**Question 5:**

If we were testing two different versions of the homepage and trying to measure their impact on search rates, what further information would you need and how would you collect it?

**Answer:**

The target information will be based on metrics to measure and identify the site’s improvement. The following are some the data that need to be collected:

Quantity:

* Number and type of Users
* Number of Sessions with Search: The number of sessions that used the site's search function
* Number of Search Results Pages per Session: Results page that is returned on a search engine query
* Search Page: Page on site where the user enters terms for a web search
* Number of Search Depth(Number of Results Pageview): The number of pages viewed after performing a search
* Number of Search Refinements(Number of Re-search): The number of times a user searched again immediately after performing a search
* Number of Search Exits: The number of searches made immediately before leaving the site

Time:

* Time on Search Pages (Search Session Duration)
* Time to Success
* Time after Search: The amount of time users spend on your site after performing a search.

Percent and Rate:

* Percentage of Search Sessions: Sessions with Search / Total Sessions
* Session Success Rate
* Percentage Search Refinements (Percent of Re-search): The percentage of searches that resulted in a search refinement. Calculated as Search Refinements / Pageviews of search result pages.
* Search Session Exit rate

Data can be collected and extracted using an API, open source web crawling/scarping framework, or using source code based on java, python, or other languages. The metrics can be calculated based on A/B testing, multivariate testing, and/or experimental design framework. Analyzing data can be done using a website analytics tool such as Google Analytics or other in-house analytics.