

Your Social Network is Bigger Than You Think

Author : Cat

Date : February 17, 2019

I was reviewing privacy settings when I realized that several of them include options that extend your posts to your friend's friends (Facebook), or your connection's connections (LinkedIn). I started to wonder how broadly that audience actually extended. So I did what I usually do; I did the math, for fun. I'm cool that way.

Calculating the Size of a Network

This kind of math is called Graph Theory. There are a lot of variables here. For instance, if you were a character in the show Friends, you would have 5 friends, but each of those friends would have the same 5 friends. That means the whole network would still be only 6 people. We are going to make an assumption that's not the case here and that many of your friends actually know other people.

Generally, graph theory works on the following math formulas:

1st Degree Network = # of Connections

2nd Degree Network = # of Connections * (# of a User's Connections - 1)

3rd Degree Network = # of Connections * (# of a User's Connections - 1) ^ 2

How Big is Big?

As an example, let's look at my LinkedIn network. On it, I am connected to about 900 people. We'll simplify to 500. (Also, do I really know 900 people?)

1st Degree Network = 500 Connections

Sharing with contacts, the audience is 500 people.

Some of my friends and colleagues are connected to 50 people and others to 1000. Plus some are connected to each other. We'll aim low and say the average number of unique people my connections are linked to is 200.

2nd Degree Network = $500 * (200-1) = 500 * 199 = 99,500$

Sharing with your contacts' contacts, the audience is 99,500 people.

This means if I set an audience to "Friends of friends" or "2nd Degree Connections", I am reaching nearly one hundred thousand possible people. That's definitely more people than I know! But wait, it gets crazier...

$$\text{3rd Degree Network} = 500 * (200 - 1) ^ 2 = 500 * 199^2 = 500 * 39601 = 19,800,500$$

Sharing with your contacts' contacts and their contacts, the audience is 19,800,500 people.

LinkedIn specially has a setting that shows your posting to your '3rd degree' Network. That means I could be reaching 19.8 Million people with my posts.

What to do about it

As soon as you go beyond the people you are directly connected to, your network multiplies by a staggering rate. From a business perspective, that reach is amazing! That is why social marketing is such a powerful tool that most companies are leveraging. From a personal perspective however, that is WAY more people than I want to see that birthday photo of my dog.

So keep sharing those professional posts far and wide, but maybe reconsider how you [set your privacy settings](#) for those more personal networks.