1. A. E, F & G
   B. B, C and D are connected to E, F & G and can only exchange with them. Meanwhile, E, F & G are connected to A. E, F & G have the most advantageous spot here to exchange either exclusively with B, C & D or one of them trade with A and rest with their exclusive partners. In any case, E, G & G have the bargaining power and will make the most money.

2. A. E or F

   B. There are three options here, but if I attach my node to A, A will have the bargaining power to either exchange with E, F or X. If I attach to E, E and X can become exclusive with A and F as exclusive too. If I attach to F, F and X can become exclusive with E and A as exclusive too. In any case, not attaching to A is the best bet.

3. A. Stable
   B. First, as per the definition the outcome is stable because the sum of two joining nodes is not less than 1. Node A only has an option to exchange with B, and B is getting a better deal with A than C as it also has more power over A so it will exchange with A. In case of D, it can only exchange with C, and C is getting better deal with D than B and also has more power over D so it will definitely go with it. Therefore, the four nodes are stable.
   C. Unstable
   D. First, as per the definition the outcome is unstable because the sum of two joining nodes is less than 1. Node C is desperate and can possibly offer a better exchange value than A to get some value instead of zero.

4. Nash Bargain for A & B:

   $S = 1 - (0 + ½) = ½$

   For A the outside is option is zero, plus half of difference (S) is ¼

   Therefore, A = ¼ and similarly B = ½ + ¼ = ¾

   Nash Bargain for C & D:

   $S = 1 - (¼ + ¼) = ½$

   Therefore, for C & D it will be ½ similar to above.

   Nodes do not have better outside options and therefore nodes are balanced.

5. One influential person that comes to mind whom I follow is Mr. Ratan Tata. He is an industrialist from India and his family is the founding member of the TATA Group. He has more than six million followers on Instagram alone, and many more on Twitter. I follow him because he is a very humble and down to earth person. He alone can be considered as the richest person in India and one of the richest in world, but he never lets his personal net worth cross one billion and donates

everything on top of that for charity and betterment of the society. From time to time, he shares influential posts that involves stories of a common man whom everyone can relate to and learn something from. He always motivates young generation to solve the problems in the world to help the man kind rather than just running after money. He makes everyone aware through his social channel the real issues world is facing like hunger, poverty, illiteracy, etc. and motivates people to work for solution to tackle these problems. It always baffles me on how can someone so high and rich in the society can still relate to such small issues which we face and can empathize with it.

6. A. According the chapter, I can think that the committee unanimously supported candidate A because of cascading. The first member must have had an opinion that A is a better suited and the second must have had the same, after that the cascading effect took place and all members of the committee just agreed upon that A is the better candidate. Even if any member had thought B is the better candidate, they changed their opinion.

   B. The committee can make their votes in private to avoid a scenario of information herding. The members can vote for the candidate they prefer without getting influenced by others and then finally the votes can be counted to see who is better suited to be hired.

7. To compete, I will market my product with the help of social media to gain more followers and customers. I will try to get influencers to try my product for free and review them so that their followers can see the trusted reviews and get interested in my product. I will also promote discounted prices through these channels to acquire customers initially.

8. A. I think introducing the counter will have a positive effect on the people using the site as it will encourage other people to open the link seeing others have already read the article. As the number of visitors grow, it will attract even more people being the top story. Stories with more views will have even more views over time than those with a lower number of views. People will follow popular public stories as they will assume more the S views, better the story.

   B. 80% of the views will come from 20% of the top stories. Well, not exactly but this is the trend of power law distribution, and the article will follow similar. As when we add a counter, top stories will grow even more famous and attract even more views. Lesser viewed stories will grow at slower rates. For example, a story with 50k view will jump to 80k faster than a story with 5k views jumping to 35k or something similar. Maximum views will be generated by a limited number of popular stories.

9. A. g and h have adopted behavior of A. d and j will be diffused with A. Node k will also change its behavior as the fraction to switch is ½ which is equal to q. Node I and f only have one

neighboring which follows A, so the fraction is 1/3 which is less than q so it won't switch and same goes for f. Therefore, d, j and k will convert, and g & h are already A.

B. As discussed above, node i and j have fraction of 1/3 which is less than q (1/2) and will stop the diffusion.

10. Tightly knit communities tend to hinder to diffusion. What this means is that people with similar interest tag along and interact. People with different interests and thoughts don't interact much and this causes the diffusion to stop and hiders cascading.