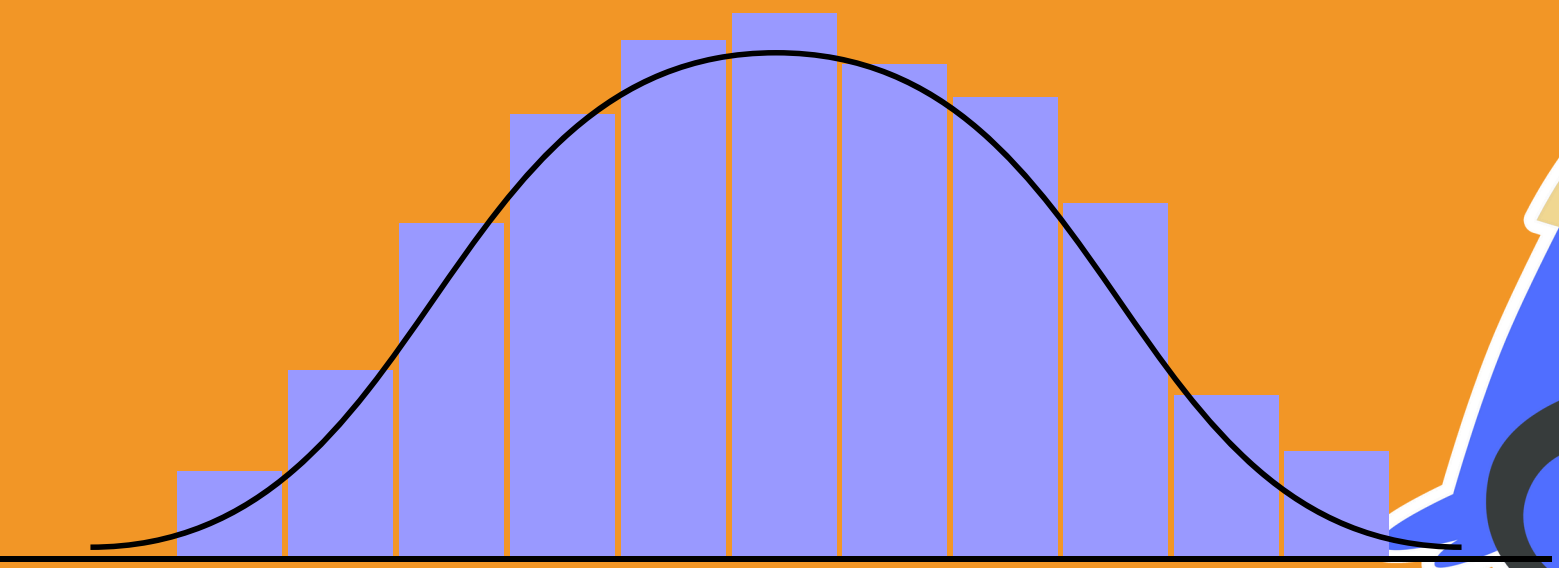
Krishna, I have been studying about the concept of Normal Distribution from a long time. But I have never fully understood it.

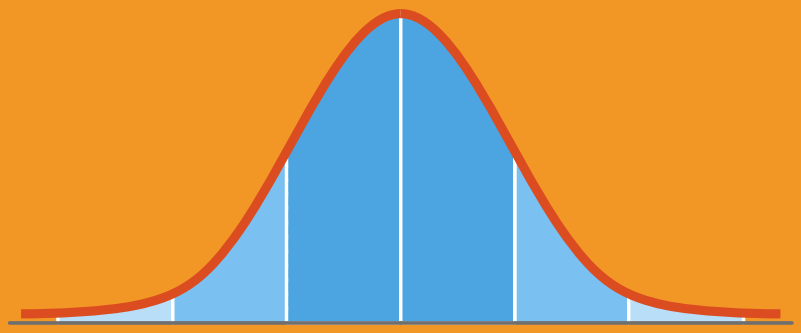
Don't worry Arjun, it is a pretty simple concept!

A normal distribution is a symmetrical probability distribution which tells us how the data is distributed and the probability of getting a certain score in a data set or sample.

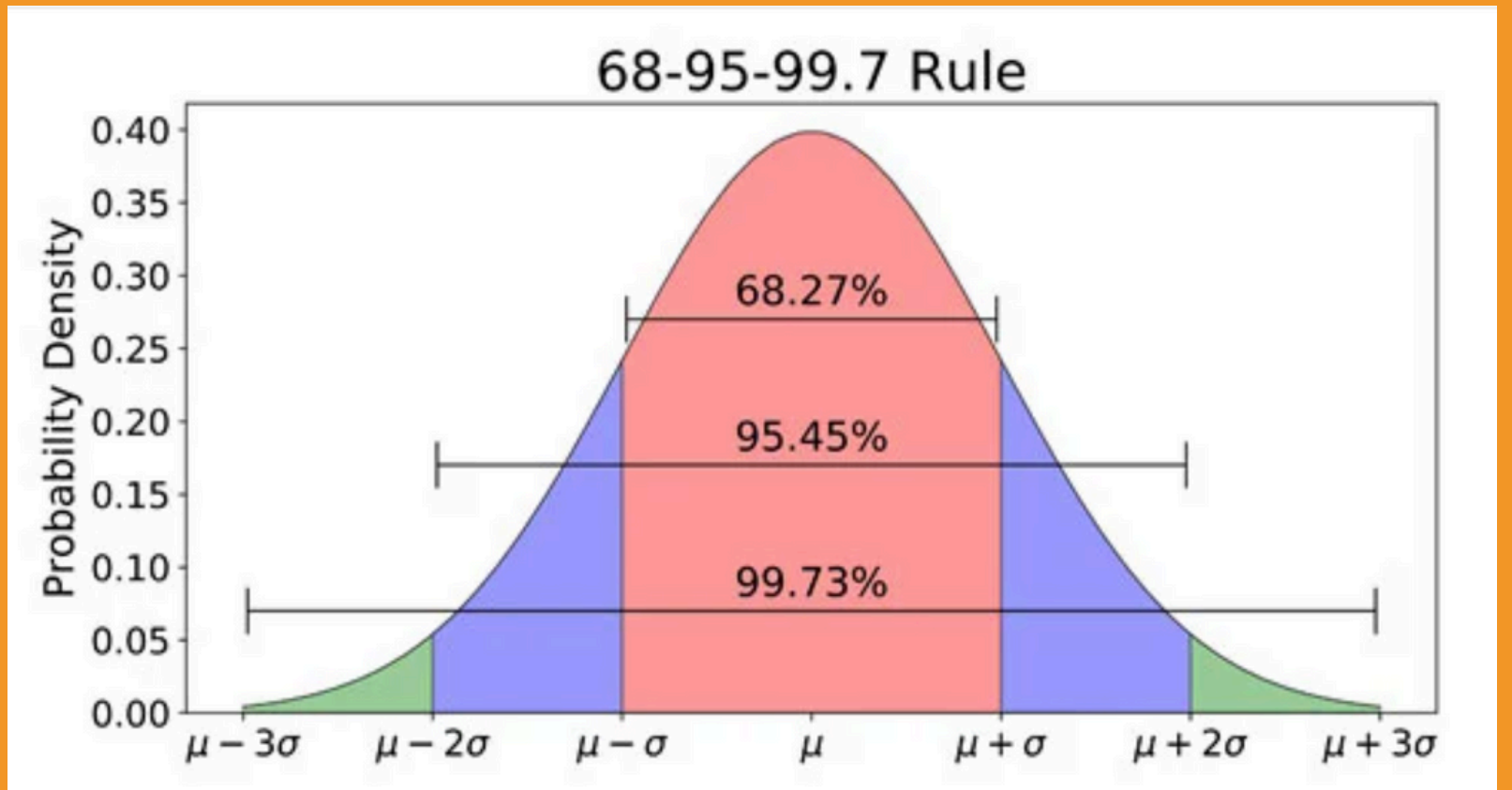


But Krishna how is this relevant in the social sciences?

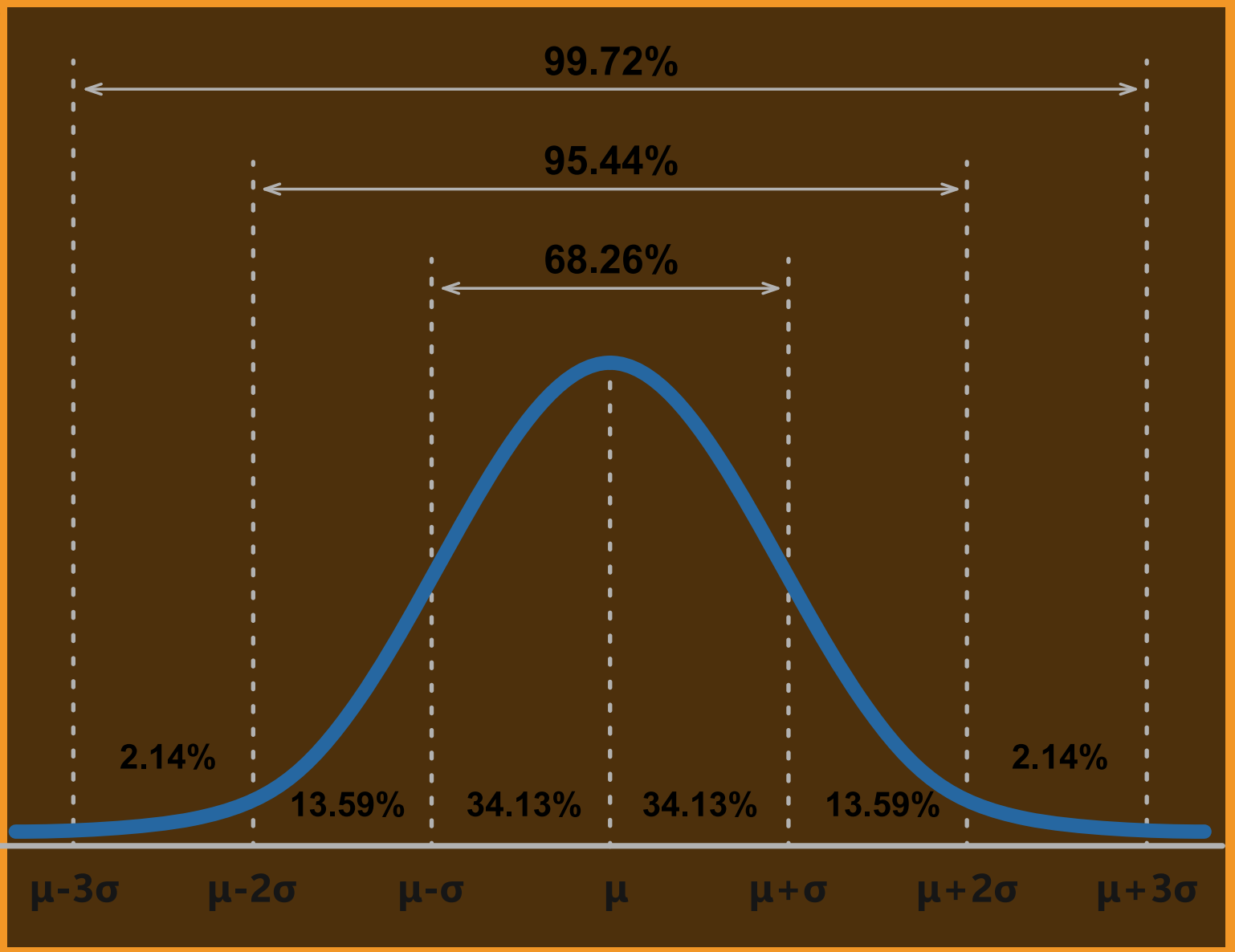
It is one of the most important concepts Arjun. This is because a normal distribution can be seen in various naturally occuring variables.



It is most commonly observed while measuring variables like hieght, weight, IQ, blood pressure etc.

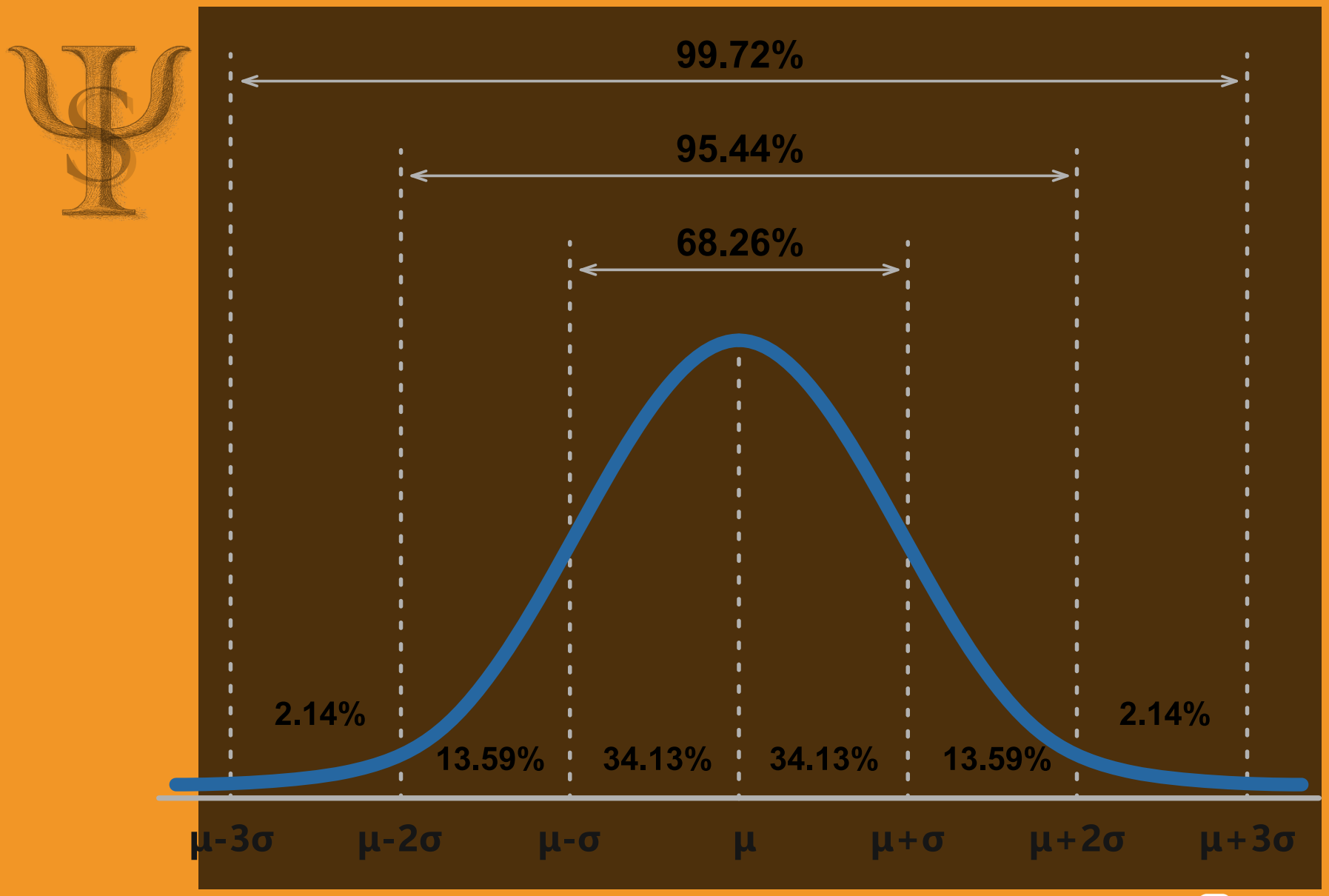


It follows the Empirical rule which enables researchers to determine the percentage of values that lie within specific distances from the mean. This rule is commonly known as either the three-sigma rule or the 68-95-99.7 rule.



-1 SD +1 SD

What this simply means is that 68% of the data falls within 1 std dev from the mean. Meaning, that there's a 68% chance of randomly choosing a score within the range of negative one standard deviation to positive one standard deviation from the mean.



-1 SD +1 SD

Similarly. 95% of the values fall within two standard deviations from the mean, and 99.7% of data will fall within three standard deviations from the mean.

What values are we talking about here?

Okay, let me put this in an example!

So, let’s say that the mean weight of a normally distributed class is 60 kgs, and the standard deviation is 6 kgs. According to the Three sigma rule, the weight of 68% of the class will range between positive and negative 1 standard deviation. That is, there is a possibility that the weight of 68% of the class will range between 54 and 66 kgs!

Oh, this must be helpful in generalizing the results of studies!

I think you're beginning to get the hang of it...Slow and steady wins the race!