



CALIFORNIA STATE  
UNIVERSITY  

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E A S T B A Y

## **ASSURANCE OF LEARNING RESULTS SYNOPSIS**

**FEBRUARY 2017**

## OVERVIEW

A wealth of empirical research has supported the effectiveness of simulation-based learning and assessment.<sup>1</sup> The primary value of simulation-based assessment is that it provides a situation that elicits and measures a student's acquired knowledge and the capacity to apply this knowledge (i.e., both knowing and doing).

California State University – East Bay currently uses Capsim's Capstone® simulation for instructional purposes followed by Comp-XM® for learning assessment purposes. The Capstone simulation is implemented using student teams to simulate a top management team of a company. Comp-XM is an individual assessment whereby students run their own companies and “compete” against other computer-run companies. In brief, there are five rounds in the Comp-XM assessment. The first four rounds require making simulation decisions and answering sets of test questions (called “board queries”). The final round requires only answering test questions. The overall assessment philosophy of Comp-XM emphasizes “breadth over depth” in measuring cross-functional knowledge and skill. To boost assessment depth, schools often integrate Comp-XM results with program-specific, course-embedded measures such as final exams, essays, term papers, and so forth.

## REPORT STRUCTURE AND CONTENT

This assurance of learning (AoL) report consists of five sections. These are briefly described below. Note that more detailed results are available for download from the online reporting tool associated with Comp-XM.

### *Section 1: Crosswalk between Specified CSU-EB Learning Goals and Comp-XM Measures*

This section shows how each learning goal and objective is operationalized in Comp-XM. Separate crosswalks are shown for the MBA program and the Undergraduate program.

### *Section 2: Cumulative Aggregate-level AoL Results*

This section provides aggregated statistics that summarize scores across the various learning goals measured in Comp-XM. These results are shown across the entire assessment period for the MBA and Undergraduate programs.

### *Section 3: Annual Aggregate-level AoL Results*

This section provides aggregated statistics that summarize scores across the various learning goals measured in Comp-XM. These results are shown for each assessment year for the MBA and Undergraduate programs.

### *Section 4: Potential Areas of Intervention Focus*

This section indicates topics that may warrant attention. For example, these areas might suggest future interventions to improve mastery and subsequent AoL results. To improve efficiency and comprehension, emphasis is given to the topics assessed by the test questions in Comp-XM when identifying potential areas for improvement.

### *Section 5: Common Diagnostic Questions*

This section provides a list of guiding questions that can be discussed when interpreting AoL results for “closing the loop.” These questions are intended to be diagnostic in nature and to facilitate the choice of subsequent curricular or co-curricular interventions.

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<sup>1</sup> Vogel, J. J., Vogel, D. S., Cannon-Bowers, J., Bowers, C. A., Muse, K., & Wright, M. (2006). Computer gaming and interactive simulations for learning: A meta-analysis. *Journal of Educational Computing Research*, 34(3), 229-243. Sitzmann, T. (2011). A meta-analytic examination of the instructional effectiveness of computer-based simulation games, *Personnel Psychology*, 64, 489–528. Wouters, P., Van Nimwegen, C., Van Oostendorp, H., & Van Der Spek, E. D. (2013). A meta-analysis of the cognitive and motivational effects of serious games. *Journal of Educational Psychology*, 105, 249-265.

## SECTION 1: CROSSWALK BETWEEN SPECIFIED CSU-EB LEARNING GOALS AND COMP-XM MEASURES

### MBA Program Crosswalk

CSU-EB Learning Goals	Learning Objectives	Simulation Decisions ("Balanced Scorecard")	Test Questions ("Board Query") and Associated Topics
<b>Goal 3:</b> Students who graduate will be effective data-driven decision makers.	3A: Students who graduate will perform quantitative analyses and apply advanced technological tools to solve complex business problems.	<b>Three Balanced Scorecard Quadrants</b> (Financial; Internal Process; Customer)	<b>18 Items</b> (A-16: Break Even Analysis; A-279: Understanding the Accounting Equation; A-286: Revenue Recognition; A-290: Identifying Fixed vs. Variable Costs; A-320: Calculating Book Value; A-362: Identifying Change in Equity; A-364: Interpreting the Cash Flow Statement; A-389: Understanding Item Carrying Values on the Balance Sheet; A-94: Understanding the Accounting Equation; F-115: DuPont Analysis; F-260: Calculating Dividend Yield; F-261: Effects of Change in Depreciation Expense on Financial Statements;; F-267: Calculating Simple Ratios; F-274: Calculating Ratios from the Annual Report; F-301: Calculating Stock Repurchase; F-347: Cash Management; F-358: Effect of Investment Decisions; F-41: Retirement of Debt)
<b>Goal 4:</b> Students who graduate will be able to integrate information from different functional areas of business when making managerial decisions.	4A: Students who graduate will be able to integrate knowledge across disciplines.	<b>Four Balanced Scorecard Quadrants</b> (Financial; Internal Process; Customer; Learning & Growth)	<b>35 Items</b> (A-16: Break Even Analysis; A-279: Understanding the Accounting Equation; A-286: Revenue Recognition; A-290: Identifying Fixed vs. Variable Costs; A-320: Calculating Book Value; A-362: Identifying Change in Equity; A-364: Interpreting the Cash Flow Statement; A-389: Understanding Item Carrying Values on the Balance Sheet; A-94: Understanding the Accounting Equation; F-115: DuPont Analysis; F-260: Calculating Dividend Yield; F-261: Effects of Change in Depreciation Expense on Financial Statements; F-267: Calculating Simple Ratios; F-274: Calculating Ratios from the Annual Report; F-301: Calculating Stock Repurchase; F-347: Cash Management; F-358: Effect of Investment Decisions; F-41: Retirement of Debt; M-308: Identifying Marketing Efficiency; M-334: Forecasting; M-343: Creating Marketing Budgets; M-346: Identifying Competitors Using the Four P's; M-349: Demand Analysis M-354: Identifying Price Elasticity; M-355: Market Sizing; O-322: Operational Impact of Unit Margin; P-258: Capacity Analysis; P-309: Determining Acceptable Inventory Levels; P-328: Cost of Right-Sizing Plant; P-682: Plant Utilization; H-319: Calculating Productivity Impact; H-323: Calculating Recruiting Costs; H-324: Calculating Training Costs; H-326: Calculating Separation Costs; H-329: Calculating Future Labor Wages)

*Undergraduate Program Crosswalk*

CSU-EB Learning Goals	Learning Objectives	Simulation Decisions ("Balanced Scorecard")	Test Questions ("Board Query") and Associated Topics
<b>Goal 1:</b> Students who graduate will be knowledgeable and integrative in their approach to business management.	1A: Students who graduate will recognize and integrate foundation knowledge across functional areas.	<b>Four Balanced Scorecard Quadrants</b> (Financial; Internal Process; Customer; Learning & Growth)	<b>35 Items</b> (A-16: Break Even Analysis; A-279: Understanding the Accounting Equation; A-286: Revenue Recognition; A-290: Identifying Fixed vs. Variable Costs; A-320: Calculating Book Value; A-362: Identifying Change in Equity; A-364: Interpreting the Cash Flow Statement; A-389: Understanding Item Carrying Values on the Balance Sheet; A-94: Understanding the Accounting Equation; F-115: DuPont Analysis; F-260: Calculating Dividend Yield; F-261: Effects of Change in Depreciation Expense on Financial Statements; F-267: Calculating Simple Ratios; F-274: Calculating Ratios from the Annual Report; F-301: Calculating Stock Repurchase; F-347: Cash Management; F-358: Effect of Investment Decisions; F-41: Retirement of Debt; M-308: Identifying Marketing Efficiency; M-334: Forecasting; M-343: Creating Marketing Budgets; M-346: Identifying Competitors Using the Four P's; M-349: Demand Analysis M-354: Identifying Price Elasticity; M-355: Market Sizing; O-322: Operational Impact of Unit Margin; P-258: Capacity Analysis; P-309: Determining Acceptable Inventory Levels; P-328: Cost of Right-Sizing Plant; P-682: Plant Utilization; H-319: Calculating Productivity Impact; H-323: Calculating Recruiting Costs; H-324: Calculating Training Costs; H-326: Calculating Separation Costs; H-329: Calculating Future Labor Wages)
	1B: Students who graduate will apply critical thinking skills to solve business problems.	<b>Four Balanced Scorecard Quadrants</b> (Financial; Internal Process; Customer; Learning & Growth)	<b>11 Items</b> (A-16: Break Even Analysis; F-347: Cash Management; F-358: Effect of Investment Decisions; M-349: Demand Analysis; O-322: Operational Impact of Unit Margin; P-258: Capacity Analysis; S-363: Identifying Tactics for Building Competitive Advantage; S-668: Developing Mission/Vision Statements; S-671: Strategic Analysis; S-674: Competitive Analysis; S-73: Identifying Strategies)

## SECTION 2: CUMULATIVE AGGREGATE-LEVEL AoL RESULTS

The results below are separated by educational level. The summary table provides descriptive statistics for the entire assessment period.

The compiled data derived from percentage correct scores at the student-level. This is similar to a typical test where a score of 60% means a student earned 60% of the total possible points. Several benchmarks are also provided, which present the percentage of students scoring above a certain threshold (e.g., above a 50% correct threshold). Note that by design Comp-XM is moderate-to-high in difficulty (average overall Comp-XM scores hover around 61% as seen in the national averages).

### *MBA Program Aggregate AoL Results (Cumulative)*

<b>Learning Objectives: Students who graduate will...</b>
3A: ... perform quantitative analyses and apply advanced technological tools to solve complex business problems.
4A: ... be able to integrate knowledge across disciplines.

Cumulative	Goal 3A	Goal 4A
Mean	<b>58.33%</b>	<b>58.06%</b>
Std. Deviation	0.195	0.187
(National Averages)	(61.53%)	(60.59%)
Min	4.54%	5.69%
Max	92.89%	93.66%
N	474	474
Percentage of Students Above 50%	71.1%	67.7%
Percentage of Students Above 60%	53.6%	52.1%
Percentage of Student Above 70%	35.0%	31.6%
Percentage of Student Above 75%	23.6%	22.2%
Percentage of Student Above 80%	14.6%	13.7%
Percentage of Student Above 90%	2.3%	2.3%

*Undergraduate Program Aggregate AoL Results (Cumulative)*

<b>Learning Objectives: Students who graduate will...</b>
1A: ...recognize and integrate foundation knowledge across functional areas.
1B: ... apply critical thinking skills to solve business problems.

<b>Cumulative</b>	<b>Goal 1A</b>	<b>Goal 1B</b>
Mean	<b>60.13%</b>	<b>58.94%</b>
Std. Deviation	0.173	0.174
(National Averages)	(59.98%)	(60.07%)
Min	8.04%	5.21%
Max	97.38%	95.34%
N	2031	2031
Percentage of Students Above 50%	73.6%	71.0%
Percentage of Students Above 60%	55.2%	52.3%
Percentage of Student Above 70%	33.8%	32.1%
Percentage of Student Above 75%	24.1%	21.9%
Percentage of Student Above 80%	14.7%	12.7%
Percentage of Student Above 90%	2.9%	2.3%

### SECTION 3: ANNUAL AGGREGATE-LEVEL AOL RESULTS

The results below are separated by educational level. The summary tables provide descriptive statistics for each assessment year. The compiled data derived from percentage correct scores at the student-level. This is similar to a typical test where a score of 60% means a student earned 60% of the total possible points. Several benchmarks are also provided, which present the percentage of students scoring above a certain threshold (e.g., above a 50% correct threshold).

#### *MBA Program Aggregate AoL Results (Annual)*

<b>Learning Objectives: Students who graduate will...</b>
3A: ... perform quantitative analyses and apply advanced technological tools to solve complex business problems.
4A: ... be able to integrate knowledge across disciplines.

	2014	2015	2016		2014	2015	2016
	Goal 3A	Goal 3A	Goal 3A		Goal 4A	Goal 4A	Goal 4A
Mean	68.21%	56.05%	53.78%		67.78%	54.26%	53.58%
Std. Deviation	0.151	0.151	0.205		0.146	0.146	0.191
Min	18.61%	21.72%	4.54%		23.29%	22.02%	5.69%
Max	91.15%	84.40%	92.89%		92.01%	81.30%	92.66%
N	95	56	287		95	56	287
Pct of Students Above 50%	91.6%	69.6%	61.0%		86.3%	58.9%	59.2%
Pct of Students Above 60%	73.7%	42.9%	44.3%		73.7%	41.1%	41.8%
Pct of Student Above 70%	54.7%	19.6%	27.5%		50.5%	16.1%	23.7%
Pct of Student Above 75%	43.2%	12.5%	17.4%		36.8%	10.7%	15.3%
Pct of Student Above 80%	28.4%	5.4%	11.5%		22.1%	5.4%	10.8%
Pct of Student Above 90%	1.1%	0.0%	2.4%		4.2%	0.0%	1.0%

*Undergraduate Program Aggregate AoL Results (Annual)*

<b>Learning Objectives: Students who graduate will...</b>
1A: ...recognize and integrate foundation knowledge across functional areas.
1B: ... apply critical thinking skills to solve business problems.

	2013	2014	2015	2016		2013	2014	2015	2016
	Goal 1A	Goal 1A	Goal 1A	Goal 1A		Goal 1B	Goal 1B	Goal 1B	Goal 1B
Mean	53.05%	64.72%	63.20%	57.56%		51.48%	63.77%	62.56%	55.47%
Std. Deviation	0.159	0.173	0.161	0.176		0.162	0.169	0.159	0.179
Min	10.88%	8.53%	8.38%	8.04%		11.86%	8.99%	5.21%	6.60%
Max	88.25%	97.38%	94.96%	94.92%		89.66%	94.52%	95.34%	91.87%
N	534	612	577	308		534	612	577	308
Pct of Students Above 50%	61.2%	80.1%	80.9%	68.5%		56.2%	79.2%	80.9%	62.0%
Pct of Students Above 60%	36.7%	64.5%	65.7%	49.4%		33.3%	64.1%	62.4%	43.2%
Pct of Student Above 70%	17.2%	46.1%	39.9%	26.9%		15.0%	43.6%	38.5%	26.9%
Pct of Student Above 75%	11.6%	35.6%	26.3%	18.8%		9.9%	31.4%	25.3%	17.5%
Pct of Student Above 80%	4.7%	22.1%	17.0%	13.0%		4.7%	19.8%	13.9%	10.4%
Pct of Student Above 90%	0.0%	4.7%	3.5%	2.9%		0.2%	4.2%	2.6%	1.6%



#### SECTION 4: POTENTIAL AREAS OF INTERVENTION FOCUS

This section indicates topics that may warrant attention. For example, these areas might suggest future interventions to improve mastery and subsequent AoL results. To improve efficiency and comprehension, emphasis is given to the topics assessed by the test questions in Comp-XM when identifying potential areas for improvement. Areas of concern are labeled as “high” or “moderate.” These markers are based on comparisons with the Comp-XM database. CSU-EB averages that are more than 10% lower than the population average are marked as “high.” CSU-EB averages that are in the range of 5-9% lower the population average are marked as “moderate.”

These data are from the entire assessment period. Future reports can be delivered annually and include a single year of results. Note that *only* areas of concern are shown. A full list of CSU-EB averages across all test questions is available upon request. The test questions in the tables below are contained in Appendix A.

##### MBA Program

<b>Learning Objectives: <i>Students who graduate will...</i></b>
3A: ... perform quantitative analyses and apply advanced technological tools to solve complex business problems. <b>(18 items total)</b>
4A: ... be able to integrate knowledge across disciplines. <b>(35 items total)</b>

Learning Goal/Objective	Test Question Label and Topic	Potential Concern
3A & 4A	F-260: Calculating Dividend Yield	High
4A	M-334: Forecasting	High
4A	O-322: Operational Impact of Unit Margin	High
4A	P-328: Cost of Right-Sizing Plant	High
4A	P-682: Plant Utilization	High
3A & 4A	A-94: Understanding the Accounting Equation	Moderate
3A & 4A	A-320: Calculating Book Value	Moderate
3A & 4A	A-389: Understanding Item Carrying Values on the Balance Sheet	Moderate
3A & 4A	A-290: Identifying Fixed vs. Variable Costs	Moderate
3A & 4A	F-267: Calculating Simple Ratios	Moderate
3A & 4A	F-274: Calculating Ratios from the Annual Report	Moderate
3A & 4A	F-301: Calculating Stock Repurchase	Moderate
4A	H-324: Calculating Training Costs	Moderate
4A	H-326: Calculating Separation Costs	Moderate
4A	M-308: Identifying Marketing Efficiency	Moderate
4A	M-343: Creating Marketing Budgets	Moderate
4A	M-354: Identifying Price Elasticity	Moderate
4A	P-258: Capacity Analysis	Moderate

*Undergraduate Program*

<b>Learning Objectives: Students who graduate will...</b>
1A: ...recognize and integrate foundation knowledge across functional areas. <b>(35 items total)</b>
1B: ... apply critical thinking skills to solve business problems. <b>(11 items total)</b>

<b>Learning Goal/Objective</b>	<b>Test Question Label and Topic</b>	<b>Potential Concern</b>
1A	A-389: Understanding Item Carrying Values on the Balance Sheet	High
1A	F-260: Calculating Dividend Yield	High
1A	M-334: Forecasting	High
1B	S-73: Identifying Strategies	High
1A	F-115: DuPont Analysis	Moderate
1A	F-267: Calculating Simple Ratios	Moderate
1A	H-326: Calculating Separation Costs	Moderate
1A	M-346: Identifying Competitors Using the "Four P's"	Moderate
1A & 1B	M-349: Demand Analysis	Moderate
1A & 1B	O-322: Operational Impact of Unit Margin	Moderate
1A & 1B	P-258: Capacity Analysis	Moderate
1A	P-682: Plant Utilization	Moderate
1B	S-671: Strategic Analysis	Moderate

## SECTION 5: COMMON DIAGNOSTIC QUESTIONS

Below are several common questions that can be discussed when interpreting AoL results for “closing the loop.” These questions are intended to be diagnostic in nature and help to guide the choice of subsequent curricular or co-curricular interventions based on AoL results.

*Where in our curriculum is the focal topic specifically addressed?*

- E.g., specific courses and the module(s) in those courses

*How is the focal topic currently addressed? Is it discussed in a similar manner (or context) to Comp-XM?*

- E.g., lecture only, homework, in-class exercise

*Is the focal topic tested earlier in the curriculum? If yes, how is it assessed?*

- E.g., Essays, exams, oral presentations;

*How important is the need to improve student mastery of the focal topic?*

- E.g., Topic is mission-driven and/or program-specific; “nice to improve” or a “must improve”

*How much improvement (gain) would we like to see in the future?*

- E.g., Any gain would suffice or need to see significant upward movement?

*Are we interested in measuring for proficiency or for growth in the focal topic?*

- E.g., Proficiency entails endpoint measurement only (as in a capstone class), whereas growth necessitates two measurement time points (as in a pretest and posttest); measuring for growth can often lessen concerns about overall proficiency level because changes in student mastery are the emphasis.

*Given the focal topic is deemed important, what curricular interventions work best for us (efficient and effective)?*

- Common curricular interventions include:
  - Changing admission requirements
  - Program revisions (e.g., a new course)
  - Within-course revisions (e.g., new content, exercises, homework, etc.)

*Given the focal topic is deemed important, are there any co-curricular interventions we could implement?*

- Common curricular intervention include:
  - Formal orientation activities or ‘boot camps’ (e.g., Excel workshop, math skills brush-up, etc.)
  - Career center support (e.g., skill assessments, career counseling, additional instruction, etc.)
  - Invited speaker series (e.g., executive briefings on a given topic)

## APPENDIX A: QUESTION KEY FOR “POTENTIAL CONCERN” ITEMS

The question key below shows only items that were identified in Section 4 as “potential concerns.” These items may suggest areas for future interventions to improve mastery and subsequent AoL results. Correct responses are marked with “X.”

To ensure test security, please do not distribute this key.

### F-115: DuPont Analysis

This year Baldwin achieved an ROE of 43.4%. Suppose the Board of Directors of Baldwin mandates that management take measures to increase financial Leverage (=Assets/Equity) next year. Assuming Sales, Profits, and Assets remain the same next year, what effect would you expect this new Leverage policy will have on Baldwin ROE?

- ☐ Baldwin ROE will decrease.
- ☒ Baldwin ROE will increase.
- ☐ Baldwin ROE will remain the same.

### F-260: Calculating Dividend Yield

Currently Chester is paying a dividend of \$3.65 (per share). If this dividend were raised by \$3.64, given its current stock price what would be the Dividend Yield?

- ☐ 8.7% [current yield]
- ☐ \$7.29 [dividends + \$3.64]
- ☐ \$3.64 [\$3.64]
- ☒ 17.5% [new yield]

### F-267: Calculating Simple Ratios

What is the Working Capital of Chester?

- ☒ \$33,670 [current assets - current liabilities]
- ☐ -\$14,924 [current assets - total equity]
- ☐ -\$33,670 [current liabilities - current assets]
- ☐ \$48,594 [total equity - current liabilities]

### F-274: Calculating Ratios from the Annual Report

Chester has a leverage of 1.91

This means that:

(Assume leverage is calculated as Assets/Equity)

- ☒ \$1.91 of assets is funded with \$1.00 of equity and \$0.91 of debt.
- ☐ \$1.91 of assets is funded with \$1.00 of debt and \$0.91 of equity.
- ☐ Assets are funded with 91% debt.
- ☐ Assets are funded with 91% equity.

### F-301: Calculating Stock Repurchase

If Chester Corp. were to buy all of its shares outstanding at its current price, how much would it cost Chester Corp, excluding brokerage fees?

- ☒ \$239 million [Shares Outstanding \* Stock Price]
- ☐ \$109 million [Shares Outstanding \* Book Value]
- ☐ \$32 million [Shares Outstanding \* EPS]
- ☐ \$348 million [Shares Outstanding \* (Book Value + Stock Price)]

**A-94: Understanding the Accounting Equation**

The Andrews company currently has the following balances in their equity accounts:

- Common Stock      \$11,192
- Retained earnings    \$57,450

Suppose next year the Andrews company generates \$46,300 in Net Profit, and declares and pays \$16,000 in Dividends. What will Andrews ending balance in Retained Earnings be next year?

- ☐ \$57,492 [paid-in capital + net income]
- ☐ \$84,642 [paid-in capital + retained earnings + dividends]
- ☒ \$87,750 [retained earnings + net profit - dividends]
- ☐ \$68,642 [paid in capital + retained earnings]

**A-290: Identifying Fixed vs. Variable Costs**

On the Income Statement, which of the following would be classified as a variable cost?

- ☒ Direct Labor Expense
- ☐ R&D Expense
- ☐ Promotion Expense
- ☐ Depreciation Expense

**A-320: Calculating Book Value**

The Chester's balance sheet has \$76,011,000 in equity. Further, the company is expecting \$3,000,000 in net income next year. Assuming no dividends are paid and no stock is issued, what would their Book Value be next year?

- ☐ \$31.47 [(Equity + 3 million) / shares outstanding]
- ☐ \$30.28 [Equity / shares outstanding]
- ☐ \$68.45 [Total assets / shares outstanding]
- ☒ \$18.44 [(Retained earnings + 3 million) / shares outstanding]

**A-389: Understanding Item Carrying Values on the Balance Sheet**

The Digby Company has just purchased \$45,854,000 of plant and equipment that has an estimated useful life of 15 years. Suppose at the end of 15 years this plant and equipment can be salvaged for \$4,585,400 (1/10th of its original cost). What will be the book value of this purchase (excluding all other Plant and Equipment) after its first year of use? Use generally accepted (FASB) accounting principles.

- ☐ \$41,268,600 [plant-salvage value]
- ☒ \$43,102,760 [(plant-salvage)\*14/15+salvage]
- ☐ \$42,797,067 [plant\*14/15]
- ☐ \$38,517,360 [(plant-salvage)\*14/15]

**M-308: Identifying Marketing Efficiency**

Which company has the least efficient SG&A/Sales ratio?

- ☐ Andrews [incorrect company]
- ☐ Baldwin [incorrect company]
- ☐ Chester [incorrect company]
- ☒ Digby [correct company]

**M-334: Forecasting**

Drat is a product of the Digby company. Digby's sales forecast for Drat is 2661 units. Digby wants to have an extra 10% of units on hand above and beyond their forecast in case sales are better than expected. (They would risk the possibility of excess inventory carrying charges rather than risk lost profits on a stock out.) Taking current inventory into account, what will Drat's Production After Adjustment have to be in order to have a 10% reserve of units available for sale?

- ☐ 2661 units [forecast amount]
- ☐ 2927 units [forecast \* 1.1]
- ☐ 2286 units [forecast - inventory]
- ☒ 2552 units [1.1 \* forecast - inventory]

**M-343: Creating Marketing Budgets**

Baldwin's Elite product Bold has an awareness of 72%. Baldwin's Bold product manager for the Elite segment is determined to have more awareness for Bold than Andrews' Elite product Abby. She knows that the first \$1M in promotion generates 22% new awareness, the second million adds 23% more and the third million adds another 5%. She also knows one-third of Bold's existing awareness is lost every year. Assuming that Abby's awareness stays the same next year (77%), out of the promotion budgets below, what is the minimum Baldwin's Elite product manager should spend in promotion to earn more awareness than Andrews' Abby product?

- ☒ 2M  $[(.67*.72)+.26(1\text{M spent})+.15(1\text{M spent})=.88(2\text{M spent})]$
- ☐ Nothing [Nothing]
- ☐ 1M [1M]
- ☐ 3M [3M]

**M-346: Identifying Competitors Using the Four P's**

Demand is created through meeting customer buying criteria, credit terms, awareness (promotion) and accessibility (distribution). According to the Thrift segment's customers, which of these products was the most competitive at the end of last year?

- ☒ Bam [Product that earned the highest Dec. Cust. Survey score]
- ☐ Bell [Product that earned the most market share]
- ☐ Cell [Product that earned the lowest Dec. Cust. Survey score]
- ☐ Art [Product that has highest awareness]

**M-349: Demand Analysis**

City is a product of the Chester company which is primarily in the Nano segment, but is also sold in another segment. Chester starts to create their sales forecast by assuming all policies (R&D, Marketing, and Production) for all competitors are equal this year over last. For this question assume that all 708 of units of City are sold in the Nano segment. If the competitive environment remains unchanged what will be the City product's demand next year (in 000's)?

- ☐ 1614  $[2 * (\text{last years sales} * \text{growth rate})]$
- ☒ 807  $[\text{last years sales} * \text{growth rate}]$
- ☐ 757  $[(\text{last years sales} + (\text{last years sales} * \text{growth rate}))/2]$
- ☐ 708 [last years sales]

**M-354: Identifying Price Elasticity**

In order to sell a product at a profit the product must be priced higher than the total of what it costs you to build the unit, plus period expenses, and plus overhead. At the end of last year the broad cost leader Chester had an Elite product Cozy. Use the Inquirer's Production Analysis to find Cozy's production cost (labor + materials). Exclude possible inventory carrying costs. Assume period expenses and overhead total 1/2 of their production cost. What is the minimum price the product could have been sold for to cover the unit cost, period expenses, and overhead?

- ☒ ( X ) \$33.95 [Material + labor \* 1.5]
- ☐ ( ) \$22.63 [Material + labor]
- ☐ ( ) \$11.32 [Labor + material]
- ☐ ( ) \$35.00 [Current Price]

**P-258: Capacity Analysis**

Your Competitive Intelligence team reports that a wave of product liability lawsuits is likely to cause Chester to pull the product Cell entirely off the market this year. Assume Chester scraps all capacity and inventory this round, completely writing off those assets and escrowing the proceeds to a settlement fund, and assume these lawsuits will have no effect on any other products of Chester or other companies. Without Chester's product Cell how much can the industry currently produce in the Core segment? Consider only products primarily in the Core segment last year. Ignore current inventories. Figures in thousands (000).

- ☐ ( ) 5,644 [Next year's industry demand - Bid capacity]
- ☐ ( ) 2,379 [Segment sales - NCL sales]
- ☐ ( ) 3,170 [Sum of next round capacities - NCL's]
- ☐ ( ) 5,826 [Last years demand - NCLs capacity]
- ☐ ( ) 6,494 [Next year's industry demand - NCL capacity]
- ☒ ( X ) 6,340 [2\*(Sum of next round capacities - NCL's)]
- ☐ ( ) 4,976 [Last years demand - 2\*NCLs capacity]

**P-328: Cost of Right-Sizing Plant**

The Baldwin company will sell 100 units (x1000) of capacity from their Baker product line. Each unit of capacity is worth \$6 plus \$4 per automation rating. The Baldwin company will sell the capacity for 35% off. How much do they receive when the capacity is sold?

- ☐ ( ) \$1,430,000 [100 \* 1000 \* (\$6 + \$4 \* automation) \* .55]
- ☐ ( ) \$910,000 [100 \* 1000 \* (\$6 + \$4 \* automation) \* .35]
- ☒ ( X ) \$1,690,000 [100 \* 1000 \* (\$6 + \$4 \* automation) \* .65]
- ☐ ( ) \$2,600,000 [100 \* 1000 \* (\$6 + \$4 \* automation)]

**P-682: Plant Utilization**

The Baldwin company wants to decrease its plant utilization for Boat by 15%. How many units would need to be produced next year to meet this production goal? Ignore impact of accounts payable on plant utilization.

- ☒ ( X ) 1,556 [Capacity next round \* (current plant utilization - .15)]
- ☐ ( ) 1,683
- ☐ ( ) 1,811
- ☐ ( ) 1,322

**O-322: Operational Impact of Unit Margin**

Of Chester Corporation's products, which earned the highest Net Margin as a percentage of its sales?

- ☒ Cell [Product name with the highest net margin percentage]
- ☐ Cone [Other product name]
- ☐ Cat [Other product name]
- ☐ Creak [Other product name]

**H-324: Calculating Training Costs**

The Digby company will continue to train their existing workforce at their current level to help reduce turnover and improve productivity next year. Employee training costs \$20 per hour. How much would their training costs per employee be to the nearest dollar?

- ☒ \$800 [Training hours \* \$20 per hour]
- ☐ \$1,821
- ☐ \$1,021
- ☐ \$400

**H-326: Calculating Separation Costs**

Chester Corp. is downsizing the size of their workforce by 10% (to the nearest person) next year from various strategic initiatives. How much will the company pay in separation costs if each worker receives \$5,000 when separated?

- ☒ \$210,000 [Complement \* decrease percentage \* \$5,000]
- ☐ \$1,870,000
- ☐ \$748,000
- ☐ \$84,000

**S-73: Identifying Strategies**

Which description best fits Baldwin? For clarity:

- A differentiator competes through good designs, high awareness, and easy accessibility.
- A cost leader competes on price by reducing costs and passing the savings to customers.
- A broad player competes in all parts of the market.
- A niche player competes in selected parts of the market.

Which of these four statements best describes your company's current strategy?

- ☒ Baldwin is a broad differentiator
- ☐ Baldwin is a broad cost leader
- ☐ Baldwin is a niche differentiator
- ☐ Baldwin is a niche cost leader

**S-671: Strategic Analysis**

Suppose the Digby company expands to other markets with good designs, high awareness and easy accessibility, what strategy would they be implementing?

- ☒ Broad differentiation
- ☐ Broad cost leader
- ☐ Niche differentiation
- ☐ Niche cost leader