1. **Ad Campaign**

To decide which product should features in the ad campaign, we can use the return on investment (ROI) of each product and choose the one which maximizes profit. (Assuming that the objective is to maximize profit)

We can calculate the revenue derived from each add using the information we have as shown and use it to calculate the ROI for eaxh product. Whichever returns the most value should be in the marketing campaign. If, however, the objective of the marketing campaign is to boost the sale of products which are not doing well, we can choose them in reverse order and choose the one with low ROI.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Product | Session | Ad.Conversion | Price | Ad.Revenue | Total Cost | ROI  % |
| widgets | #? | #? | Selling price | Ad.conv \* Price | Ad.cost + other cost | (Ad.rev - Total cost) / Total Cost \* 100 |
| doodads | #? | #? | Selling price | Ad.conv \* Price | Ad.cost + other cost |  |
| fizzbangs | #? | #? | Selling price | Ad.conv \* Price | Ad.cost + other cost |  |

**2. Funnel Analysis**

The funnel will have the following shape. The points where users exit the funnel will give a clue of where the problem is. Comparing the marketing spent on each step to the number of users who exit that step will decide whether the reason is a marketing effort or other factors with the product. If there is high exit rate before the payment step, it might suggest a bottleneck on payment methods accessible to users. High exit rate at the plan selection step suggests that users may not be happy with the offering or that the competition might be offering a better service.



**3. Hotel Ranking**

An alternative would be to rank the hotels which are available and sort them by price from low to high. Let’s call this ranking ‘Popular’. Originally we have the following information

|  |  |  |
| --- | --- | --- |
| Hotel Name | Price | Availability |
| Hotel ABC | $$$$ | Yes/No |

Now we can create a table to be in our ‘popular’ ranking

|  |  |
| --- | --- |
| Hotel Name | Price |
| Use functions to collect list of available hotels from original table.  List of hotels in the city where availability is ‘Yes’ | Use this column to sort the ‘popular’ hotel by price |

**4. Churn Analysis**

To see the pattern of the churn, we can divide the analysis into three years (a smaller time frame would give a better result). Then calculate the churn rate for each time period and see if it shows increasing pattern. We can also calculate the average time users spent per session and the standard deviation as well. If the difference between these values increases over the time period selected, it might show atypical pattern. If the means are clustered together and the standard deviation is low, it means the churn might be because of normal conditions such as user life cycle.

We can also use t-test or Mann-Whitney test depending on the distribution and compare samples from different years.

|  |  |  |  |
| --- | --- | --- | --- |
| Year | Churn Rate | Average time per session | Standard Deviation |
| Year 1 |  |  |  |
| Year 2 |  |  |  |
| Year 3 |  |  |  |

The churn rate is the ratio of users who left to the initial number of users.