**What have I learnt this week?** This week I learnt about different distributions in order to understand complex systems better. These distributions include probability distributions, normal distributions as well as long tailed distributions.

**What do I 'now know' that I did not before?** There are many things that I now know that I didn’t know before. One of the main things that I now know than before is the definition of long tailed distribution. The definition of long tailed distribution is when the distribution is positively skewed and then has a lot of occurrences of an event, hence given the name long tail. I have also learnt the definition of normal distribution, which I didn’t know before. The definition of normal distribution is how different variables are distributed.

**What insights have I gained?** One of the main insights that I have gained is probability distributions, normal distributions and long tailed distributions are used to model real world activities in particular through complex systems. For example probability distributions can help businesses analyse what is the best and worst cases to implement a particular event by identifying the different probabilities of the events.

**What are (my/the) perceived strengths and weaknesses that I have observed?** One of my perceived strengths that I have observed is that I understood probability distributions well. This is due to the fact that I have studied probability distributions in Business Statistics which is a subject at UTS and I also learnt it during Year 11 and 12 while in High School.

One of the weaknesses that I have observed is understanding long tailed distributions and its link to complex systems. The main reason is because I have had no exposure in learning about long tailed distributions. Another weakness that I have observed during my learning experience is during the lesson I had some difficulties understand Zipf’s Law.

**What were the challenges I have encountered/observed and how well (did I/my team) handle them?** As mentioned above, one of the challenges that I encountered was understanding the link. It was not handled too well as I didn’t do any pre work. However I did further research to consolidate my understanding of the link between long tailed distributions and complex systems but it took a long time to realise the link.

As mentioned above, one of the challenges that I had encountered is understanding Zipf’s Law during the workshop. I handled this challenge well as I did some post Workshop research and then understood it well because I have a decent understanding of graphs.

**What would I do better next time and with what anticipated results?** One thing I could have done better in order to understand the connection between long tailed distributions and complex systems is to do pre reading before the workshop started.

Again one of the ways that I could have handled learning Zipf’s Law is by doing some pre research before the Workshop started.

**What theory proved to be useful and why? What have I learnt from this?** One bit of theory that proved to be useful is the different probability distributions. This was significantly important because different probability distributions reduce bias in complex systems, which plays an important role in learning that complex systems operate normally.