Welcome to Comp-XM, an integrated evaluation tool that will allow you to demonstrate your business skills. Comp-XM has two sections: 1. A business simulation similar to the one you just completed and 2. A series of quizzes, called Board Queries, that ask questions related to your simulation environment.

The Simulation

You are the CEO of a new company, the Andrews Corporation. You will make four sets of decisions. Your competition, Baldwin, Chester and Digby, are run by computers. The computers create a level playing field—all participants go up against a standard set of competitors. As with your previous simulation, the quality of your decisions directly affects the position of your company. Performance is evaluated using a Balanced Scorecard, an analysis technique that gauges results across four areas.

- Financial
- Internal Business Process
- Customer
- Learning and Growth

Board Queries

Board Queries are web-based quizzes that relate directly to the results of your simulation. As CEO, you will report to the Board of Directors. The Board could ask up to five sets of questions, Board Queries, that are based on the results of your previous rounds. For example, the board might require you to conduct a break-even analysis on an increase in production automation or calculate the effect additional borrowing will have on your financial ratios. The questions use standard true-false, multiple choice and essay formats.

All the information needed to answer the queries appears within the pages of The Comp-XM Inquirer, an industry newsletter similar to The Capstone® Courier or The Foundation® FastTrack. In Comp-XM you work as an individual, which means all success will be attributed to your efforts. This is your chance to show your strategic vision, tactical abilities and business knowledge. Best of luck!

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1 Introduction

You have just been recruited to head the Andrews Corporation’s newest spin-off, the Andrews Comp-XM Corporation. The unit concentrates Andrews’ biometric sensor efforts into a new, publicly traded company.

1.1 What Is Comp-XM?

Comp-XM is familiar, yet different from your experience in Capstone or Foundation. You are the CEO. You will be making decisions on your own; you will not be a member of a team. Like Capstone or Foundation, Comp-XM uses a spreadsheet and a web interface. “Website Instructions” discusses the mechanics.

There are two parts to Comp-XM: A four-round simulation, and a series of web-based quizzes called Board Queries. Board Queries are questions posed by your Board of Directors. They are drawn from the unique results of your simulation. You could appear before the Board up to five times to answer their questions about your company.

Comp-XM Inquirer and Industry Conditions

All the information needed to answer the questions appears within the pages of The Comp-XM Inquirer, an industry newsletter that is similar to The Capstone Courier or The Foundation FastTrack. “Industry Conditions Report” summarizes the current state of the biometric market.

1.2 Workflow

Comp-XM has four decision rounds. Each round, you will enter a set of decisions via the Comp-XM Spreadsheet.

In the standard Comp-XM setup, each round you will also answer the Board Queries posed by the board of directors. At the end of the simulation, you will answer a fifth set of Board Queries, but no decisions will be required (Table 1.1). Decisions and Board Queries require the Comp-XM Inquirer.

Table 1.1 Standard Comp-XM Schedule

<table>
<thead>
<tr>
<th>Round</th>
<th>Activities</th>
<th>Material Needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Round 1 Decisions</td>
<td>Round 0 Comp-XM Inquirer</td>
</tr>
<tr>
<td>2</td>
<td>Round 2 Decisions</td>
<td>Round 1 Comp-XM Inquirer</td>
</tr>
<tr>
<td>3</td>
<td>Round 3 Decisions</td>
<td>Round 2 Comp-XM Inquirer</td>
</tr>
<tr>
<td>4</td>
<td>Round 4 Decisions</td>
<td>Round 3 Comp-XM Inquirer</td>
</tr>
<tr>
<td>Final</td>
<td>No Decisions</td>
<td>Round 4 Comp-XM Inquirer</td>
</tr>
</tbody>
</table>

Your instructor can configure Comp-XM to have fewer Board Queries.

1.3 Differences From Your Previous Simulation

Comp-XM has four market segments:

- Thrift
- Core
- Nano
- Elite

Comp-XM TQM (Total Quality Management)/Sustainability and Human Resources Modules are active in Round 1.

The segment circles start the simulation in the middle of the Perceptual Map before drifting to the lower right (Figure 1.1 - Figure 1.3).

Example! See your Industry Conditions Report for exact segment locations.
2 Scoring

Scoring occurs in two parts, the results of your Board Queries, and the results of your simulation, which are assessed via a Balanced Scorecard.

Comp-XM has 1000 possible points, 500 for your Board Query results and 500 for your Balanced Scorecard.

2.1 Board Queries

Board Queries are unique to each participant, although each question covers the same content. If a question applies to a product, the question might be posed about any of the products in the simulation.

Each simulation generates different numbers, so each question containing numbers varies by participant. Furthermore, product names and competitor assignments vary from participant to participant.

Here’s an example of a Comp-XM Board Query: You are asked to find the Net Margin for product Biff. Your classmate is asked to find the Net Margin for product Bold.

Both questions have the same level of difficulty, but the answers are based on different numbers.

2.2 Balanced Scorecard

Comp-XM uses a Balanced Scorecard for simulation scoring. A Balanced Scorecard is a common analysis technique that allows companies to gauge their current performance and formulate future goals. Balanced Scorecards are divided into four areas:

- Financial
- Internal Business Process
- Customer
- Learning and Growth

Each Comp-XM Scorecard is built from criteria which are assigned a weight—a level of importance. Criteria, weights and results for each round, and criteria, weights and results for a final overall scorecard, are available from the Dashboard.

As you enter decisions in the Comp-XM Spreadsheet, projections of the Balanced Scorecard results for the upcoming year are available via the proforma menu. Scores from previous years are available on the website; login to your simulation then click the Results/Scorecards link.

3 Decision Summaries

Decision entries are made with the Comp-XM Spreadsheet, which is similar to the Capstone Spreadsheet and the Foundation Spreadsheet. Please refer to your Capstone or Foundation Team Member Guide for general information.

All Comp-XM simulations utilize the Human Resources and TQM (Total Quality Management)/Sustainability modules. Decisions made in these modules can have wide ranging effects, including influencing product demand, R&D cycle times, productivity, material costs, labor costs and administrative costs.

TQM and Human Resource drive the Learning and Growth section of the Balanced Scorecard.

Human Resources decisions are made in two locations:

- The Workforce Complement is entered at the bottom of the Production area;
- Recruit Spend and Training decisions are made in the Human Resources area.

All TQM/Sustainability decisions are made in the TQM/Sustainability area.

3.1 Research & Development

3.1.1 Positioning Costs

Material costs are also driven by positioning (Figure 3.1). The higher the technology, the higher the cost. At the beginning of the simulation, the trailing edge of the Thrift segment has the lowest cost, at $1.00; the leading edge of the Nano and Elite segments have the

![Figure 3.1 Material Positioning Costs](image-url)

Figure 3.1 Material Positioning Costs: These costs vary depending on the product’s relative location on the perceptual map. For example, at the start of Round 1, products placed at the trailing edge of the Thrift segment would have a positioning component cost of $1.00; products placed at the leading edge of the two high technology segments would have a positioning component cost of $9.25. Material component costs drop 3% to 4% per year.
Comp-XM uses a straight line depreciation method calculated over fifteen years.

### 3.3 Second Shift/Overtime
Labor costs increase 50% when a second shift is hired or when the first shift works overtime.

### 3.4 Automation
Increasing automation has a linear effect on labor costs. Between an automation of 1.0 (lowest) to 10.0 (highest), labor costs fall approximately 10% for each point of automation.

### 3.4 Finance

#### 3.4.1 Stock
Stock issues are limited to 20% of the company’s outstanding shares. You pay a 5% brokerage fee to issue stock.

#### 3.4.2 Current Debt
These are one year bank notes. Bankers will loan current debt up to about 75% of your accounts receivable (found on last year’s balance sheet) and 50% of this year’s inventory. They estimate your inventory for the upcoming year by examining last year’s income statement. Bankers assume your worst case scenario will leave a three to four month inventory, and they will loan you up to 50% of that amount. This works out to be about 15% of the combined value of last year’s total direct labor and total direct material, which display on the income statement.

There is no brokerage fee for current debt.

#### 3.4.3 Bonds
These 10 year notes carry an interest rate 1.4% higher than the current debt rate in the year they were issued. Bondholders are willing to lend amounts up to 80% of the depreciated value of the company’s plant and equipment, that is, the assembly lines. You pay a 5% brokerage fee to issue bonds.

Companies with better Bond Ratings have lower interest rates.

If your company runs out of cash, you will receive an emergency loan, which carries a 7.5% penalty above the Current Debt interest rate. Emergency loans convert to Current Debt in the following year.

### 3.5 Human Resources

#### 3.5.1 Recruiting
Investing in recruiting a better quality employee increases productivity and decreases turnover, which will reduce your labor costs.

highest costs, at $9.25. Positioning material costs decrease 3% to 4% per year.

### 3.1.2 MTBF (Mean Time Before Failure)
Each 1,000 hours of reliability (MTBF) adds $0.30 to the material cost. A product with 20,000 hours reliability includes $0.30 * 20,000/1000 = $6.00 in reliability costs.

### 3.1.1 MTBF (Mean Time Before Failure)
Each 1,000 hours of reliability (MTBF) adds $0.30 to the material cost. A product with 20,000 hours reliability includes $0.30 * 20,000/1000 = $6.00 in reliability costs.

### 3.2 Marketing

#### 3.2.1 Promotion Budget
Promotion expenditures reach diminishing returns at $3,000,000 for each product. Promotion buys awareness. You lose one third of your old awareness each year. Your promotion budget replaces lost awareness, and if the budget is high enough, makes gains towards 100% awareness. When a product reaches 100% awareness, promotion budgets of about $1,400,000 are needed to maintain it.

#### 3.2.2 Sales Budget
Sales budgets buy segment accessibility. Although you budget by product, any product within the segment’s fine cut contributes to accessibility. Diminishing returns are reached at a budget of $3,000,000 for each product. Diminishing returns in the segment, however, are not reached until $4,500,000. You need at least two products in the segment’s fine cut to reach 100% accessibility. You lose one third of your old accessibility each year. Your sales budgets replace lost accessibility, and if the budgets are high enough, make gains towards 100% accessibility. When a segment reaches 100% accessibility, sales budgets of about $3,300,000 are needed to maintain it.

Sales budgets also allocate the time spent by the sales force selling the product. The higher the budget, the more time the sales force gives to the product. This can be useful if you wish to emphasize one product over another within the same segment. For example, if you are splitting a combined $4,000,000 sales budget between two products, you might spend $3,000,000 with one and $1,000,000 with the other. Your salespeople would emphasize one product over the other.

### 3.3 Production

#### 3.3.1 Plant Purchases
Floor space for each unit of capacity is $6.00. Add $4.00 for each point of automation. Additional capacity at an automation rating of 10.0 would cost $6.00 + ($4.00 * 10.0) = $46.00 per unit.

#### 3.3.2 Plant Sales
When you sell plant, you get $0.65 on each original dollar. Depending on the depreciated value of the plant, you could make a gain or a loss on the sale which will appear as a gain or loss on the income statement.
Human Resources Entries

3.5.2 Training
Investing in training also increases productivity and decreases turnover. Each year, you can assign up to 80 hours of training per employee, which increases productivity. Each training hour costs $20.00. When employees are in training they are replaced with other employees, so the Needed Complement will increase as training hours increase. The effect of investing in training is cumulative.

3.6 Human Resources Entries
Workforce Complement entries are made in the Production area.

Workforce Complement controls the number of workers employed by the company. Once production schedules are complete, the spreadsheet will display a Needed Complement. Matching the Workforce Complement to the Needed Complement ensures the company will have sufficient workers.

Having more workers than needed drives up labor costs as workers stand around doing nothing. Having fewer workers than needed results in worker overtime, which cuts into the efficiency of the workforce. Having significantly fewer workers than necessary will result in serious production shortfalls because labor will not be available to manufacture the sensors.

Recruit Spend and Training Hour entries are made in the Human Resources area.

Recruit Spend allows the company to attract a higher caliber worker, which will increase the efficiency of the workforce as measured by the Productivity Index.

Training Hours will also increase efficiency. However, Training Hours increase the Needed Complement because workers are in the classroom, not on the production lines.

Investments in Recruiting and Training raise your Productivity Index, which in turn lowers your per unit labor costs. Scheduling overtime reduces any gains to the Productivity Index. The Productivity Index cannot go below 100%. Refer to the red flags on the Production and Human Resources spreadsheets, which activate pop-up explanation windows, for a thorough discussion of Human Resources entries.

3.7 TQM/Sustainability
The TQM (Total Quality Management)/Sustainability Module allows companies to invest in several initiatives. Different initiatives return different benefits. For example, some initiatives will reduce labor and material costs, others will reduce R&D cycle time (allowing you to re-engineer products faster), and others will increase product appeal or decrease administration costs. You don’t have to invest in all initiatives.

Differentiators might want to reduce R&D cycle times, to ensure their products are newer and better positioned. Cost leaders might want to reduce material and labor costs, allowing them to reduce prices while maintaining their margins.

The return on investment follows an S-curve (Figure 3.2). If you spend too little or too much the returns on your investment are poor. If you spend less than $500,000 in any initiative in a single round chances are you will see little return. An investment of $1,500,000 in a single round produces a cost-effective impact, investments over $1,500,000 become dollar for dollar less effective. Finally, for each initiative, an investment over $2,000,000 in a single round produces absolutely no additional benefit.

For each impact, complementary initiatives combine together to increase the total effect. You should bundle your investments in multiple initiatives that have an impact important to your company’s strategy. By spreading your investment among complementary initiatives you can invest more in each impact than the limit of $2,000,000 for an individual initiative. For example, to reduce material costs, companies should consider investing in both CPI Systems and GEMI TQEM Sustainability.

Aggressive spending in each initiative would involve spending $1,500,000 in year 1, $1,500,000 in year 2, and $1,000,000 in year 3.

The Best Case/Worst case table gives an indication of the return on investment. The impact is cumulative so cost reductions will continue in future years.

Refer to the flags on the TQM/Sustainability spreadsheet for a thorough discussion of TQM/Sustainability entries.
4 Industry Conditions Report

In the next four years, the biometric sensor market will see a 59% increase in unit demand. Growth rates vary among the four market segments – Thrift, Core, Nano, and Elite.

The biometric sensor industry is a fast growing sector of the larger sensor industry:

- Andrews Comp-XM Corporation has three competitors, biometric business units of Baldwin, Chester, and Digby Corporations—these companies have well established strategic directions;
- There are four segments;
- There are no labor unions but there are opportunities to invest in Human Resources;
- Some companies have been investing in TQM (Total Quality Management)/Sustainability.

As CEO you will be responsible for the strategic direction of the Andrews Comp-XM business unit and its tactical execution.

At the beginning of every year, the board of directors will ask you to respond to a set of questions about your situation. The questions will be drawn from recent activities within the industry as described in last year’s results and from the situation that you expect to develop over the next year.

After satisfying the board’s questions, you will execute your plan by making operational decisions in Research & Development (R&D), Marketing, Production, Human Resources, TQM/Sustainability and Finance. Your results will be assessed with a Balanced Scorecard.

4.1 Market Segments

The biometric sensor market evolved from two original markets, a low technology segment and a high technology segment. The original low tech segment split into Thrift and Core. The original high tech segment split into Nano and Elite. Because of this evolution, the segments are less distinct than the segments in your former business. Straddling two segments with a product is still viable, although you can expect straddling to become more difficult as the market evolves (see Figures 1.1 - 1.3).

Each market segment expects different:

- Positioning
- Age
- Price
- MTBF (Mean Time Before Failure)

Price, Age and MTBF ranges for each segment hold steady year after year. Positioning expectations advance steadily every month.

Thrift Segment Criteria

Thrift customers seek proven products, are indifferent to technological sophistication and are price motivated:

- Price, $14.00-$26.00—importance: 55%
- MTBF, 14,000-20,000—importance: 20%
- Ideal Position at the end of Round 0, (See Industry Conditions Report) — importance: 15%
- Age, 3 years—importance: 10%

Core Segment Criteria

Core customers seek proven products using current technology:

- Price, $20.00-$32.00—importance: 46%
- Age, 2 years—importance: 20%
- MTBF, 16,000-22,000—importance: 18%
- Ideal Position at the end of Round 0, (See Industry Conditions Report) — importance: 16%

Nano Segment Criteria

Nano customers seek cutting-edge technology that is small in size:

- Ideal Position at the end of Round 0, (See Industry Conditions Report) — importance: 35%
- Price, $28.00-$40.00—importance: 27%
- Age, 1 year—importance: 20%
- MTBF, 18,000-24,000—importance: 18%
**Growth Rates**

**4.3 Rough Cut / Fine Cut**

Positioning, Price, and Reliability work the same as they did at your last company. The segments drift every year. Rough cut and fine cut criteria still hold true for the Comp-XM industry. Your product designs must meet at least the rough cut criteria before earning sales.

**4.3.1 Segment Locations**

As is in the larger sensor industry, the market segments in the Comp-XM industry move to the lower right. The outer rough cut circles measure 4.0 units; the inner fine cut circles measure 2.5 units. The segment centers for each round are listed in Table 4.3.

<table>
<thead>
<tr>
<th>Coordinates</th>
<th>Rd 0</th>
<th>Rd 1</th>
<th>Rd 2</th>
<th>Rd 3</th>
<th>Rd 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thrift</td>
<td>6.5</td>
<td>7.0</td>
<td>7.5</td>
<td>8.0</td>
<td>8.5</td>
</tr>
<tr>
<td>Size</td>
<td>13.5</td>
<td>13.0</td>
<td>12.5</td>
<td>12.0</td>
<td>11.5</td>
</tr>
<tr>
<td>Core</td>
<td>8.2</td>
<td>9.0</td>
<td>9.8</td>
<td>10.6</td>
<td>11.4</td>
</tr>
<tr>
<td>Performance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Size</td>
<td>11.8</td>
<td>11.0</td>
<td>10.2</td>
<td>9.4</td>
<td>8.6</td>
</tr>
<tr>
<td>Nano</td>
<td>9.7</td>
<td>11.0</td>
<td>10.5</td>
<td>12.1</td>
<td>12.9</td>
</tr>
<tr>
<td>Performance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Size</td>
<td>8.6</td>
<td>7.5</td>
<td>6.4</td>
<td>5.3</td>
<td>4.2</td>
</tr>
<tr>
<td>Elite</td>
<td>11.4</td>
<td>12.5</td>
<td>14.7</td>
<td>15.8</td>
<td></td>
</tr>
<tr>
<td>Performance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Size</td>
<td>10.3</td>
<td>9.5</td>
<td>8.7</td>
<td>7.9</td>
<td>7.1</td>
</tr>
</tbody>
</table>

Segment Centers vary by exam. See the Industry Conditions report on your exam dashboard.

**4.3.2 Price**

Price ranges in each segment have held steady for the past four years and will continue to do so for the next four years (Table 4.4).

<table>
<thead>
<tr>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thrift</td>
<td>$14.00</td>
</tr>
<tr>
<td>Core</td>
<td>$20.00</td>
</tr>
<tr>
<td>Nano</td>
<td>$28.00</td>
</tr>
<tr>
<td>Elite</td>
<td>$30.00</td>
</tr>
</tbody>
</table>

Customers want the price of their product to lie within the expected range. As the price moves outside the expected range, demand for the product begins to fall. For each dollar outside the range, demand falls 16.7%. When price reaches $6.00 outside the range, demand reaches zero.

---

**Elite Segment Criteria**

Elite customers seek high reliability and cutting edge performance technology:

- Age, 0 years—importance: 34%
- Price, $30.00-$42.00—importance: 24%
- Ideal Position at the end of Round 0, (See Industry Conditions Report) —importance: 22%
- MTBF, 20,000-26,000—importance: 20%

**4.2 Growth Rates**

Growth rates differ among the segments. Thrift and Core are growing at a slower pace, 11.0% and 10.0%, than Nano and Elite, 14.0% and 16.0% (Figure 4.5).

**Figure 4.5 Yearly Increase In Unit Demand**

In the next four years, Thrift’s and Core’s percentage of the overall market will decline. Today, the number of units sold to the Nano segment is greater than those sold to the Elite segment (Table 4.1).

**Table 4.1 Last Year’s Unit Demand**

<table>
<thead>
<tr>
<th>Thrift</th>
<th>Core</th>
<th>Nano</th>
<th>Elite</th>
</tr>
</thead>
<tbody>
<tr>
<td>27.0%</td>
<td>35.3%</td>
<td>19.3%</td>
<td>18.4%</td>
</tr>
</tbody>
</table>

However, in four years, Elite’s unit sales will exceed Nano’s (Table 4.2).

**Table 4.2 Unit Demand Four Years From Now**

<table>
<thead>
<tr>
<th>Thrift</th>
<th>Core</th>
<th>Nano</th>
<th>Elite</th>
</tr>
</thead>
<tbody>
<tr>
<td>25.8%</td>
<td>32.6%</td>
<td>20.6%</td>
<td>21.0%</td>
</tr>
</tbody>
</table>
4.3.3 MTBF (Mean Time Before Failure)
Customers want reliability or MTBF to be within the ranges in Table 4.5. Within the range, the higher the reliability, the higher the demand. However, above the range customers are content and award no additional demand.

As the MTBF moves below minimum expectations, the product loses demand. For every 1,000 hours below the range, demand drops by 16.7%. At 6000 hours below the range, demand falls to zero.

<table>
<thead>
<tr>
<th>Segment</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thrift</td>
<td>14,000</td>
<td>20,000</td>
</tr>
<tr>
<td>Core</td>
<td>16,000</td>
<td>22,000</td>
</tr>
<tr>
<td>Nano</td>
<td>18,000</td>
<td>24,000</td>
</tr>
<tr>
<td>Elite</td>
<td>20,000</td>
<td>26,000</td>
</tr>
</tbody>
</table>

Customers are indifferent to products with MTBFs above the guideline.

4.3.4 Age
Customer age assessments vary from segment to segment, as shown in Figure 4.6. All other factors held constant, demand is highest when the age is at the ideal. For example, Core customers prefer products that are 2 years old.

4.3.5 Ideal Spots
For each segment, customers prefer products placed near the ideal spot, which is a position relative to the segment center (Table 4.6 and Figure 4.7).

<table>
<thead>
<tr>
<th>Segment</th>
<th>Performance</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thrift</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Core</td>
<td>+0.4</td>
<td>-0.4</td>
</tr>
<tr>
<td>Nano</td>
<td>+0.8</td>
<td>-1.1</td>
</tr>
<tr>
<td>Elite</td>
<td>+1.1</td>
<td>-0.8</td>
</tr>
</tbody>
</table>

Figure 4.6 Preferred Ages: Thrift and Core customers seek out proven technology. Thrift prefers products in the three year range and Core in the two year range. Nano and Elite customers demand the latest technology. Nano prefers products in the one year range and Elite wants cutting edge, brand new products.

Figure 4.7 Customers prefer products located in the darker areas. The darkest areas indicate the ideal spots. The inner fine cut circles have a radius of 2.5 units, the outer rough cut circles have a radius of 4.0 units. Thrift customers prefer products located in the center of the circle. Core customers prefer products located to the lower right of the circle center. Nano customers want products near the lower right edge of the circle, preferring smaller size over faster performance. Elite customers want products near the lower right edge of the circle, preferring faster performance over smaller size.
4.4 Seller’s Market

In a Seller’s Market, all the good products in a segment stock out. Desperate customers turn their attention to the remaining undesirable products (which may even target another segment), as long as they are within the rough cuts for price, MTBF and positioning.

Product sales are driven by the monthly Customer Survey Score (the December score is published in The Comp-XM Inquirer segment analysis pages). Any product with a score of 1 or more competes for sales—the higher the score, the higher the appeal. As a product approaches any of the rough cuts, its score falls towards 0.

Usually a product with very low appeal makes few sales. However, in a Seller’s Market, customers will accept marginal products as long as they fall within the rough cut limits. For example, desperate customers with no better alternatives will buy:

- A product priced $5.99 above the price range at $6.00 customers reach their tolerance limit and refuse to buy the product;
- A product with MTBF 5,999 hours below the range at 6,000 hours below the range customers refuse to buy the product;
- A product positioned just inside the rough cut circle on the perceptual map outside the circle they say “no” to the product.

5 Reports

Customer purchase and sensor company financial results are reported in an industry newsletter, The Comp-XM Inquirer. The Inquirer has three notable differences from your previous industry report:

- You can only view the most recent Inquirer;
- Your company’s annual report is accessed from the Inquirer;
- You now have access to your competitors’ annual reports.

The Inquirer is available from two locations:

- From the Comp-XM Dashboard, click the Comp-XM Inquirer link (see “6.2 Dashboard”);
- From the Comp-XM Spreadsheet, click the Reports link in the menu bar.

6 Website Instructions

Login to the website with the User ID and Password from your previous simulation. Select Comp-XM (Figure 6.1).

In the Getting Started area, view the brief introductory video in the Welcome section. Be sure to review the Sample Board Query in the About Board Queries section. Go through the remaining sections.

6.1 The Comp-XM Spreadsheet

In the Getting Set Up section, download the Comp-XM Spreadsheet to your computer (a web version of the spreadsheet is available from the Dashboard, see below).

- You will open the Comp-XM Spreadsheet as you did the Capstone or Foundation Spreadsheet;
- Enter the same User ID and Password you used to login to the website;
- The Comp-XM Spreadsheet requires an Internet connection—it retrieves your work from the website when it opens and sends your work to the website when you save decisions.

Use your User ID and Password from your Capstone or Foundation simulation to login to the Comp-XM Spreadsheet.

6.2 Dashboard

When you complete the Getting Started introduction, the system will bring you to the Exam Dashboard, an area where activities and information are accessed, including Board Queries and the web version of the Comp-XM Spreadsheet.
6.3 Answering Board Queries

Each round, your Board of Directors presents you with a set of questions. You can answer these questions before, during, or after you make decisions for your company (we recommend before):

- From the Dashboard, click the Answer Board Query button;
- A new window opens asking you to authenticate that you are the person taking the exam—click I Agree;
- Next, a list of Board Query questions appears on the left (Figure 6.2);
- A second link to the Inquirer is available from this window—you will need the Inquirer to answer most Board Query questions;
- To begin, click a question number in the column on the left (cursor, Figure 6.2);
- The associated question will appear on the right—questions will be either true-false, multiple choice or essay (some multiple choice questions require more than one selection);
- You do not have to answer the Board Query questions in any particular order—each question has a point value for correct answers (you can receive partial credit for some types of questions) and a check mark if you have already entered an answer;
- Answer each question;
- You can re-select a question if you wish to change the answer.

6.4 Round Schedules

To see round schedules, click the dates in the Dashboard’s Deadlines column.

Only the final deadline is enforced for self-paced exams.

If Comp-XM is not self-paced, the Dashboard will display:

- The date and time you can begin making simulation decisions and answering Board Queries;
- The date and time when simulation decisions and Board Query answers are due.

Figure 6.2 Board Query Input Screen
6.5 Self-Paced Exams

In self-paced mode, you make simulation decisions and answer Board Queries within a time frame established by your instructor.

6.5.1 Advancing Self-Paced Exams

The Dashboard displays your progress. For example, whether decisions have been uploaded in the current round or how many Board Query questions have been answered.

You will not be able to advance to the next round unless you have uploaded a set of decisions and answered at least one Board Query question. To advance from Round 1 to Round 2:

- On the Dashboard, click the Advance to Round 2 button;
- When the new page opens, click the button to confirm that you wish to advance to the next round.

You will not be able to change your answers or decisions for a round once you advance to the next round (for example, after you advance to Round 2, Board Query 1 will no longer be available and you will be working on Decision Set 2).
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