**Teaching Note**

**A Game of Chicken**

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Summary

|  |  |  |
| --- | --- | --- |
| **Difficulty Level** |  | 4 (Scale of 1 to 7) |
|  |  |  |
| **Group Size** |  | Either 2 students, or 2 teams of 2-3 students each |
|  |  |  |
| **Teaching Points** |  | Differing preferences |
|  |  | Nonlinear payoffs |
|  |  | Chilling effects |
|  |  | Value of long term sustainable relationships |
|  |  | Hierarchy of legitimacy |
|  |  | Negotiating in teams (if done as a team-on-team exercise) |
|  |  | Inequity aversion |
|  |  |  |
| **Target Audience** |  | Generic (any student of negotiation) |
|  |  |  |
| **Materials** |  | 2 individual roles |
|  |  |  |
| **Time Required** |  | 2 hours 15 minutes to 3 hours 15 minutes in total |
|  |  | 15 minutes to read the role materials |
|  |  | 15 minutes to prepare with teammate (if a team-on-team- negotiation) |
|  |  | 40-55 minutes of negotiation between counterparts |
|  |  | 20 minutes for instructor to input results and compute scores |
|  |  | 60-90 minutes of debrief |

About the Case

General Storyline

Julieta is a chicken farmer in Mozambique. The Mozambican poultry industry has grown dramatically in the last few years. Last year, the national industry accounted for roughly 75% of the country’s poultry consumption, with 25% currently imported from other countries.  The Mozambican economy seems to be developing fast and moving towards becoming self-sufficient in their agricultural production, and Julieta sees an opportunity to grow her operations over the next few years as the domestic poultry industry expands to meet the rest of the country’s internal demand.

CrediGro is a microcredit company focused on chicken farming, and interested in entering the Mozambique chicken market. CrediGro believes that making a successful investment in Mozambique’s growing domestic poultry market will be the key to entering the market and will eventually lead to many other successful investments.

Julieta contacts CrediGro to pitch her business expansion plan and see if she can receive a loan from them. They agree to have a meeting to go about the details, and see if they can come up with a loan plan that will benefit both Julieta and CrediGro. Specifically, both parties are looking to achieve an overall attractive project based on the size of the loan, loan payback time, business partner support, poultry density, and frequency of inspections. If the parties cannot come to an agreement, Julieta will seek to raise the money required for her expansion plans through her personal network, and CrediGro will look for alternative investments to enter the Mozambican market.

Julieta Chicken Farm

Julieta is known to be successful and ambitious. Until now she has managed her farm rather effectively, and she believes she has learnt a lot about the overall business along the way. She also has an entrepreneurial mindset and she was quick to realize that the market growth in Mozambique poses an opportunity for her business.

Julieta believes that getting the financial support from a professional credit company will be to her benefit, but she knows that sometimes this may come at the cost of losing her autonomy regarding her business and getting distracted due to the requirements associated with managing the loan and the relationship with the credit agency.

If Julieta cannot secure a loan from an external financer, she can always raise the money from her friends and family, who highly appreciate Julieta’s work and want to support her. With that said, she believes receiving the loan from a professional credit company will better suit her business’ needs.

CrediGro

CrediGro is a specialized microcredit company that focuses on the poultry industry. They have invested in a number of chicken farms of varying sizes over the years and the CrediGro representative is quite knowledgeable and experienced in the industry.

Through their diversification efforts in emerging markets, CrediGro has identified Mozambique as a next destination, given the high growth of the industry in the country. They want to invest in the country’s poultry industry, provided that they can find a business that will cooperate with them and will not pose a high risk.

The Negotiation Issues

Size of the Loan

Julieta wants to borrow as much as she can because her incentives as a farmer are aligned with larger loan size: the more funds available to her, the more she can invest in and grow her business. CrediGro has incentives to increase the loan amount only up to a certain amount (5,000 USD), after which the loan becomes too risky and less attractive for the creditor. So Julieta has a fairly linear utility function, whereas CrediGro’s is curvilinear.

A $5,000 loan maximizes joint value. However, note that while joint value is maximized, this is asymmetric-- CrediGro benefits far more than Julieta does.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Loan (USD) | $0 | $ 1,000 | $ 2,500 | $ 5,000 | $ 7,500 | $ 10,000 |
| Points for Farmer | 0 | 1 | 3 | 6 | 10 | 20 |
| Points for CrediGro | 0 | 3 | 10 | 20 | 10 | 3 |

Loan Payback Time

This negotiation issue likewise illustrates non-linear utility functions. In this case Julieta has strong incentives to extend the payback period of the loan as much as possible so that she can invest in her business and utilize the loan funds for a longer period. On the other hand, CrediGro is keen to decrease the loan payback period so as to avoid risk of default, but is also aware that having too short of a payback period can result in suboptimal investment choices and returns. This again leads to a curvilinear utility function for CrediGro. Hence the optimal solution, in terms of maximizing joint value, is a payback period of two years.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Payback Time | 4 years | 3 years | 2 years | 1 year |
| Points for Farmer | 8 | 7 | 6 | -1 |
| Points for CrediGro | 4 | 6 | 8 | 2 |

Business Partner Support

The value-maximizing choices in this negotiation are to have Julieta partner with Felicia or Alvaro. To successfully negotiate the partnership both sides should trade information to realize that although their individual value-maximizing choices differ, there exists another perspective that creates the most joint value.  Although Julieta would prefer Ronaldo and CrediGro would choose Felicia as these options bring more points to them individually, choosing Felicia or Alvaro as the partner yields more points to the entire negotiation.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Business Partner | No partner | Ronaldo | Felicia | Alvaro |
| Points for Farmer | 0 | 15 | 3 | 9 |
| Points for CrediGro | 0 | 1 | 15 | 9 |

Poultry Density

This negotiation issue deals with non-matching ranges of acceptable options potentially leading to chilling effects, as extreme offers backfire on the proposer (Schweinsberg et al., 2012). But this negotiation point also holds opportunities to trade across issues to maximize joint value.

CrediGro has incentives to reduce poultry density in order to prevent losses caused by disease within the flock. However, as an entrepreneur with financial obligations, Julieta wants to maximize poultry density and profitability to make the venture more attractive.  Julieta’s cares much more about poultry density than CrediGro does (and CrediGro cares more about inspection frequency, see below), creating the opportunity to trade high poultry density for greater inspection frequency and thereby maximize joint value.

At the same time, the points systems for the two parties do not align. For example, CrediGro ideally wants a poultry density of 2 acre/4000 chickens but this is not an available option for the Farmer.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Acre/4000 chickens | 0.5 | 0.6 | 0.75 | 1 | 1.5 | 2 |
| Points for Farmer | 20 | 16 | 12 | 8 | 4 | N/A |
| Points for CrediGro | N/A | 2 | 4 | 6 | 8 | 10 |

That the ranges of possible options for each party do not overlap presents an additional challenge. Each side will likely make offers their counterparts cannot even take under consideration, potentially causing a chilling effect in which both the offer and proposer lose credibility (Schweinsberg et al., 2012).

Inspection Frequency

This negotiation point further deals with non-matching ranges of acceptable options leading to chilling effects, as well as opportunities to trade across issues to maximize joint value.

CrediGro has a very strong incentive to maximize the number of inspections of Julieta’s farm. Julieta, however, feels that higher visits may imply losing money due to the hassle and interference. CrediGro cares much more about inspection frequency than Julieta does (and Julieta cares more about poultry density, see above), creating the opportunity to trade high poultry density for greater inspection frequency and maximize joint value.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Inspection visits/year | 0 | 1 | 2 | 4 | 8 | 12 |
| Points for Farmer | 4 | 3 | 2 | 1 | 0 | N/A |
| Points for CrediGro | N/A | -4 | 2 | 8 | 14 | 20 |

Teaching Points for Debrief

Maximizing Joint Value by Leveraging Differing Preferences

One of the major opportunities in this negotiation exercise is the differences in preferences between the parties. Ideally, the parties should identify the issues and options each side values comparatively more (i.e., differing preferences) and trade them off to maximize total value. CrediGro cares more about inspection frequency and the farmer more about poultry density, so they can trade greater frequency of inspections for high poultry density to maximize value.

On a similar note, in terms of the business partner Alvaro is not the ideal option for either of the parties, but this option provides the maximum joint value (as does Felicia).

Nonlinear Payoffs

Non-linear utility functions need to be taken into consideration when trying to find mutually agreeable solutions. In this negotiation role-play exercise payoffs are in some cases nonlinear, as is often the case in the real world. In particular, CrediGro has a curvilinear utility function on loan size and payback time. Therefore, the parties are expected to fight the intuition to expect linear payoff structures for their counterparty, and communicate more effectively to understand the other side’s interests and valuation of options.

Chilling Effects

For two issues of the negotiation exercise, specifically poultry density and inspection frequency, the parties are provided with non-matching choice arrays. This is done on purpose, in that the parties are expected to prefer options that do not have a corresponding value for their counterparty. Since the two sides in this case have choice arrays that do not fully overlap, they will frequently make offers well beyond the other side’s walk-away point, which tends to backfire

(Schweinsberg et al., 2012). To avoid such a scenario, effective negotiators perform careful research regarding their counterparty’s interests and preferences first before putting extreme offers on the table.

Value of Long Term Sustainable Relationships

Assuming they come to an agreement, CrediGro and the Julieta Chicken farm could initiate a mutually beneficial business relationship that spans many years. The negotiation exercise thus tries to highlight the importance of long term sustainable relationships, underscored by the “would you want to do business with your counterparts long-term” items on the outcome sheet, which can be used to create a partner ratings figure to supplement the points scores from the agreements on the negotiation issues. The most successful negotiators in Game of Chicken will not only have obtained a quality outcome in terms of their points total, but also receive positive ratings in terms of interest in a long term relationship from their counterpart.

Hierarchy of Legitimacy

Some justifications for a proposed deal are more legitimate, in other words based on mutually endorsed external standards, than others. For instance, with regards to poultry density the CrediGro representative overweighs anecdotal evidence (a bad personal experience) to guide their preferences and policies rather than relying on a large sample of observations. Negotiators should be aware of the different levels of legitimacy that underlie offers and take these into account when making decisions.

Negotiating in Teams

Game of Chicken can be used as a team-on-team negotiation, with two or more students representing each side (i.e., multiple representatives from CrediGro and multiple stakeholders in the Julieta Chicken farm). In debriefing a team-on-team negotiation it is worth highlighting that teams have the advantage in both creating and claiming value relative to individual negotiators, but only if the teammates coordinate their roles and communications (Thompson et al., 1996). Poorly coordinated teams may underperform relative to individuals.

A common tactic used by negotiating teams is good cop-bad cop, in which one member of the team behaves cooperatively toward the counterpart and the other team members behaves competitively or even in a hostile manner toward the counterpart. One means of counteracting good cop-bad cop ploys is to attack their team coordination by asking the good cop what he or she thinks of the bad cop’s demands.

Aversion to Inequity

In most popular negotiation exercises, agreements that maximize joint value are symmetric, benefiting both sides equally. In real life, many deals that maximize total value benefit one side more than the other and raise ethical concerns about fairness. The Game of Chicken role play seeks to capture this in that some options (e.g., a $5,000 loan) increase the total pie but CrediGro benefits disproportionately relative to the Julieta Chicken Farm.

Laboratory experiments show that human beings and even some nonhuman animals have a strong emotional aversion to inequity, leaving negotiators to respond negatively to “unfair” deals even if total value is objectively higher than their alternatives (Brosnan & de Waal, 2003; Henrich et al., 2005; Nowak et al., 2000). Obtaining the most value possible for yourself can require setting aside concerns about fairness and relative outcomes and focusing on achieving the best objective outcome for yourself that is possible.

Relatedly, in Game of Chicken CrediGro has a better BATNA or Best Alternative to a Negotiated Agreement than the Julieta Chicken Farm. If there is no deal, CrediGro’s alternative of seeking other investment opportunities provides 40 value points, whereas Julieta’s alternative of obtaining loans from friends and family provides only 30 points. In a real business situation of this kind, the farmers would indeed have worse alternatives and typically need the loan more than the microcredit company needs the business. Generally speaking, negotiation counterparts with strong BATNAs achieve better outcomes for themselves (Schaerer et al., 2015).

Thus, although the potential is there for a win-win agreement in Game of Chicken, in terms of both fairness and relative power, the advantage goes to the foreign company not the local entrepreneur. Interactions between international companies and small local businesses in emerging markets are often like this, raising ethical challenges regarding global capitalism that the class may wish to discuss.

This blog post by Bill Gates called “Why I would raise chickens” may be worth discussing in light of the value added by a microcredit company lending to a small chicken farm— even if the company ultimately acts to generate profits for itself.

<https://www.gatesnotes.com/Development/Why-I-Would-Raise-Chickens>

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