#### **Option #1: Critical Thinking: Quality at A1 Hotels**

A1 Hotels operates luxury hotels throughout the world. Recently, motivated by some incidents that appeared in the news, they have been concerned about the quality of service. The company has been giving the following survey to its clients after their stay:

1. **How would you rate the quality of your room? Select one.**

Good(G), Poor(P)

1. **How would you rate the quality of your food? Select one.**

Good(G), Poor(P)

1. **How would you rate the quality of your service? Select one.**

Good (G), Poor(P)

Any customer who answered "Poor" to at least one of the three questions above is considered to be "dissatisfied."

**Traditionally, 40% of customers have been dissatisfied**.

A1 Hotels would like to see if the **recent level of customer satisfaction** has changed. Therefore, **200 survey responses** were recently chosen at random for analysis. The complete data set is in the file named Hotels.

**Managerial Report**

Prepare a report (see below) for A1 Hotels that summarizes your assessment of customer satisfaction. Be sure to include the following *seven items* in your report.

**ADD CHARTS TO EXCEL WITH YOUR RESULTS CALCULATED TO SUBMIT X**

1. To summarize the data, compute the proportion of all clients that **X**
   1. Answered "Poor" to room quality.
      1. 0.21
   2. Answered "Poor" to food quality.
      1. 0.235
   3. Answered "Poor" to service quality.
      1. 0.27
2. What do these three proportions tell you about customer satisfaction at A1 hotels? What graphical displays of data would you use to understand or explain the results of the survey? **X**
3. What is the point estimate of the proportion of all **recent clients** who were "dissatisfied?" Develop the **92**% confidence interval for the proportion of all recent clients who were "dissatisfied." Interpret what the confidence interval tells you about the proportion of all recent clients who were "dissatisfied." What is the corresponding margin of error? How can the margin of error be decreased? **Recent dissatisfied: 0.42 X**
   1. Point estimate: 0.42121
      1. A point estimate represents our “best guess” of a population parameter.
   2. Confidence interval: (0.3589, 0.4811)
   3. Margin of error: 0.0611
4. Develop the 92% confidence interval for the proportion of all recent clients who answered "Poor" to room quality. Interpret what the confidence interval tells you about the proportion of all recent clients who answered "Poor" to room quality. What is the corresponding margin of error? How can the margin of error be decreased? **Room Quality P: 0.21 X**
   1. Point estimate: 0.21438 21.44%
   2. Confidence interval: (0.159, 0.261) 15.9% - 26.1%
   3. Margin of error: 0.051 5.1%
5. Develop the 92% confidence interval for the proportion of all recent clients who answered "Poor" to food quality. Interpret what the confidence interval tells you about the proportion of all recent clients who answered "Poor" to food quality. What is the corresponding margin of error? How can the margin of error be decreased? **Food Quality P: 0.235 X**
   1. Point estimate: 0.239 23.9%
   2. Confidence interval: (0.183, 0.287) 18.3% - 28.7%
   3. Margin of error: 0.052 5.2%
6. Develop the 92% confidence interval for the proportion of all recent clients who answered "Poor" to service quality. Interpret what the confidence interval tells you about the proportion of all recent clients who answered "Poor" to service quality. What is the corresponding margin of error? How can the margin of error be decreased? **Service Quality P: 0.27 X**
   1. Point estimate: 0.27347 27.35%
   2. Confidence interval: (0.2151, 0.3249) 21.51% - 32.49%
   3. Margin of error: 0.0549 5.5%
7. Conduct a hypothesis test, using both the **p-Value Approach X** **and the Critical Value Approach X**, to determine if the proportion of all recent clients is more dissatisfied than the traditional level of dissatisfaction. Use α = 0.08 level of significance. Do not forget to include the correctly worded hypothesis **X** and **show all of the steps required to conduct the hypothesis test**. X
   1. **What would be possible effects of a lower and then of a higher level of significance?**
   2. What other hypothesis tests would you use to better understand hotel customer satisfaction?
   3. **What advice would you give A1 Hotels based upon your analysis of the data?**
   4. What is the magnitude of the improvement (if any)?
   5. **How can this study be improved?**

Requirements:

1. Paper must be written in third person.
2. **Your paper should be four to five pages in length (counting the title page and references page)** and cite and integrate at least one credible outside source.
3. Include a title page, introduction, body, conclusion, and a reference page.
4. The body of your paper should answer the questions posed in the problem. Explain how you approached and answered the question or solved the problem, and, for each question, show all steps involved. Be sure this is in paragraph format, not numbered answers like a homework assignment.
5. The conclusion should summarize your thoughts about what you have determined from the data and your analysis, often with a broader personal or societal perspective in mind. Nothing new should be introduced in the conclusion that was not previously discussed in the body paragraphs.
6. **Include any tables of data or calculations, calculated values, and/or graphs associated with this problem in the body of your assignment.**