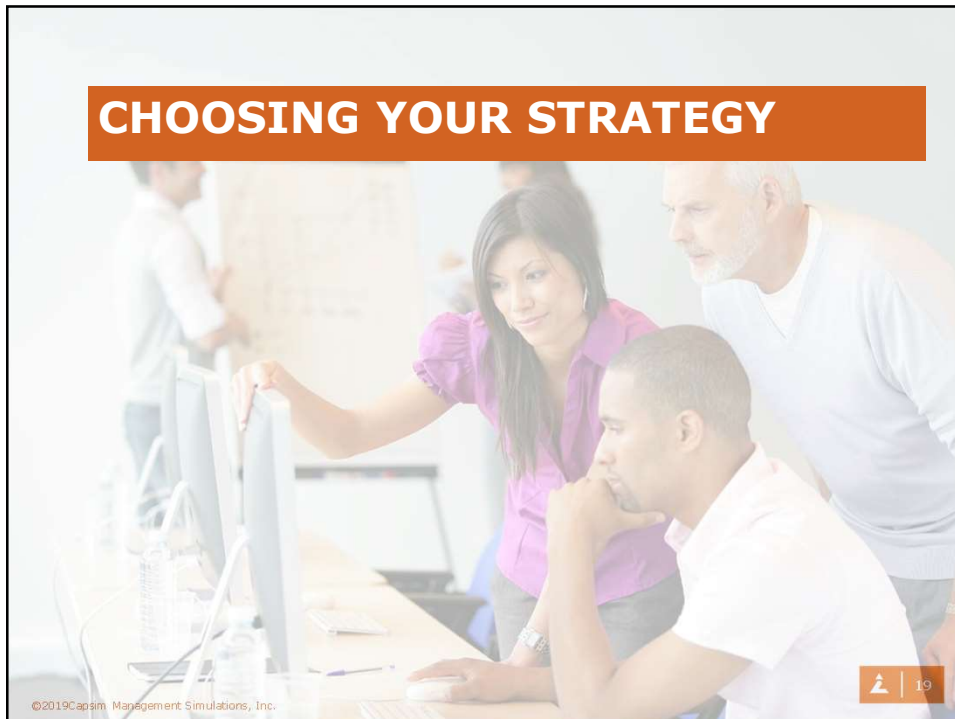


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CHOOSING YOUR STRATEGY



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THE SIX BASIC STRATEGIES

The "Six Basic Strategies" give you a starting point. Make sure before you start making any decisions to go over the strategies and choose one that you feel comfortable using.



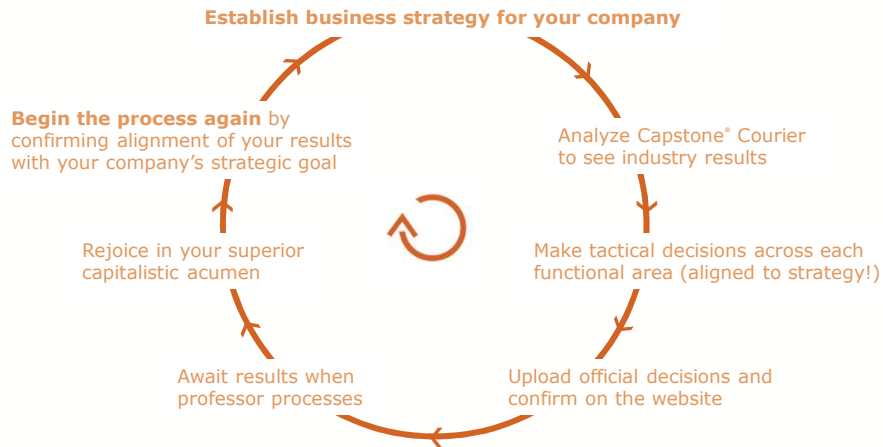
KEEP IN MIND

Each strategy is proven to work. If you're not doing well it's more likely that you're executing the strategy incorrectly.

SIX BASIC STRATEGIES [\(Click for link\)](#)

1. Broad Cost Leader
2. Broad Differentiation
3. Niche Cost Leader
4. Niche Differentiation
5. Cost Leader with Product Lifecycle Focus
6. Differentiation with Product Lifecycle Focus

THINGS TO DO ON AN ANNUAL BASIS





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BALANCED SCORECARD

- ▶ Improving company financial picture in preparation for final debrief
- ▶ Point System
- ▶ Gauges company performance based on four perspectives:
 - The Customer
 - Internal Business Process
 - Learning and Growth
 - Financials
- ▶ In the simulation, a Proforma Balanced Scorecard is available to project results for the upcoming year.

Balanced Scorecard											
Industry Scoring Balanced Scorecard My Teams											
My Teams											
Here are the possible and earned points that are scored on the decisions your team makes during a round. Clicking each score will display a breakdown of how it was calculated.											
Team Name	Rd 1	Rd 2	Rd 3	Rd 4	Rd 5	Rd 6	Rd 7	Rd 8	Recap	Total	
Andrews	44	0	0	0	0	0	0	0	86	132	
Badwin	52	0	0	0	0	0	0	0	78	128	
Chesser	63	0	0	0	0	0	0	0	87	119	
Digby	56	0	0	0	0	0	0	0	80	137	
Erie	41	0	0	0	0	0	0	0	62	113	
Ferns	56	0	0	0	0	0	0	0	71	128	
Possible Points	82	89	89	100	100	100	100	100	240	1000	
Balanced Scorecard Details											
For more information on the scoring criteria, click that criteria below.											
Team: Andrews											
Round 1: Score / Points											
Financial			Internal Business Process			Customer			Learning and Growth		
Stock Price	6.7	/8	Contribution Margin	6.0	/5	Customer Buying Criteria	2.8	/5	Employee Turnover Rate	3.3	/7
Profits	3.0	/9	Plant Utilization	3.6	/5	Customer Awareness	2.8	/5	SubTotal		3.3
Leverage	2.0	/8	Days of Working Capital	0.0	/5	Customer Accessibility	0.0	/5			
SubTotal	11.7	/26	Stock-out Costs	4.5	/5	Product Churn	5.0	/5			
			Inventory Carrying Costs	5.0	/5	SG&A Expense	5.0	/5			
			SubTotal	13.1	/25	SubTotal	13.7	/25			
Daily standings: Round 1: 21 percentile											
Overall at the end of Round 1: 21 percentile											
Round 1 points: 43.8 of 82											
Daily standings are calculated at 3:00am ET.											

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SUCCESS MEASURES

- ▶ In the real world, companies have different goals. Using the same success measures, YOU get to choose the parameters on which your company is measured.
- ▶ Some of the Criteria that are used:
 - Cumulative Profits
 - Average Market Share
 - Average ROS (Return on Sales)
 - Average Asset Turnover
 - Average ROA (Return on Assets)
 - Average ROE (Return on Equity)
 - Ending Stock Price
 - Ending Market Cap
- ▶ Students or Professors choose the percentage weighting for each selection.

Success Measures

Industry Scoring | Success Measures | Weighted Relative

Relative Scores To Date for Industry F6381

Calculating Scores To Date (Relative)

- The system determines a raw score for each category by dividing the team's score ("Team's Value") by the highest scoring team in that category ("Highest Value"). For example, if the "Team's Value" for Profit is \$8,000,000 and the "Highest Value" is \$10,000,000, the team receives a raw score of $\$8,000,000 \div \$10,000,000 = 0.8$.
- Next, the system multiplies the raw score by the success measure entry. Continuing with the previous example, if the team's success measure ("Team Weighting") is 12.0, multiplying 0.8 by 12.0 will derive a "Score" of 9.6.
- The scores for each category are added, and the resulting sum appears in the Total row.

Weight Method
The team's values are weighted even for each round.

Andrews					
	Type	Team's Value	Highest Value	Team Weighting	Score
CumProfit	cumulative	\$5,811,872	\$5,079,581	12.0	11.8
Market Share	avg	18.19	19.19	12.0	12.0
Stock Price	ending	\$ 93.35	\$ 115.07	12.0	11.8
Market Cap	ending	\$ 25,391,385	\$ 25,391,385	18.0	18.0
ROE	avg	15.23	24.00	12.0	7.4
ROS	avg	6.75	7.05	12.0	9.8
ROA	avg	10.46	13.36	12.0	10.4
AssetsTurn	avg	1.85	1.85	12.0	12.0
Total					91.4

Baldwin					
	Type	Team's Value	Highest Value	Team Weighting	Score
CumProfit	cumulative	\$4,051,640	\$5,079,581	12.0	9.8
Market Share	avg	17.89	19.19	12.0	11.0
Stock Price	ending	\$ 13.66	\$ 115.07	12.0	10.5
Market Cap	ending	\$ 25,391,445	\$ 25,391,385	18.0	18.0
ROE	avg	13.36	24.00	12.0	6.7
ROS	avg	4.28	7.05	12.0	7.5
ROA	avg	6.97	13.36	12.0	8.4
AssetsTurn	avg	1.59	1.85	12.0	10.3
Total					75.2

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ANALYST REPORT

Evaluates your company in ten categories:

1. Margins
2. Profits
3. Emergency Loans
4. Working Capital
5. Market Share
6. Customer Satisfaction
7. Financial Structure
8. Wealth Creation
9. Forecasting
10. Productivity

Analyst Report

Industry Scoring | Analysis & Scoring | Analyst Report

The Analyst Report evaluates your company in ten categories of management performance. Categories are worth 100 points in the overall annual evaluation of 1,000 points.

SimID	Co.	Rd	Margins	Profits	Emerg. Loans	Working Capital	Mkt Share	Forecasting	Cust. Sat.	Productivity	Financial Structure	Wealth Creation	Total Points	Cumula. Points
F63831	Andrews	1	●	●	●	●	●	●	●	●	●	●	607	607
F63831	Baldwin	1	●	●	●	●	●	●	●	●	●	●	685	685
F63831	Chester	1	●	●	●	●	●	●	●	●	●	●	657	657
F63831	Digby	1	●	●	●	●	●	●	●	●	●	●	771	771
F63831	Erie	1	●	●	●	●	●	●	●	●	●	●	586	586
F63831	Ferris	1	●	●	●	●	●	●	●	●	●	●	754	754

Points: ○ = 0, ◐ = 10, ◑ = 20, ◒ = 30, ◓ = 40, ◔ = 50, ◕ = 60, ◖ = 70, ◗ = 80, ◘ = 90, ● = 100

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