Social Networks
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Lecture – 34
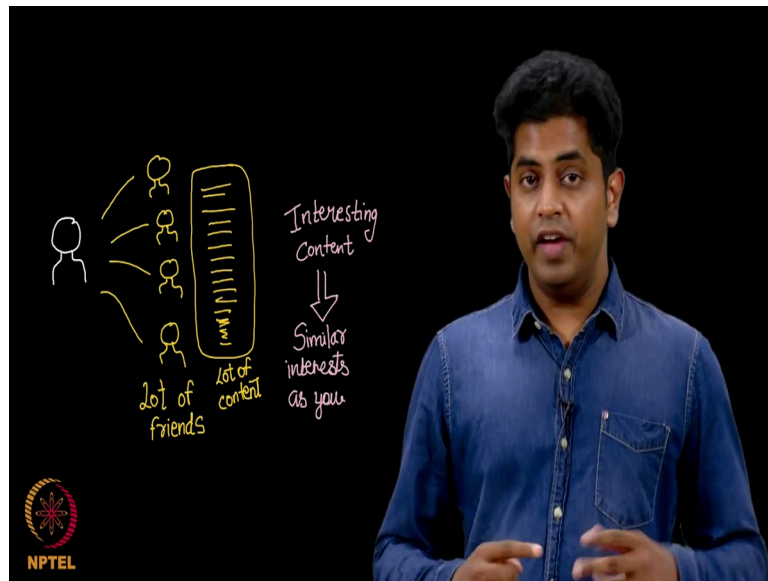**Strong and Weak Relationships**
Social Capital

Let say Facebook wants to become popular, they are already popular assume they want to become all the more popular what should they do.

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What is one nice factor about Facebook because of which it is so popular, so famous? It is that if you sit in front of Facebook you find it very entertaining, its joyful to see what is happening with your friends life the pictures, the videos, the status messages, and the comments and the likes, and the re-shares right now here are two things that you should observe.
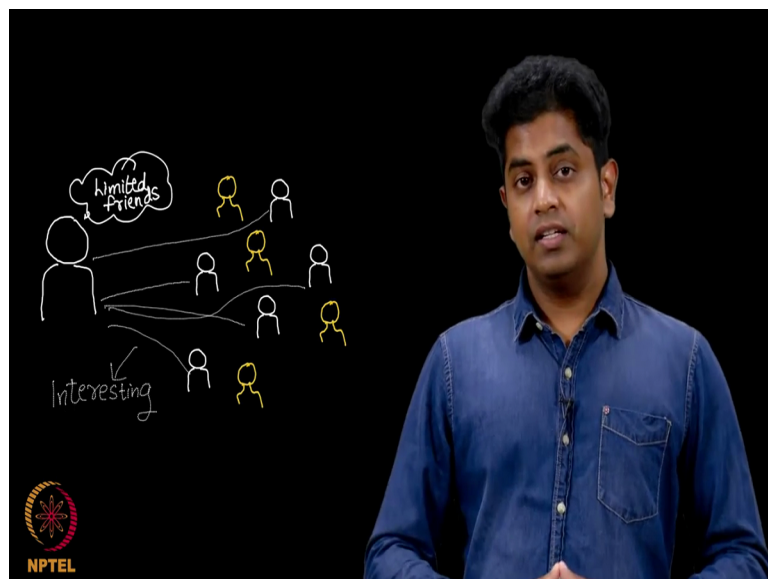
Firstly I should have a lot of Facebook friends, so that is a lot of content on my news field. Firstly, it is the content. Secondly, it should be interesting.
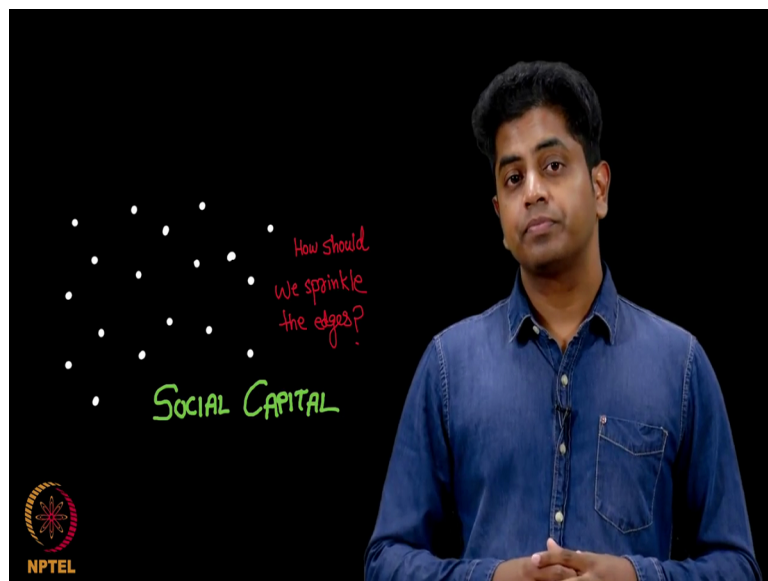
So, interesting content lot of content interesting content; when will you get these two things? If you have the kind of friends on your friend list who are whose interest are similar to that of yours similar or least they are something exciting to share, with this in mind Facebook may want to ensure that new friends that you make not only should Facebook make you have.

Not only should Facebook ensure that you have you make new friends, it should ensure that you do not make randomly new friends new friends who are random. You may want the Facebook may want to ensure that you make friends more and more friends, such that you find their shares and comments and photos very interesting right. So, the point is every person tends to have some limited amount of friendship that he can maintain whom he can follow right; you better ensure that these friends whom he makes they all are interesting enough right.

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So, what I am I trying to say if I am allowed to make a bunch of people become friends what where exactly will I sprinkle the edges; of course, I cannot make everybody become friends with everyone else, it comes with its own a bunch of problems for example, are a friendship budget is very minimum, we cannot have everybody as our friends. So, if god were to be sprinkling edges on a bunch of nodes, on this, this person should ensure that he has only 200 edges to be sprinkled let say 500 edges to be sprinkled on 100 people, where exactly will he put edges. So, that it becomes what is called a social capital. You want to benefit from the fact that you are creating a social network, the output is at its best for Facebook the output is a lot of attention for the user on their interface.

So, as I told you one should have a lot of friends, one should also have exciting friend. So, that they should exciting stuff that is what Facebook like portal we will try to
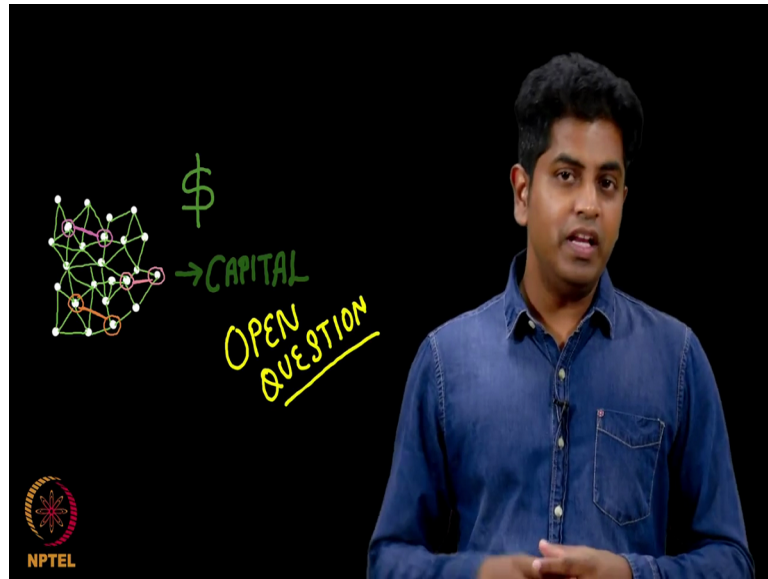
maximize. Twitter like portal would want you to follow a whole lot of people and it would want ensure that you follow those people who is newsfeed is interesting to you right where other what is called the time line is interestingly. Now let shift guess and look at a different problem.

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In your family if you were to enhance the relationship between two people, if you given a budget of enhancing the friendship between two people, which is that pair which you will like to enhance maybe if you can put an edge between these two people who are always fighting with each other, because of which is a lot of commotion is a family probably would want to enhance their relationship.

But an example would be this assume this is a team of 20 people there is some kind of complicated friendship between them, there are this bunch of pairs let say three pairs of people who are who do not like each other, and you have some budget, you have some money to spend to ensure that their relationship gets enhanced what will you do? Maybe me as CEO of this company with 20 people, I will ask these three pairs of people to go out and have let say lunch together or I will give them free coupon to probably go to a water park and then play and then sort of bond well right.

So, when I have limited money how will I ensure that I put some nice edges between the existing nodes, so that I create capital out of the network. All in all the fact here is the social network itself is a capital sometimes the reason why an organization works its best is because of the complicated network structure between people which probably is yielding the best possible productivity right. So, how do I ensure that I maximize this is actually an open question, it is not very easy to come out with let say proto call where this kind of friendship network is yields maximum benefit.

As an example if there is a society of some thousand people all are friends with each other, is there any fun in playing a foot ball game between two teams.

As an example if a have my son and daughter playing chess with each other, who will I cheer for I must take a side and cheer for this person and hope that the other person looses. I cannot do it when I love two people equally well there has to be two communities where a lot of love is within and not across, so that you can form two football teams and they can play with each other. While I say that a lot of friendships unity is good; at the same time there should be 100 percent unity. 100 percent unity as you know is boring, I gave you foot ball gave example. So, this is called closure versus brokerage.

Closure means friends friend should become friends, when a friends friend become is a friend the network completely become sort of complete everybody will be friends with each other is not it. Here is a friends friend you become friends with him, here is a friend friends you become friends with him so on and so forth you see this sort of friends friend becoming a friend cascades and finally, everyone will become friends and there is no fun here, but is closure. Brokerage means there should be an edge, as I told you in my previous lecture me and Ramya, Ramya acts as a bridge here she benefits with the fact that I am we do not have any common friends, it is not easy for me to reach the other side of the community right Ramya is the bridging gap.

So, there has to be what is called the structural holes two at the same time some closures should also happen. As an within the previous example me and Chethan were good friends we had a lot of common friends, we benefit with that kind of relationship me and Ramya are of course friends, but it is a sort of a local bridge it is a bridge she is a bridge for the for me to connect to the other community that is also important brokerage is important closure is also important. In general the bigger question is given a choice for you to come out with a nice network, I will give you 100 people and I will give you a 1000 friendships and ask you place this friendships properly so that this particular 100 friends maximum yield maximum benefit if they work in a team.

Let say how will you sprinkle this friendships right is seems to be a tough question to answer, there has been a whole lot of research in this direction, but it is not very well understood what should be the exact social structure which will yield the maximum benefit.