FUTURE SUPER TECH – QUESTIONS

Write your report to the President of Future Super Tech using the report guidelines found on the course web site and incorporating answers to the five questions below.

Q. 1. Statistics provided by developing countries are not always reliable. Data can be hard to gather and is sometimes reported incorrectly. From your analysis of Country Y, you conclude that citizens there average $1,000 per month in household disposable income. The Minister of Development for Country X says that disposable income is the same in his country. To see if the data supports this, your company has sampled 100 households from Country X and obtained data on household disposable income. Use the Excel file *ngi-data.xls*, found on the course website to:

a. Derive a frequency distribution of income

b. Create a histogram of income

c. Obtain and interpret the sample mean and standard deviation

d. Test the hypothesis, at the 5% significance level, that Country X also has a mean of $1,000

Q. 2. Suppose Country X’s government now reports that its population mean disposable household income is $900 per month, with a standard deviation of $100. Country Y’s population mean is $1,000, with a standard deviation of $300.

a. Which country has more variation in income? Explain using popular phrases, such as “gap between rich and poor.”

1. Each country defines the poverty level to be $750. If you assume that income has a normal distribution, find the probability that a household’s income is below the poverty level in

* + 1. Country Y
		2. Country X

Does it seem reasonable to assume a normal distribution? Is income symmetric or skewed?

Q. 3. In explaining why their country is an attractive place to invest, the Minister of Commerce from Country Y has argued that the political problems have been exaggerated and that fewer people have been imprisoned for political reasons than you have been led to believe. However, Amnesty International reports that one third of the prisoners in Country Y are political prisoners. A representative from your company visited a prison and sampled 500 prisoners in Country Y, concluding that 90 of them are political prisoners. Test the hypothesis, at the 5% significance level, that one third of the prisoners in Country Y are political prisoners. Does this data support the Minister of Commerce or Amnesty International? What other issues might be important when evaluating this data?

Q. 4. Based on their economic policies, evaluate the potential for growth in the two countries.

Q. 5. If you find that economic prospects are better in Country Y, should you invest there? Or, does your company have an obligation to support the more democratic political regime of Country X, even if it turns out that the returns to your firm will be lower? Be sure to include the ethical implications.