

1. Given a fixed budget of promotional spend, which members of the network should be targeted?

Ans. Please have a look at visualization [graph.html](#)

[You need to zoom out to get a holistic view of the entire network.]

There is a python implementation also to generate the graph and get the [centrality](#) (Family of algorithms to get the most influencer in the graph)

I have written a script that can produce the centrality of individual node and we can use the top nodes for the targeting.

[Create_networkx.py](#)

I also tried an alternative approach of targeting customers with a weighted contribution of # of connection and revenue per year.

NetworkStrategy_data_sanitized_nitin.xlsx (Mystetergy) sheet.

2. Are there links between strength and number of relationships and the revenue a customer spends with the retailer in a given year?

Ans. I think there is a clear positive correlation b/w revenue and #relationships (0.17) and strength (0.10).

3. Are there links between the size / strength of networks and certain zip codes and neighborhood-types in Seattle?

Ans. Certain Zip codes have lot of clear insights. Please have a look at [graph_zip.html](#)

(I had a clear doubt, In the instruction there is clear mention that nodes are customer and in file link we have zip code associated to a link shouldn't it be on a customer level or i'm missing something here. I assumed that zip code is associated with source of the link.)

I see few zip codes like 980103,98112 where they have lot more friends and also rich as well.

4. How balanced are relationships? Are customers often paired with others who have similar number of friends, or is it typically one sided? Similarly for revenue – big spenders with big spenders or not?

Ans. there are lot of big bubbles big bubbles also has lot of rich friends. It's not true for all the cases. Customer like (1813,1971) have lot many friends with big bubbles (Big spenders)