Project 6

Group 7

Marisol Cerda, Artemis Maddox, Yesenia Padron

**Workbook User Guide**

This workbook is designed to support TV Commercial advertising budget decisions, such as how many drafts to commission, and how increased airing budget affects overall message effectiveness, for both the current fixed budget period and the next, possibly increased, budget period.

*Guide to Sheets*

* A hyperlink table to all the sheets in the workbook, the Guide to Sheets also indicates sheet dependencies and data flow

*Influence Chart*

* A graphical representation showing the relationships between variables. To accomplish the company’s objective ‘Ad Recall Lift’ we needed to consider all variables, including the extraneous variable, in our case the Ad Recall “Imperfect Memory Variable”. The diagram depicts the relationship between number of drafts, Final Ad Quality, Budget split-drafts/Airing, and the total budget. The company's final decision would be to add five percent increments to the airing budget.

*Assumptions*

* Given facts and relationships between those facts and other known constraints, such as the finite budget is split between airing costs (1 view = $1) and draft costs ($50,000 each), and the Imperfect Memory Constant, a measure of audience forgetfulness.

*Calculations*

* An equation was created in order to calculate how many drafts it may take to reach the highest ad recall/quality given a fixed budget. By using the following equation, we are able to find an estimate of next-day recall.
* Overall Quality Equation = Airing Views \* Thousands of Views lost per Draft ^ Imperfect Memory Constant.

*Results*

* The final outcomes of our calculated models, including a sensitivity analysis as to the optimal number of drafts with a fixed budget, as well as the uplift in ad quality and recall should the budget be increased

*Base-Case Analysis*

* The current ad budget of $1,000,000 is split with 5% going to 1 draft and 95% towards airing views. This gives a Recall Estimate of 950.

*What-if Analysis*

* What If analysis scenario: Will a change in total budget, change the Recall Estimate Percent Uplift.
* With an increase budget of 25%, the Recall Estimate % Uplift increased by 445% compared to its base-case value.
* With a decreased budget by 20% and by keeping the same number of drafts, we were able to get an uplift by 138% from the base-case value.

*Break-even Analysis*

* Since the optimal number of drafts is at 9, a sharp increase from 1, there may be some logistical difficulties in obtaining that many drafts. 9 drafts showed a 300% Recall Estimate Uplift, and Goal-Seek was used to find the number of drafts needed for a 200% increase.

*Decision Analysis*

* Non probabilistic: Maximax, Maximin, and Minimax Regret
* Probabilistic: Expected Value, Expected Regret
* Decision Tree: Choices are taken in steps. First we must determine the number of drafts to commission, then we can bring the possibility of a budget increase to the table.

*Project Management: Critical Path Method*

* The project is split into deciding how many drafts to commission, contacting and engaging various ad agencies, the agencies producing ad drafts, a run of all the drafts in front of a test audience, a run of all the drafts and the results of the test audience by company executives, and finally the initial run of the chosen commercial draft.
* The given chart is rendered for 5 drafts with an average completion time of 4 weeks, ranging from 2 to 6 weeks, but can be adapted to a different number of drafts as needed. The only slack in the model is between the finishing times of the different commissioned drafts.