**Recruiting Advertising Strategy**

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Our team analyzed information from various Whitman School of Management campaigns over three years. Our focus was to determine patterns and effectiveness in past campaigns to recruit the best United States students, measured by GMAT scores, while utilizing a budget of $100,000. We predicted the cost of advertising per student for Google Ads into the following year, identified critical aspects for a US Campaign, and determined measurements for performance after implementation.

We analyzed four campaigns completed by the Whitman School from 2011 to 2014. We compared the overall cost of each campaign to the amount of traffic that it was generating, shown in Table 1. The whitman.sry.edu campaign cost the least overall and generated the most traffic with a final Cost per Click (CPC) of $3.93. Additionally, it had the lowest bounce rate percentage of the three online campaigns as well as the highest pages per session average. This campaign not only was the cheapest but attracted the most engaged students to the site.

The MBA Marketing iMBA and Full Time campaign, had similar costs and users with a CPC less than two dollars apart. They did not generate nearly as many serious potential users, which we determined based on the high bounce rate and lost pages per session. The Delta campaign was the only one not based online and had the highest cost per click. However, the bounce rate was the lowest of all four campaigns and the pages per session were the highest. While it was not generating significant traffic, the users that it was attracting were highly engaged and serious about investigating the Whitman School.

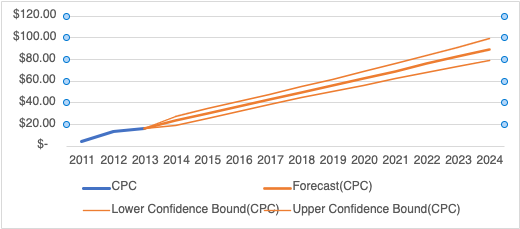
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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Campaign*** | ***Start Date*** | ***End Date*** | ***Cost*** | ***Clicks*** | ***CPC*** | ***Sessions*** | ***Users*** | ***Bounce Rate*** | ***Pages/ Session*** |
| **Whitman.syr.**  **edu** | 26FEB11 | 26AUG11 | $37,699.45 | 9,358 | $4.03 | 7,313 | N/a | 78.20% | 1.84 |
| **MBA Marketing – iMBA** | 2FEB12 | 26OCT12 | $80,663.24 | 5,818 | $13.86 | 2,625 | 2,367 | 89.22% | 1.14 |
| **MBA Marketing – Full Time** | 26OCT12 | 01JUL13 | $71,307.56 | 4,320 | $12.03 | 4,285 | 3,774 | 82.50% | 1.27 |
| **Delta** | 1OCT13 | 31OCT13 | $10,000.00 | 22 | $454.55 | 23 | 22 | 43.48% | 2.48 |

Table 1: Various Whitman School of Management campaigns broken out by dates, cost, and effectiveness measurements.

Based on the previous campaigns, a prediction analysis was used to calculate the cost per click (CPC) and advertising cost per student (CPS) for a Google Ad campaign next year. The parameters used in the prediction of the cost per click and the advertising cost per student include 50 students enrolled form the Whitman Campaign, 24 students enrolled from the iMBA Marketing Campaign and, 15 students enrolled from the Full-time MBA Marketing Campaign. Below are tables with the forecasted, lower and upper bounds of the predicted cost per click (Table 1) followed by the same predicted forecasted, lower and upper bounds of the estimated cost per student (Table 2). The cost per click prediction estimates an average of $88.92 CPC for 2024 and the predicted cost per student estimates an average of $27,391.25 CPS for the same year.

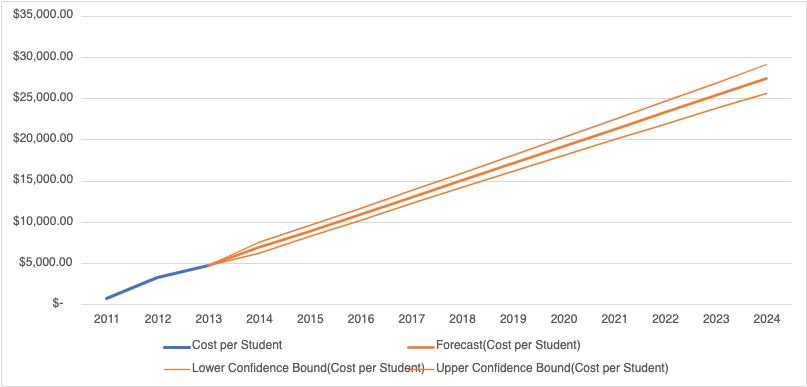
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| --- | --- | --- | --- | --- |
| *Year* | *CPC* | *Forecast (CPC)* | *LCB (CPC)* | *UCB (CPC)* |
| 2011 | $4.03 |  |  |  |
| 2012 | $13.86 |  |  |  |
| 2013 | $16.51 | $16.51 | $16.51 | $16.51 |
| 2014 |  | $23.68 | $19.54 | $27.82 |
| 2015 |  | $30.20 | $25.98 | $34.43 |
| 2016 |  | $36.73 | $32.33 | $41.13 |
| 2017 |  | $43.25 | $38.55 | $47.95 |
| 2018 |  | $49.78 | $44.65 | $54.90 |
| 2019 |  | $56.30 | $50.61 | $61.99 |
| 2020 |  | $62.83 | $56.45 | $69.20 |
| 2021 |  | $69.35 | $62.18 | $76.52 |
| 2022 |  | $75.88 | $67.81 | $83.94 |
| 2023 |  | $82.40 | $73.35 | $91.45 |
| 2024 |  | $88.92 | $78.81 | $99.04 |

Table 2: This shows the forecasted cost per click (CPC), as shown by 2024 the CPC will be $88.92.

Chart 1: Shows forecasted cost per click (CPC).

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| --- | --- | --- | --- | --- |
| *Year* | *CPS* | *Forecast (CPS)* | *LCB (CPS)* | *UCB (CPS)* |
| 2011 | $753.99 |  |  |  |
| 2012 | $3,360.97 |  |  |  |
| 2013 | $4,753.84 | $4,753.84 | $4,753.84 | $4,753.84 |
| 2014 |  | $6,910.62 | $6,210.22 | $7,611.03 |
| 2015 |  | $8,958.69 | $8,244.55 | $9,672.83 |
| 2016 |  | $11,006.75 | $10,262.74 | $11,750.76 |
| 2017 |  | $13,054.81 | $12,260.54 | $13,849.09 |
| 2018 |  | $15,102.88 | $14,235.95 | $15,969.80 |
| 2019 |  | $17,150.94 | $16,189.05 | $18,112.83 |
| 2020 |  | $19,199.00 | $18,121.27 | $20,276.74 |
| 2021 |  | $21,247.07 | $20,034.63 | $22,459.50 |
| 2022 |  | $23,295.13 | $21,931.19 | $24,659.70 |
| 2023 |  | $25,343.19 | $23,812.80 | $26,873.58 |
| 2024 |  | $27,391.25 | $25,681.01 | $29,101.50 |

Table 3: This shows the forecasted advertising cost per student (CPS). By 2024 the cost of recruiting a student will be $27,391.25.

Chart 2: This shows projected cost per student (CPS)

The nation we want to primarily advertise to is the United States, as most traffic obtained for all three campaigns investigated are within the US. Given the data provided, to narrow our analysis down for the sake of clarity and brevity, this analysis will observe the top 3 categories with the highest flow of traffic based on the total number of users. When narrowing further, we can look at the breakdown by campaign. For the first campaign, Whitman.syr.edu, we can see that the region that drives most traffic is within New York State with 585,394 users and 3.7 pages per session, giving us incentive to primarily centralize our ad campaign within New York. Additionally, we can look at California (93,416 users) and Texas (61,305) as additional states to consider, given their clicks and moderate-high pages per session at 3.39 and 3.42 respectively. When looking at cities, Syracuse (310,196 users), New York (98,247 users), and Washington (26,305 users) draw the highest amount of traffic in terms of the number of clicks. When looking at the metro data, the same regions are supported with similar flow of traffic, which indicates Syracuse (374,795 users), New York (198,458 users) and Washington DC (81,891 users) are the 3 most optimal cities and regions to advertise. When observing bounce rates, there are no observed notable differences between the city, metro and region data, ranging within 43-55% bounce rate along with 3.3-4.2 pages per session.

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| **City** | **Sessions** | **% New Sessions** | **New Users** | **Bounce Rate** | **Pages / Session** | **Avg. Session Duration** |
| Syracuse | 310196 | 0.333943 | 103588 | 0.5481534 | 3.3063708 | 146.723549 |
| New York | 98247 | 0.6373426 | 62617 | 0.4580801 | 3.8472625 | 162.3518174 |
| Washington | 26305 | 0.5869986 | 15441 | 0.4304504 | 3.4892606 | 184.5516442 |

Table 4a: Whitman.syr.edu Advertisement Data by City

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Metro** | **Sessions** | **% New Sessions** | **New Users** | **Bounce Rate** | **Pages / Session** | **Avg. Session Duration** |
| Syracuse NY | 374795 | 0.359596 | 134775 | 0.528801 | 3.459325 | 155.408655 |
| New York, NY | 198458 | 0.613580 | 121770 | 0.444109 | 4.011352 | 166.437352 |
| Washington DC (Hagerstown MD) | 81891 | 0.600065 | 49140 | 0.45522 | 3.517724 | 185.766616 |

Table 4b: Whitman.syr.edu Advertisement Data by Metro

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| --- | --- | --- | --- | --- | --- | --- |
| **Region** | **Sessions** | **% New Sessions** | **New Users** | **Bounce Rate** | **Pages / Session** | **Avg. Session Duration** |
| New York | 585394 | 0.450928776 | 263971 | 0.494183405 | 3.7035 | 161.4576 |
| California | 93416 | 0.675665839 | 63118 | 0.473837458 | 3.3944 | 169.8105 |
| Texas | 61305 | 0.667286518 | 40908 | 0.457271022 | 3.4153 | 171.4045 |

Table 4c: Whitman.syr.edu Advertisement Data by Region

When looking at the second campaign, MBA Marketing – iMBA, we can once again narrow down to the top 3, which are New York (421), California (329) and Texas (200). For cities, we have New York (160) topping the charts, with Syracuse (71) and Los Angeles (38) trailing. Finally, for metro regions, we have New York (416), Washington DC (161) and Los Angeles (149) as the top three. Again, the bounce rates are proximal, albeit comparatively higher to the bounce rates of the prior campaign, ranging between 77-91% with approximately 1.1-1.5 pages per session. The notably higher bounce rate may be worthwhile to investigate as it indicates notably less retention of the audience, indicating a considerable reduction in successful engagement.

On the final campaign, MBA Marketing – Full Time, we can observe similar trends as the previous campaigns, with New York (2,009) topping the charts in the number of users, and California (716) and Texas (426) following in 2nd and 3rd. For cities, Syracuse (607) boasts the highest number of users, followed by New York (552) and Washington (156). Finally, for metro regions, New York (1,137) once again comes first for the number of total users, followed by Syracuse (822) and Washington DC (427). The bounce rates for this campaign represent similar metrics to the iMBA campaign, with approximately 75-87% bounce rates and a range of 1.1-1.9 pages per session. Much like the iMBA campaign, questions arise regarding the bounce rate, as it indicates lesser efficacy in the advertising campaign.

For the first campaign, Whitman.syr.edu, the keyword to use would be MBA, as it had the highest number of clicks (290) as well as the highest number of pages per session (2.54). Comparatively, the total number of clicks (3) and the pages per session (1.67) make “Top MBA” a not-so desirable option for a keyword. For the second campaign, iMBA, there is a group of keywords that provided effective results. The best keyword to use from this campaign is “online MBA”, with 2318 click and 1.14 pages per session in the relevant time range of advertising. Based on the traffic, other additional keywords to use that drew traffic are “MBA” (1058 clicks), “AACSB MBA” (330 clicks and “AACSB MBA Programs” (189 clicks). For campaign #3, MBA Marketing – Full Time, “online MBA” yet again reigns supreme as the best keyword to obtain traffic, at a total of 4,277 clicks. Compared to the first, the remaining 6 keywords retained notably less traffic; however, the keywords can still be utilized due to there still being some traffic present. Keywords such as “AACSB MBA programs” (129 clicks) provide an additional insight to obtain traffic due to the variance in keywords.

After analyzing the traffic on the whitman.syr.edu website we found that most traffic came through between Saturdays and Tuesday. Fridays had the least amount of traffic by a significant margin. Based on this information, shown below in Table 5a, we recommend advertising Saturdays to Tuesdays to properly capitalize on the number of personnel researching MBA programs.

Additionally, we looked at the time of day that users were coming to the whitman.syr.edu site, shown in Table 5b. We found that 73.3% of traffic to the website occurred between 1700 – 2300. This is a large portion of the overall traffic; therefore, we want to focus advertising efforts between those times.

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| --- | --- | --- | --- | --- |
| *Day of Week* | *Sessions* | *New Users* | *Bounce Rate* | *Pages per Session* |
| Monday | 1,101 | 1,035 | 78.02% | 1.80 |
| Tuesday | 1,138 | 1,035 | 76.54% | 1.90 |
| Wednesday | 993 | 936 | 79.56% | 1.73 |
| Thursday | 940 | 893 | 78.19% | 2.01 |
| Friday | 763 | 725 | 78.11% | 1.84 |
| Saturday | 1,176 | 1,133 | 77.64% | 1.89 |
| Sunday | 1,268 | 1,212 | 79.34% | 1.72 |

Table 5a: Traffic on whitman.syr.edu by day of the week from 1 January, 2011 to 31 December 2014.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| *Time of Day* | *Sessions* | *New Users* | *Bounce Rate* | *Pages per Session* |
| 0000 | 248 | 235 | 74.19% | 2.33 |
| 0100 | 99 | 90 | 71.72% | 1.88 |
| 0200 | 96 | 90 | 80.21% | 1.66 |
| 0300 | 47 | 46 | 72.34% | 1.85 |
| 0400 | 45 | 43 | 86.67% | 1.42 |
| 0500 | 26 | 22 | 73.08% | 1.81 |
| 0600 | 52 | 51 | 78.85% | 1.87 |
| 0700 | 68 | 64 | 76.47% | 1.90 |
| 0800 | 107 | 100 | 78.50% | 1.73 |
| 0900 | 107 | 98 | 74.77% | 1.93 |
| 1000 | 139 | 125 | 80.58% | 1.90 |
| 1100 | 156 | 149 | 78.21% | 1.90 |
| 1200 | 137 | 127 | 83.21% | 1.67 |
| 1300 | 167 | 149 | 80.84% | 1.90 |
| 1400 | 150 | 141 | 74.67% | 1.74 |
| 1500 | 161 | 149 | 79.50% | 1.60 |
| 1600 | 167 | 160 | 74.85% | 1.90 |
| 1700 | 795 | 763 | 78.62% | 1.70 |
| 1800 | 757 | 720 | 79.13% | 1.68 |
| 1900 | 729 | 695 | 79.01% | 1.64 |
| 2000 | 806 | 770 | 79.28% | 1.79 |
| 2100 | 822 | 780 | 79.44% | 2.01 |
| 2200 | 814 | 776 | 77.64% | 2.07 |
| 2300 | 684 | 650 | 75.58% | 1.88 |

Table 5b: Traffic on whitman.syr.edu by time of day from 1 January 2011 to 31 December 2014.

To measure the performance of the implementation of our advertisement campaign, we would look at metrics already covered in previous campaigns to efficiently spend the $100,000 to recruit top students to the program as well as additional metrics to optimize the campaigns success. The previous metrics include the optimal length of the campaign we could acquire in that initial $100,000, the amount of clicks we were getting on the adverts, the number of sessions and new users acquired during the length of the campaign, and the bounce rate and pages per session over the length of the campaign. In addition to the previous metrics, we would like to drill down into the detailed analytics of the campaign by looking at the behavior flow of our users who click on the adverts. This would include monitoring the behavior flow of users to see where they would enter from and where users would exit from. This would ideally improve the numbers of clicks by allowing a more focused targeting for our advertising campaign, but also reduce the bounce rate by understanding when and where users would exit in order to convert more sessions to users.

Our goal for this project is to recruit US students with the top GMAT scores, in order to do this, we would need information on GMAT scores across the United States. Understanding where the most students with high GMAT scores come from would significantly help shape our advertising strategy. We would focus more of our advertising on areas that had higher GMAT scores. Information on the GMAT Scores of US students is the most significant factor of information that we are missing in order to best shape our campaign.

Additionally, we could better shape our strategy by having more data on ad campaigns and sites that are not google ads. Primarily, we want information on sites like Instagram and Facebook to create a more diverse campaign strategy that appeals to deeply invested students. While expanding our advertising reach with other advertising services, the campaign would focus not just on students, but working professionals as well. Targeting ads with our most attention-grabbing keywords during the evening from 17:00 to 23:00, could attract the attention of working professionals who would be interested in acquiring an MBA while continuing in their careers. Lastly, we want to look at ad size to determine what kind of ads people are more likely to click on. This could help shape how we design ads in the future.