

Partnership against Plastic Pollution

Teaching Guide

DURATION

15 mins preparation
30 mins simulation
30 minutes debrief

CONTEXT

Fictitious role play

BEST FOR

Participants and practitioners who are familiar with 2-party negotiation dynamics and wish to explore concepts in multiparty negotiation

TEACHING

Interactive exercise followed by debrief

TOPIC(S)

coalitions, multiparty complexity

CONTENT

The exercise introduces topics of coalition-building, power dynamics, and fairness. Three parties have to agree whether to work together on a profitable project as a group of 3, or whether to cut out one party. They have to agree how to split profits.

1) One page overview

Partnership against Plastic Pollution is a chameleon exercise in that it can be used for a variety of purposes: It can be used at the beginning of a training to get people used to role plays, it can be used after discussing two-party negotiations to introduce multiparty negotiations, or it can be used to explore specific concepts around coalition-building, fairness, power, and/or the need for process management in negotiations (and specifically in multiparty contexts).

In the exercise players are assigned to represent an Environmental Non-Governmental Organization (ENGO) in a negotiation for a contract to remove plastic pollution from oceans. But to secure the contract, a player must work with at least one other ENGO, or both, if they choose to. While the awards for the joint contract are fixed, the amount each ENGO receives is up for negotiation. Two decisions must be made: which contract will be selected, and how the benefits will be shared. This game by design has an unstable equilibrium, in which one party is always able to provide a more lucrative proposal to another player to avoid being cut out of the deal. If two parties make a deal, the third always has an opportunity to disrupt, highlighting a problem where the group must find a way to equitably split proceeds instead of devolving into an unproductive dynamic of parties undercutting each other. This three party game was originally developed by Howard Raiffa and adjusted here as an environmental application.

Options	ENGOS Involved	Profits
1	BOI & GWA	\$105 million/year
2	BOI & PCS	\$75 million/year
3	PCS & GWA	\$35 million/year
4	GWA, PCS, & BOI	\$110 million/year

This exercise is based on the work by Howard Raiffa and Lawrence Susskind. It was adjusted by Anselm Dannecker, Leah Kessler, and Monica Giannone at the Negotiation and Conflict Resolution Collaboratory (NCRC), Center for Public Leadership, Harvard Kennedy School as part of the NCRC climate simulations and case series under the sponsorship of Brian Mandell. The authors want to thank Gabrielle Bacon for supporting the creation of the series.

2) Summary of the exercise

A. Content & Logistics overview

Content overview

In this negotiation, players have thirty minutes to select one out of three contract options, and must decide how much each individual ENGO will receive from splitting the profits with one or two other players. There are three possible pairs of two (BOI & GWA, BOI & PCS, and GWA & PCS) – there is one contract option for each of these potential pairings, set at different values. The fourth contract option represents the net profit if all three players are in the agreement. The exact value of how much each ENGO will receive from the contract is not pre-determined, meaning players will have to negotiate how to split one of the four possible contracts. While the total size of the pie is maximized if all players are in the agreement, some of the possible two-party contracts are better than others, giving some ENGOs an advantage.

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“Typical” Outcomes:

Scenario 1: All players work together with a split that roughly matches their contribution¹

E.g.: BOI: \$55M GWA: \$35M PCS: 20M

Usually materializes when the group aimed to define a criterion for splitting profits, determined **equity** as a criterion and discussed a split that should reflect their respective contributions as the criterion.

Scenario 2: All players work together with an equal split

E.g.: BOI: \$36.67M GWA: \$36.67M PCS: \$36.67M

Usually materializes when the group aimed to define a criterion for splitting profits, determined **equality** as a criterion and discussed an even split to overcome the unstable nature of the game.

Scenario 3: All players work together with the seemingly least powerful party receiving low Dollar amount

E.g.: BOI: \$65M GWA: \$40M PCS: \$5M

Usually materializes when BOI and GWA form a stable coalition and ultimately “cut PCS into the deal.”

Scenario 4: All players work together with seemingly most powerful party receiving low Dollar amount

E.g.: BOI: \$10M GWA: \$50M PCS: \$50M

¹ Note that the formal solution for this is the Shapley value that formalizes a way to find an equitable split. See Howard Raiffa, John Richardson, and David Metcalfe, *Negotiation Analysis: The Science and Art of Collaborative Decision Making* (Cambridge, MA: Belknap Press of Harvard University Press, 2002), 436–44.

Usually materializes when GWA and PCS form a stable coalition and ultimately “cut BOI into the deal.”

Scenario 5: Coalition between seemingly high- and low-power party collaborating to cut out “middle player”

Usually materializes when GWA switches back and forth and ultimately PCS and BOI form a coalition.

Scenario 6: Coalition between seemingly low-power party and “middle player” collaborating to cut out seemingly most powerful party

Usually materializes when BOI “overplays their hand” or when GWA and PCS form a stable coalition early on.

Many other scenarios are possible and often will materialize

Player snapshot

BOI:

This player will likely go into the negotiation feeling the most confident: the 2 two-player contracts they can enter into have the highest value of the three (options 1 and 2), meaning they have more room to provide incentives to persuade GWA or PCS into entering a deal with them.

Frequently, BOI assumes that their power is absolute and realizes during the simulation that it isn't. If the player does not realize that this negotiation results in an unstable equilibrium already, they may get frustrated when realizing that PCS can disrupt, as they are always able to provide a more lucrative offer for either BOI or GWA, or when PCS and GWA enter a stable coalition that excludes BOI.

GWA:

Of the three two-player contracts, can access the most lucrative (option 1) and the least lucrative (option 3). They act as the “middle player.”

GWA may instinctively try to build a coalition with BOI, seeing that these are the two players whose first choice of two-party contracts is to work with the other. However, they may be outbid by PCS's proposal of contract option 2 and must improvise. Sometimes GWA instead realizes that an alternative course of action may be to form a coalition with PCS, not to actually realize that bilateral contract, but to level the playing field and extract more concessions from GWA.

GWA may also see themselves as “playing the middle” and use that role to drive the coalition towards the three-party contract, in which total value is maximized.

PCS:

PCS may see them as in a low-power position, given that of the three two-player contracts, the only ones they can access are the least lucrative two (options 2 and 3). This can lead to a dynamic where they try to desperately be included in a deal.

PCS also has the opportunity to play the role of the spoiler, using the little leverage they have to always offer a better deal to GWA or BOI than what the proposed split of the option 1 contract would give them.

As time runs out, they may be desperate to make a deal in order to get any of the profit at all, and propose choosing the three-party contract in exchange for the small amount of profit gained from going from option 1 to option 4 in order to prevent a deal collapse.

Logistics overview

This exercise has a very light logistical load. It takes approximately 15 minutes to set up, and all instructions are on a single sheet of paper, with no additional details for roles.

B. Learning Objectives

Which learning objectives are achieved depends heavily on which concepts the instructor brings up in the debrief (see “Suggested lesson plan for debriefing”). The can include:

Analytical learning objectives

After concluding the exercise participants will:

Understand and be able to conceptualize various sources of power (resource power, veto power, process power, power of moral suasion, etc.).

Know various avenues for building power for oneself (including through coalition-building, through invoking fairness standards, etc.), especially when in a low power position.

Understand basic coalition-building principles, including the importance of simultaneously building winning and blocking coalitions, the management of firm vs. flexible commitments when signing on to a coalition, and how the importance of sequencing when building a coalition.

Appreciate the unstable nature of coalitions in the face of loose commitment, and the competitive dynamics that can arise as a consequence.

Appreciate the importance of establishing a strong process and/or the importance of having a neutral process manager when complexity increases in multiparty negotiations.

Understand the critical role of varying conceptions of fairness between negotiators, the positive influence of developing joint criteria for what can be considered fair for negotiations, as well as how fairness standards can be strategically invoked to improve one's bargaining position.

Skills

Through the exercise participants practice the skills of

- Questioning one's assumptions about who has power and what other parties might perceive as fair.
- Negotiating a process upfront to mitigate unnecessary competitive dynamics before they arise.
- Invoking fairness standards strategically.
- Building rapport and trust with others when developing formal or informal coalitions.
- Managing the complexity that arises when more than two parties negotiate.
- Abstracting away complexity to understand the basic incentive structure of a given situation.
- Zooming out in moments of emotional intensity and intervening strategically to calm a situation
- Deal with emotional intensity within themselves and others.

C. Where does this fit in a negotiation syllabus?

This exercise can be used at the very beginning of trainings or teaching as a “fun” negotiation simulation to get people familiar with roles plays. However, in that case, there is unlikely to be much conceptual depth to the debriefing as running the exercise serves more as an “icebreaker” activity.

The exercise can also be ran—and is very suited for the purpose—to mark the transition in a negotiation syllabus from two-party negotiations/fundamentals of negotiations towards more complicated multiparty negotiations. In that case, the instructor might wish to use to debriefing to tease out certain problems that arise in multiparty negotiations to introduce the rest of the curriculum.

In terms of specific learning objectives, the exercise is well-suited to discuss issues around power, process, fairness and coalition-building in multiparty negotiations. As such, it is well suited for negotiators that are familiar with key principles of negotiation as part of a portion of the course that focusses on multiparty negotiation dynamics.

3) III. How to run and debrief the exercise

A. Draft schedule

Timeline for 70 minute session with preparation **before**

Time	Task
0:00-0:05	Have students find their groups to sit together, answer remaining questions.
0:05-0:35	Run the simulation
0:35-0:40	Brief transition to collect results
0:40-1:10	Debrief

Timeline for 70 minute session with preparation during the session

Time	Task
0:00-0:10	Hand out the one-page instructions for the simulation, give students time to fill out pre-negotiation survey (optional) and find their group of three.
0:10-0:40	Run the simulation
0:40-0:45	Brief transition to collect results
0:45-1:15	Debrief

B. Logistics overview

Instructions & role assignment

The instructions can be handed out during the sessions or before the session.

If handed out **before the session**, ideally, the roles are already pre-assigned and a pre-survey is shared for participants to note down their strategy. The pre-negotiation questionnaire could include the following potential questions include: What is your target? What is your reservation point? How powerful do you view your role? What's your strategy to get the best possible deal for yourself? How do you plan to define the process for deliberations and decision-making?

If handed out **during the session**, the instructor should sort students into groups of three, and assign each one of the following roles: BOI, GWA & PCS. Alternatively, the instructor can use a criterion for groups to self-assign (e.g., the person with the earliest birthday in the year will be BOI, the second birthday will be GWA, etc.). If there is an uneven split, the roles can be doubled up.

Clarification of the rules

The instructor should make sure that all of the rules are clearly understood. Special emphasis should be placed on the agreement rules and caucusing rules, namely that

- Only the four options exists and the deal will not go forward if none of the options are chosen.
- The agreement has to specify how the ENGOs plan to split profits.
- Any two of the three representatives are allowed to speak privately, but any “sidebars” may only last 5 minutes each.
- Two of three representatives can sign a deal at any time, ending negotiations and leaving the third ENGO with \$0.

The instructor should not answer questions about strategy, and only address questions about the rules.

During the simulation

- Inform negotiators that they have thirty minutes to complete the negotiation and start the timer.
- On the screen, provide an email address or link to where students may submit their results (if not using the sheet to be handed in).

Collecting results

The results should be transparently laid out for the entire class so that the differences in outcomes can be linked to the different dynamics. A simple online form asking only for the point values of BOI, GWA, and PCS is advisable, or a brief summary on a whiteboard/flipchart if the paper version is used.

C. Suggested lesson plan for debriefing

There are many ways for debriefing the experience of participants. It is up to the instructor, which concepts they wish to highlight. This simulation specifically tends to produce a large variety of

results (see above), and it lends itself particularly well to explore the differences between groups that caused the variety. This exercise usually leads to a rich discussion of why in certain groups, for instance, equitable splits between 3 parties were found, while in others, for instance, 2 party outcomes that wasted potential value were agreed on. A realization of how very different outcomes were linked to people's actions can be very impactful.

Below some suggestions of different themes the instructors might wish to lean into as they debrief the experience.

Power (potentially including the concept of dynamic BATNAs)

Possible questions to ask:

Who had power in this exercise?

How did power evolve over time?

What did people do to build power for themselves?

Notes:

There are various conceptions of power and it can dynamically unfold. Frequently, people strongly focus on resource power, assuming that BOI is the most powerful party and acting in accordance with both GWA and PCS courting BOI for an agreement. However, in this exercise each party has equal power to disrupt any agreement by always being able to offer any other player in a coalition a marginally better deal. Relatedly, people can build power through building stable coalitions. Especially, PCS will frequently drastically improve its bargaining position if it is able to enter a stable coalition with GWA. If PCS and GWA enter a stable coalition, then BOI's prospect becomes 0 if they don't manage to integrate into an agreement. Due to this worse prospect, they may be more willing to make concessions.²

People may also build power through setting certain process norms. For instance, it may serve certain parties more than others, not to allow for sidebars or to frequently move to sidebars. Party's capacity to undercut or disrupt is stymied if they manage to establish a norm not to have sidebars. People might also experience that power-based bargaining in this unstable equilibrium might lead to unhealthy, frequently quite emotional, competitive pressures. Setting up a clear process that is predicated on maximizing the value jointly, and aims to develop fair distribution criteria tend to promote results that feel more satisfactory to parties, and often lead to fewer negative emotions (see below for Process).

Coalition building

Possible questions to ask

What was your coalitional strategy coming into the negotiation?

What coalitions emerged and why?

Were coalitions stable? If so, why? If not, why not?

² Note that this idea is conceptually related to the concept of a dynamic Best Alternative to a Negotiated Agreement (BATNA) (which depending on the group can be introduced or not).

Notes:

The process of coalition-building can act as a double-edged sword in this exercise. This exercise usefully illustrates that in an ideal scenario, one simultaneously has built a winning and a blocking coalition to improve one's prospect. For instance, if PCS manages early on to secure a strong commitment from GWA, its prospects drastically improve—this generalizes to most multiparty negotiations where in majority systems or in consensus systems entering a negotiation with a winning coalition and a blocking coalition in place improves one's prospect.

However, the exercise also illustrates the highly competitive nature of coalition-building that can arise when people try to undercut each other, and to solicit support for their proposal. Rather than jointly exploring the highest total value, but fair option for all parties, people will engage in a competitive race. Once these competitive dynamics have taken hold, it is often very hard to backtrack to a more collaborative process. The negotiator's energy is spent on securing firm commitments from counterparts rather than finding out the wisest way to split profits.

This process also speaks to navigating firm and flexible commitments as a strategic choice. For each player individually it is most useful to secure very firm commitments by the counterparts while keeping one's own commitments as flexible as possible. Collectively, this tends to induce a sequence of flexible commitments that are continuously broken.

Process

Potential questions:

What process for decision-making did you establish?

Who controlled the process?

How did the use of sidebars affect negotiations?

What would have been useful about an impartial facilitator? How could their presence have helped?

Notes:

In light of the unstable nature of the exercise, setting up a clear decision-making process including standards can be very helpful. Frequently, it is helpful to set out at the beginning clear joint aspirations such as “We strive towards a value-maximizing 3 way agreement and spend time discussing what could be considered as a fair solution.” Often, after such a discussion of fairness, the distribution falls into place naturally when the group for instance agrees on the criterion of equitable profit splits based on the relative contribution to the project in terms of financial value.

A discussion of process might also consider how sidebars affected the negotiations. Frequently, the competitive nature of coalition-building is fostered in sidebars where people speak much more frankly about “cutting others out.” This discussion might be coupled with noting the helpful nature of process managers (facilitators or mediators). Such process managers can help mitigate the competitive pressures by setting clear groundrules for engagements, by fostering a discussing around what's fair, by limiting sidebars when they lead to entrenchment, and incentivizing them when things get stuck.

Different conceptions of fairness

Potential questions:

What was a fair outcome to you?

For those who agreed to or considered a threeway deal: how did you discuss what a fair distribution would look like?

Notes:

While agreeing to discuss what a fair split would look like is helpful in this exercise, it shouldn't hide that people may have different perceptions of what is fair and that different fairness standards can be strategically employed. Some people may reasonably argue that the situation is unstable and everyone can be cut out, hence, the fair way forward is to just split the proceeds equally. BOI and GWA may feel unfairly treated as their participation ensures higher payoffs; they contribute more towards realizing profits. Hence, they might invoke the standard that the payoff should be proportionate to their contribution. Note that there are various ways to calculate such a "fair" value based on their contributions, most notably the Shapley value (which here suggests BOI: 55, GWA: 35, and PCS: 20) but that it is unlikely that participants will actually calculate it. However, they will often intuitively chose splits that approximate such a solution.

The main takeaways are likely to revolve around the process of surfacing different conceptions of what's fair especially in light of such conceptions often being implicit and assumed to be shared by others as well as the difference between genuine beliefs in fairness vs. strategically invoking self-serving fairness standards.

Analytical assessment of situation, situational awareness, and the capacity to zoom out

Potential questions:

Did you realize that the situation was inherently unstable? If so, when? Before, during, or at the end of the exercise?

How did you realize that the situation was unstable? What did you do?

Notes

As a meta-concept, the instructor may wish to dive into the capacity to assess the basic structure of a given situation. All participants have full information at the outset. They could have projected competitive coalition-building and have taken steps to mitigate it. But they often fail to do so. This lends itself for a discussion about abstracting away complexity and understanding the basic incentive structure of a situation to enhance clear thinking. Similarly, the discussion might revolve around the irrational escalation of commitment or forgetting one's long-term goals in moments of emotional stress. Participants frequently realize during the simulation that "things are going wrong" or that "we are just underbidding each other," yet they are so zoomed into the interpersonal dynamic of securing commitment by others that they fail to zoom out themselves and help others zoom out to reset the process. Such a discussion is particularly productive when certain people

managed to do so, at some point during the exercise. It can be helpful to ask their counterparts what that person did that enabled them to zoom out.

4) Additional Resources & Appendix

Additional Resources

For further background readings

- Raiffa, Howard, John Richardson, and David Metcalfe. *Negotiation Analysis: The Science and Art of Collaborative Decision Making*. Cambridge, MA: Belknap Press of Harvard University Press, 2002, especially **Chapter 22 “Consensus”** and **Chapter 23 “Coalitions.”**
- Program on Negotiation. “Managing Multiparty Negotiations.” Program on Negotiation at Harvard Law School, 2019.

For similar exercises

The exercise is based on a game that has been developed by Howard Raiffa. Many context specific versions exist that all embody the basic structure. These include *Three Party Coalition* as well as various exercise that present the basic structure in various different contexts, including *The Parking Facility Venture*, *Social Services*, and *Rushing River Cleanup*.