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Carnegie Mellon University
Strategic Corporate Management
45-870N M3 2013

ASSIGNMENT 2

This assignment is worth 30 percent of your final grade, and is due 11:30PM tomorrow night, Wednesday January 10. The data for this assignment come from the results of the Mini 4 class experiment, posted on the course website at:

http://comlabgames.com/45-870N/instructor/02_assignment/assignment.html

I strongly recommend that you form small groups to brainstorm and critique each other. Groups of up to four are admissible (in which case all students will be awarded the same grade), but no more than four in a group is permitted.

You completed assignment should be a short report**.** Every table should be explained so that the report is essentially self-contained**.** It is absolutely fine to repeat each question, or rephrase it as a statement, to begin your answer. I recommend a short introduction, and then using one paragraph to answer each question, numbering the paragraphs so that they correspond to the question numbers. Summarizing . . . introductory paragraph . . . 10 numbered paragraphs, plus tables and diagrams inserted into the text . . . pdf format.
Please email an electronic version of your report in pdf form before the deadline to me at ramiller@andrew.cmu.edu.

The data for this game are taken from the class data posted on the front page of the class website about the Bargaining Game between Walmart and Kmart.

1. What is the empirical distribution of Walmart's first offers? To answer this question, you may divide the bids into say five lots, very low, low, medium, high, very high. Every bid below one threshold would count as very low, whereas every bid above another threshold would count as very high. Then you should pick two numbers between the two thresholds. Now count the number of bids falling into each bin as a proportion of the total bids observed in the data. Show your results on a table and on a diagram of relative frequencies.

2. Next consider the bids that were not rejected by the FTC. What is the proportion of very low bids accepted? What is the proportion of low bids accepted? What is the proportion of medium bids accepted? And the answer for the other three categories is? Show your results on a table and on a diagram of relative frequencies. (If you wish to consolidate your tables and relative frequencies for Questions 1 and 2 that might help for the later comparisons).

3. Repeat the exercise for the second round, which might come from either player. This would be Walmart's second offer or Kmart's first offer, and you need to

consider Walmart and Kmart separately. First classify the bids by very low, . . . , very high, compute the relative frequencies, and report them in table and diagram form. Then compute the relative frequencies of acceptances. If there are too few bids in total, because too many have been accepted or outlawed by the FTC you are free to reduce the number of categories (say to 2: low, high) Make tables and graphs to illustrate your answer.

4. You have now produced an approximation to the empirical distribution of the class, both when it plays Walmart, and when it plays Kmart. Calculate the average net payoff to a Kmart player.

5. Calculate the average net payoff to a Walmart player.

6. What is the best response to the class behavior for Kmart (the empirical distribution generated by the class for Kmart) when you are playing Walmart?

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8. Calculate the average payoff to Walmart (you) if the behavior of Kmart is given by the rest of the class. How much to do you gain on average (as a Walmart player) from playing a best response rather than simply playing according to what the class played?

9. Calculate the average payoff to Kmart (you) if the behavior of Walmart is given by the rest of the class. How much to do you gain on average (as a Kmart player) from playing a best response rather than simply playing according to what the class played?

10. Explain in one carefully worded paragraph the reasoning and the benefit in this specific bargaining game from playing a best response to the empirical strategy of the class rather than simply playing the empirical strategy of the class.