

# **GB740 Final Project Proposal**

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## **Marketing Strategy Proposal**

People who want to join the actuarial field are pushed away due to the long drooling process of countless exams and exam preparation. The point for our marketing strategy is to promote the Wisconsin Actuarial Science Capstone Certificate as a way to give students the chance to pass these hard and costly exams by taking a series of courses and earning exam credits through success in those courses. Our primary message will be “Jump Start Your Actuarial Career with the Wisconsin Actuarial Science Capstone Certificate”, and we will focus mainly on the aspects of time and cost saving in our messaging, gathering success stories from the alumni of the program itself.

### **Medium**

Our medium will be displaying ads on social media platforms such as Meta and LinkedIn in the hope to target people interested in fields like actuarial science, risk management, math, or insurance. Social media will also allow us to target a younger audience.

### **Audience**

We hope to reach individuals that are either already in the field of finance, math, economics, or engineering or those that are currently studying these fields in their last years of undergrad because these types of people are the most likely to want to participate in our program. We would want to target the younger demographic as well because they are more likely to be in search of career advancements or complete shifts in careers.

We will find and reach our target audience through the use of advanced audience targeting tools on platforms such as meta and LinkedIn to cluster users based on demographics, interests, and professional background. An example of this would be to identify users who are a part of actuarial science groups/clubs or ones that follow insurance-related pages/people on social media.

## **Experimental Design**

### **Units of Randomization**

The units of randomization will be the dividing of potential people of interest into randomized groups for the targeted ads. One group could see simple ads that focus on the programs impact on actuarial careers while the other group sees ads related to the cost saving and exam-skipping.

We could link our outcomes to units of randomization in different ways. A very basic approach could be to add a brief survey at the application stage that asks the applicant how they learned about the program and whether or not they saw an ad campaign. Another slightly more advanced approach could be to use unique tracking code on the URLs of the ads that connect visits and applications directly to an ad group. This would ensure a clearer idea of the randomization of outcomes.

## **Treatments**

Treatment 1 will be a group which will see ads that highlight the program's benefits for actuarial science careers. The second treatment group will see ads that highlight the ability to skip the big exams and save time and money. The pure control group will not receive any ads which will help determine the baseline application rate in the absence of marketing efforts.

If the budget makes it difficult to have a large enough control group, we believe that it would be okay to allocate a smaller portion of the budget to the control group as long as it is still statistically significant to compare with treatment groups. Including a control group would likely provide valuable insights into the baseline performance and will demonstrate if advertising is cost-effective in driving applications.

## **Outcome Metrics**

Our key outcome metrics will be click rate on ads, interactions on social media posts (likes, comments, shares), users visiting the programs home page, applications to the program, and interest forms filled out. We can measure these outcomes through social media platform tools that can track the user interactions. The program's admission team can also track who has filled out applications or interest forms.

## **Evaluative Approach**

This experiment can be thought of as a policy evaluation experiment because we will be examining marketing techniques effectiveness in increasing program interest and enrollment. The idea is to actually end up using whichever method we find more effective to continue growing the program. Number of applications is our main outcome metric and it aligns perfectly with the stakeholder goals and gives a very clear idea of the effectiveness of the ads. The other outcome metrics will give good indicators to see engagement at different stages of the application process.

Our null hypothesis is that there is no significant difference in the effectiveness of the two different types of advertisements on increasing engagement with the capstone program. Our alternative hypothesis is that ads focusing on cost/time saving would result in higher engagement than the career focused ads. We will use a statistical test to calculate a t-statistic or run a regression to see the difference between the means of the two treatment groups.

## **Challenges**

There are a few challenges within our experiment. The first challenge is that the people targeted for the ads may not be completely randomized because of social media platforms prioritizing showing the ads to people already with the specific interest or demographic characteristics. This would lead to slight sampling bias. To mitigate this challenge, we could refine our targeting criteria to ensure that the treatment groups are as similar as possible. We could also collect certain demographic data from the user's initial interaction.

Another challenge is that over time, people could see an ad several times which we have found through personal experience and research that this can reduce the effectiveness of the ad. People may ignore ads after seeing it multiple times or even completely block/unfollow these types of ads. We could deal with this by monitoring the engagement rate so that we can detect early if it decreases over time. If this is the case, we can minimize the amount these people are seeing the ad. We could also use ad rotation strategies to ensure users are seeing different creative ads over time. We can use varying ad formats such as video ads to keep engagement high.

The last potential challenge is that running constant ads can be expensive, and with our limited funds we may need to use a smaller sample size which can affect the overall results. To solve this problem, we could start with a smaller sample and run an initial test in order to see if the experiment would be successful. If this is the case, then we could expand the experiment. Using the insights from the initial test will allow us to refine targeting and messaging to maximize the return for the full campaign. Also, if we could explain our initial results as very successful to the stakeholders, there is a chance we could convince them of a higher budget to expand the experiment.

## **Power Calculation**

In order to test if our sample size is large enough to get a meaningful difference between the two treatment groups in our key metric of applications, we must run a power calculation. For Example, if we were to estimate from preliminary experiments that we expect ads focused on time and cost saving will lead to a 10% increase in applications compared to the other ads, then 10% will be our effect size. We will set the significance level at .05 as usual and then we could use a power of .80 which means that there is an 80% chance of a true positive of rejecting the null.

We believe that from the sample size calculation; to get meaningful results from our experiment, we need more than 10,000 participants for each treatment arm. This is not an unreasonable sample size and would be very attainable. The cost per participant in an online ad usually depends on the medium used. We found that the typical cost per click for targeted ads could range between \$1 and \$3. Using this estimate, we believe that it could be difficult to accomplish this experiment with meaningful results with the \$5000 budget that we are given. It would be possible if we overestimated our cost per click or our sample size required.

## **Conclusion**

To conclude, the marketing strategy we have created for the Wisconsin Actuarial Science Capstone Certificate reaches our target audience and engages them by highlighting the time and stress people can save by enrolling when looking to advance their careers in the actuarial field. Our experiment uses social media ads to find the most effective marketing strategies, and we can measure the effectiveness of those ads using social media tools as well as the number of applications/interest forms filled out. While there are some concerns of budget constraints and sampling bias, our proposal highlights the ways we can address those issues and still run a meaningful experiment. The results we get from our experiment will help the program in the short term with enrollment, as well as in the long term, as they can use the data to help with future marketing efforts.