

There's been an enormous amount of research and academic papers written about negotiation and game theory. In this section we're going to spend time talking about a couple of high level examples of how game theory works, just to give you a sense of how to think about it.

Clint: Why is it useful for an entrepreneur to understand game theory?

Brad: When you think about a negotiation, there's an enormous amount of science behind how it actually works. Much of the science is around human behavior and how people react to different situations.

In game theory there's actually a mathematical underpinning to a lot of the decisions that you're making. When people think about a negotiation and negotiation over time, often times they lose sight of the fact that they're dealing with things that actually have a relatively quantifiable set of outcomes when you start dealing with all these multiple factors.

Game theory helps you understand that better. It helps you shift from an emotional negotiation to more of a rational negotiation.

Clint: Walk us through a few of the key concepts in game theory.

Brad: Millions of pages have been written about game theory in general and probably tens of thousands of pages have been written about a couple of the different concepts that we'll talk about. I'm going to give you one that's a classical one that comes up over and over again, which is the Prisoner's Dilemma.

To give you a sense of how to think about the qualitative aspects of this link to the quantitative aspects of that game theory decision making. In the Prisoner's Dilemma, there are two potentially guilty people. They're both asked whether the other person was guilty or not. There are three different scenarios that could play out.

Scenario one is they're both silent. Neither of them rats the other out. Scenario two is that one of them rats the other out, but the other one stays silent. Prisoner A says prisoner B was guilty. Prisoner B says nothing. Then the last scenario is both of them rat both of them out. Prisoner A says B is guilty and prisoner B says A is guilty.

In the first scenario, where both stay silent, let's say that you get a medium penalty, maybe a year in jail. In the case where one rats the other out, prisoner A who rats out prisoner B but prisoner B doesn't rat out prisoner A, prisoner B gets say five years, but prisoner A gets nothing, goes free.

It's an intermediate penalty that's worse than if you're both silent, but the one that rats the other out goes free. There's a big incentive for that to happen.

The last scenario where you both rat each other out is the worst case. That's the case where you both end up with a significant amount of punishment. Let's say in that case you both get three years. It's not as bad as if you're silent and you get ratted out and the other one goes free, but if you both rat the other out, you both end up with a much worse penalty than if you were both remain silent.

What's your motivation or incentive to act? This is a classic example of game theory where depending on what those numbers are, the outcomes are different. If you run a simulation over a period of time you might end up getting lots of different outcomes.

That dynamic of the Prisoner's Dilemma is a classic negotiating dynamic where you have different outcomes based on these different inputs. The actual outcome varies by how each party behaves.

Clint: Talk a little bit about the different incentives if it's called a single play game, you're just doing it once, versus if you're doing it multiple times.

Brad: In the Prisoner's Dilemma example, you either go free or you go to jail. Presumably if you ratted the other guy out and he didn't rat you out, when he gets out of jail he's going to hunt you down and you've got a problem. It's still a single pay game where the outcome of that one instance determines the fate of what happens.

A multi-play game is one where there are multiple negotiations over the life of something. A company is a great example of that. The negotiation that you're having with your investor at the very beginning of the process is the first play in a multi-play game.

Part of the dynamics are being defined in that first negotiation, but you're going to have another negotiation, maybe for another financing, salary adjustments, an acquisition of another company or for the acquisition of your company. All of these negotiations have a tone and the implications of those happen over multiple plays.

Knowing whether you're playing a single play game, where there's one outcome and that outcome is all that matters and it doesn't ever matter again in the future, or a multi-play game where each negotiation is cumulative in terms of the impact. The previous negotiations have impact on the future negotiations

because they're between the same parties. It's a very important distinction as you're entering into a specific negotiation.

Clint: Questions.

Student: Did you have any books or any other resources or ways that one can practice game theory in these negotiations prior to having a conversation with an investor?

Brad: There's a classic negotiating book from the 1980s I think called *Getting to Yes* and it's a really powerful book because it was one of the first books that really focused on negotiating in business as a way of understanding what's going on in the context of the business and how to get to an agreement.

It's a very useful one for any entrepreneur to read because most of the negotiations you're in are negotiations where your goal is to get to a "yes" outcome. You're trying to get to a deal of some sort. Understanding all of those dynamics are important.

The second is to recognize that you negotiate all the time. Some people say they don't negotiate but you're negotiating constantly. You're negotiating with your family members, or your partner. If you have kids you're negotiating with your kids.

Understanding, stepping back and thinking about how you behave in these situation, especially ones where there's confrontation, do you back away from it? Do you run towards it? Does it cause you to be more, or less rational? Understanding how you react to your own normal stresses in the context of a negotiation can help you become a much better negotiator.