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ALPHATEC: A NEGOTIATION EXERCISE WITH LOGROLLING AND BRIDGING POTENTIAL[1]

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ABSTRACT

Two integrative negotiating processes, logrolling and bridging, are discussed from a theoretical perspective. Existing role-playing exercises with logrolling or bridging potential are briefly described. The Alphatec negotiating exercise is then described. The criteria for Alphatec were that: (a) it had to be simple enough to be understood and done in one 50-minute period, and discussed the next period; (b) it had to be realistic enough that students might actually do similar negotiating in their current or future jobs; (c) it had to contain both bridging and logrolling solutions; and (d) it had to include numerical outcomes that could be used to calculate measures of negotiating effectiveness, fairness, and efficiency. Expectations regarding the outcomes of the exercise are described. Implications for using the exercise as a research experiment are discussed.

Theoretical Considerations in Logrolling and Bridging

Logrolling and bridging are two processes that provide for integrative agreements in negotiations. In such agreements, the joint outcome of the two negotiators is greater, or more valuable, than is a fixed-sum solution (Pruitt, 1981; Pruitt & Rubin, 1986).

Logrolling is defined as a negotiating process that allows each party to obtain important outcomes by sacrificing less important interests. A union-management example of logrolling would focus on trading lesser demands for greater ones. The union might concede on a no-strike clause in exchange for wage raises, which it prefers over the no-strike clause. Management might give up their demand to hold the line on wages in exchange for the no-strike clause, which it prefers over the lower wages. In such a logrolling process, there is no fully integrative solution; and the two parties iterate their way through various combinations of demands and concessions (Fisher & Ury, 1981).

In contrast, bridging is a negotiating process that allows both parties to satisfy their most important interests underlying their initial demands, although they might have to forfeit those initial demands as they first perceived them. For bridging to be possible, mutual exclusiveness of the negotiators' goals must be resolved somehow so that the goals become compatible. In doing so, discussion must transcend concrete positions and refocus on the interests underlying those positions (Fisher & Ury, 1981; Pruitt, 1981; Pruitt & Rubin, 1986).

Bridging can be illustrated by extending the union-management example of logrolling. Suppose that workers have developed a timesaving, quality-enhancing procedure, which they have withheld from managers due to fear of layoffs and tougher standards. Managers have been asked to bid on a large contract that would double the demand for the firm's product. Managers have withheld this information from the workers because they fear that, if the workers realize how much the firm needs their skills, the workers will demand higher wages. If management can promise the efficiency made possible by the new procedure, it is virtually certain that the firm will be awarded the contract. As union and management representatives begin to negotiate with each other, neither side is aware of the bridge represented by using the new procedure to win the new contract, which would lead to increased profits and wages. Before the negotiators can find the bridge, each side must trust the other enough to share the relevant information. Once the negotiators find the bridge, it is so obvious that they need waste no time looking for other solutions; and they can collaborate on the problem of how the firm can grow after winning the contract.

Differences between logrolling and bridging strategies can be described by the dual concern model (Thomas, 1976). This model depicts conflict orientations in terms of two dimensions, the desire to satisfy one's own interests and the desire to satisfy one's opponents interests. Thomas (1976) contended that self-interest and other-interest were not opposite ends of a continuum; but, rather, two mutually consistent approaches to conflict. Strong conflict orientations toward both self- and other-interest can promote the discovery of integrative solutions. Deutsch (1958, 1960) defined "cooperative motivational orientation" in reference to this concept: and Thomas (1976) called this combination of conflict orientations "collaborative." Thomas argued that the type of strategy adopted by negotiators is determined by three conditions: the negotiators' conflict orientations, the set of options available to them, and their willingness and ability to share information about those options. Concerning the available integrative options, a negotiating situation can have potential for logrolling, bridging, both, or neither.

Before discovering any integrative potential, negotiators often begin by assuming a fixed-sum game that operates along the locus of points described by X + V = constant. (Self- and other- interest can be plotted in two-dimensional space on perpendicular X and V axes, where X = self-interest and V = other-interest.) 'My gains are your losses and vice versa." This is the assumption that limits negotiators to the process Fisher and Ury (1981) called positional bargaining. In contrast, logrolling involves looking at a series of demands *I* concrete positions (Pruitt & Rubin, 1986), each of which represents a more favorable joint outcome than any point on the X + V C line. When both negotiators discover that it is possible to satisfy higher-priority interests by conceding lower-priority interests, they begin to search for ways to improve their joint outcome, X + V. In logrolling, there may be many such points (Xi, Vi), none of which completely fulfills the interests of both parties. Thus, logrolling can be described as a number of possible small quantum leaps among points in the joint outcome space above the X + V = C line.

A somewhat different process occurs when there is at least one bridging solution but no logrolling solution. This bridging process depends on a large quantum leap from the X + V = C line to the bridge, a solution that satisfies both parties' underlying interests. This leap is possible only if the negotiators de-emphasize their initial demands / positions and refocus on their underlying interests (Fisher & Ury, 1981; Pruitt & Rubin, 1986). This refocusing requires the ability to transcend the situation and generate new ideas, but discovery of the bridge requires something more. It depends on the sharing of specific, relevant, crucial information, which requires the simultaneous openness and receptivity of both negotiators. If one negotiator either withholds the crucial information from the other, or tunes out when the other offers it, the negotiators are likely to miss the bridge.

Logrolling and Bridging Exercises

Many research experiments and classroom exercises have used role-playing tasks with logrolling potential. One logrolling role-play is the well-known prisoner's dilemma game, made popular by Luce and Raiffa (1957) and Deutsch (1958, 1960). In most versions of this game, the combination of decisions representing the best Joint outcome for the two players requires both players to forego their own best outcomes. Another illustration of logrolling uses a role play that asks a buyer and seller to negotiate a schedule of prices for three items of merchandise, according to specified profit tables (Pruitt & Lewis, 1975; Kimmel, Pruitt, Magenau, Konar-Goldband, & Carnevale, 1980). A third approach provides profit tables to a buyer and seller, and calls for them to negotiate the price and quantity to be purchased of a single commodity (Kelley & Schenitski, 1972; Siegel & Fouraker, 1960). In these buyer-seller role-plays, as in the prisoners' dilemma game, both parties have to sacrifice something to achieve the most favorable joint outcome. This is the nature of logrolling.

One popular role-playing exercise offering a bridge is the Ugh Orange Exercise (Lewicki, Bowen, Hall, & Hall, 1988). Two role players negotiate an agreement on how they will share a scarce resource, the ugli oranges, which are ostensibly sufficient in number for only one of the negotiators. Each negotiator needs all the available ugh oranges to accomplish his/her goals. The bridging solution becomes evident only if both negotiators realize that one needs only the rinds of the oranges; the other, only the juice.

[1] The author would like to thank Sr. J. C. Morales for his assistance in developing the role scenarios for this exercise.

I am aware of only one role-play, Border Dispute (Marcic, 1992), that could offer both a bridging solution and a logrolling solution. In Border Dispute, negotiators from two countries attempt to reach an agreement about how to divide up the territories located in the border zone between the two countries. Each territory is assigned its own "value." This agreement represents the logrolling part of the exercise. The bridging solution depends on the fact that both countries wish to make steel, which requires both coal and iron ore. There is a coal deposit in only one of the countries; an iron ore deposit in only the other country. Thus, the bridge is to share the coal and iron ore.

There are two limitations of Border Dispute. First, the values assigned to the territories are the same for both countries. There is no combination of territories that maximizes the joint benefit for the two parties; and, therefore, no way to logroll to a position above the X + V = C line. However, this shortcoming can be overcome by modifying the territories values such that some are worth more to one country and others are worth more to the other country. The second limitation involves the lack of realism of the situation. There is a low probability that any student will ever be in a position to negotiate such an agreement. That is, it might be difficult for most students to identify with the role of Secretary of State and seriously project themselves into the role-play.

A New Exercise with Both Logrolling and Bridging Potential

The following new role-play represents an attempt to synthesize the elements of some of the logrolling and bridging exercises described above. The logrolling process makes use of profit tables similar to those used in Pruitt and Lewis's experiment (1975). The criteria for developing the role-play were as follows.

1. It had to be simple enough so that the students could understand the roles, internalize them, and act them out in 50 minutes; and so that they could discuss the process in the next 50 minutes.

2. It had to be realistic enough that students might actually do similar negotiating in their current or future jobs.

3. It had to contain both bridging and logrolling solutions.

4. It had to include numerical outcomes that could be used to calculate measures of negotiating effectiveness, fairness, and efficiency.

The procedures of the Alphatec Exercise are as follows.

1. Triads, composed of two negotiators and one observer, are formed randomly by passing out role sheets to the negotiators and observers' reports to the observers. Each observer is assigned to one pair of negotiators. The one-page role sheets (shown in the Appendix) describe the negotiators' roles as managers of two different divisions of the same company. These managers are a buyer and seller of electronic components. The primary, underlying interests of both managers are to be promoted and transferred within Alphatec to an overseas location. The objective is to earn enough profit for their divisions to ensure a transfer and promotion for both of the managers. This cannot be accomplished by logrolling. Only the bridging solution allows both managers to achieve their goals.

2. The instructor dictates the following narrative to the negotiators.

Instructors Briefing

> Please read your roles and try to project yourselves into those roles as completely as possible. You are to portray a manager who represents a division of your firm. Try to become that manager. You will be negotiating with another manager who represents another division of your firm.
>
> I have to brief the observers outside the room for a few minutes. When you've finished reading your role sheet, and feel that you can identify with the role, please do not talk with anyone until after we come back from the observers' briefing.

3. While the negotiators learn their roles, the instructor leads the observers into another room and briefs them. The briefing is intended to ensure that the observers understand their task.

4. The instructor and observers return to the classroom. The negotiators and observers take a brief quiz to ensure that they understand their roles. Then the instructor plays the role of president and CEO of Alphatec with the following "President's Briefing."

Presidents Briefing

> I am B. G. Wilson, President and CEO of Alphatec. Now that you have internalized your roles, spend 20 minutes negotiating with the other division's representative. Then decide on a course of action.
>
> I understand that the Integrated Circuits Division needs to sell 1000 units of three different integrated circuits to the Storage Device Division; and that the Storage Device Division needs to buy them from the Integrated Circuits Division. I also understand that each division has designated a negotiator; and that these negotiators will reach an agreement about the transfer prices of the ICs.
>
> I have no interest in what these transfer prices will be. However, I need to know the answers to five questions.
>
> a. What will be the price (A. . . G) of each of the three types of ICs?
> b. How will the ICs be delivered?
> c. What else do you plan to do? That is, what are the other terms of the agreement?
> d. Will Babson be promoted and transferred?
> e. Will Simpson be promoted and transferred?
>
> Now you may begin negotiating with the other division's representative.

5. The role players are given 20 minutes to negotiate an agreement that includes the 5 points requested by the president.

6. After the role play, the instructor asks each triad to report the nature of their solution and whether both managers were able to achieve their underlying interests (the promotion and transfer).

What to Expect

The initial focus of most of the dyads is on logrolling the prices of the integrated circuits (see Appendix) in an attempt to earn enough profits for both divisions to ensure promotions and transfers for both managers. Most of these dyads indicate that they feel frustrated because they can not logroll enough to earn enough profit for both of their divisions so that both managers can be promoted and transferred.

Approximately 65% of the negotiating dyads refocus on the fact that the marketing manager's division wants to promote and transfer an engineering manager and the engineering managers division wants to promote and transfer a marketing manager. Most of these dyads realize that, if the managers swap divisions, they can both be promoted and transferred regardless of the negotiated prices of the integrated circuits. Thus, they find the bridging solution.

The bridgers' agreements tend to be fair, efficient, and straightforward with simple delivery schedules favoring neither negotiator. In contrast, the logrollers' agreements tend to favor one or the other of the negotiators, and the process of negotiating usually consumes more time than bridging does. In addition, logrolling is frequently accompanied by complex, inefficient delivery schedules including written contracts, lawyers, neutral holding companies for temporary storage of the merchandise, armed guards, and even military police.

Implications for Research

Every published study on integrative negotiating has used some form of logrolling task. I do not know of any study that has investigated bridging or compared it with logrolling. The Alphatec Exercise offers a negotiating task with potential for both logrolling and bridging. One set of contrasts that could be made would address conflict orientations and / or negotiating outcomes for the bridgers vs. those for the logrollers, using the Alphatec Exercise as is. One relevant framework for describing negotiators' orientations is Thomas's (1976) dual concern model, which defines five conflict orientations: avoiding, competing, collaborating, accommodating, and sharing. The negotiating outcomes could include measures of negotiating fairness, efficiency, and effectiveness (Fisher & Ury, 1981). Another approach would be to set up a true experiment by modifying Alphatec in two ways: (a) manipulating the options available by randomly assigning half of the dyads to a condition with the bridging solution deleted; and (b) manipulating trust for the dyads by randomly assigning half of them to a low-trust condition and the other half to a high-trust condition following Zand (1972). (The last sentence of both role descriptions in the Appendix sets up a precondition of low trust.) This design would allow one to investigate bridging with respect to logrolling, and also the impact of trust on negotiating outcomes.

APPENDIX

ALPHATEC: integrated Circuits Division

Role for L. M. Simpson, who will negotiate with L. E. Babson.

You are L. M. Simpson, a marketing manager working for Alphatec, Inc. Your company is one of the most important in the United States and Europe. It is involved in very high technology, which has made it one of the leaders in the integrated circuits business.

You have had a long and successful career in marketing with the Integrated Circuits Division. Your primary goal is to be promoted and transferred to one of Alphatec's overseas offices.

You have learned that there are some openings in your division's office in Pans. Any of these positions would be a promotion for you. You know that one of the positions requires an engineering background but not a marketing background. You regret that you do not have experience in engineering because there is some urgency to fill the position. It will go to the first engineering manager at your level in Alphatec who applies for

Right now you are coordinating the marketing of the latest integrated circuit (IC) series developed by your division. The ICs ready for release include the IC-8090, IC-6090, and IC-2230. These ICs represent the latest developments in electrical components and will be essential to may new devices. Your division must sell 1000 of each of these ICs (no more, no less) to the Storage Device Division of Alphatec, which is located about 2000 miles from your plant.
The sale of these three ICs is extremely important for your division. You are responsible for selling these components to the Storage Device Division.

You hope that the revenue associated with this sale will enable you to reach your goal of $210,000 profit for your division. If you reach this goal, your division VP will waive the engineering-experience requirement for the position in the Paris office, and will ensure that you get the promotion and transfer that you want. If your division's profit is less than $210,000, the VP will not waive the engineering-experience requirement.

The cost accounting department developed the following table. It forecasts the profit per unit that your division will make on the ICs if your division sells them at the specified prices.

IC-8090		IC-6090		IC-2230	
Price	Profit per Unit	Price	Profit per Unit	Price	Profit per Unit
A	0	A	0	A	0
B	10	B	15	B	25
C	20	C	30	C	50
D	30	D	45	D	75
E	40	E	60	E	100
F	50	F	75	F	125
G	60	G	90	G	150

You are going to negotiate the prices of the integrated circuits with L. E. Babson, a manager in the Storage Device Division of Alphatec. Babson is at the same organizational level in Alphatec as you are. You have learned from your experiences during the past two years that you can not trust Babson, personally. There has been a high level of mutual fear and suspicion between the two of you.

ALPHATEC: Storage Device Division

Role for L. E. Babson, who will negotiate with L. M. Simpson.

You are L. E. Babson, an engineering manager working for Alphatec, Inc. Your company is one of the most important in the United States and Europe. It is involved in very high technology, which has made it one of the leaders in the storage device business.

You have had a long and successful career in engineering with the Storage Device Division. Your primary goal is to be promoted and transferred to one of Alphatec's overseas offices.

You have learned that there are some openings in your division's office in Pans. Any of these positions would be a promotion for you. You know that one of the positions requires a marketing background but not an engineering background. You regret that you do not have experience in marketing because there is some urgency to fill the position. It will go to the first marketing manager at your level iii Alphatec who applies for it.

Right now you are coordinating the development of the optical storage device, the SX-3.5. This revolutionary device will be able to store up to 800 megabytes on a special floppy disk. You have promised 1000 units of the SX-3.5 to your customers. Each unit of the SX-3.5 requires three integrated circuits (ICs): IC-8090, IC-6090, and IC-2230. Your division will have to buy 1000 units of each of these ICs (no more, no less) from the Integrated Circuits Division of Alphatec, which is located about 2000 files from your plant.

The purchase of these three ICs is extremely important for your division. You are responsible for purchasing the required ICs from the Integrated Circuits Division.

You hope that the revenue associated with the SX-3.5 will enable you to reach your goal of $210,000 profit for your division. If you reach this goal, your division VP will waive the marketing-experience requirement for the position in the Paris office, and will ensure that you get the promotion and transfer that you want. If your division's profit is less than $210,000, the VP will not waive the marketing-experience requirement.

The cost accounting department developed the following table. It forecasts the profit per unit that your division will make on the SX-3.5 if your division buys the integrated circuits at the specified prices.

IC-8090		IC-6090		IC-2230	
Price	Profit per Unit	Price	Profit per Unit	Price	Profit per Unit
A	150	A	90	A	60
B	125	B	75	B	50
C	100	C	60	C	40
D	75	D	45	D	30
E	50	E	30	E	20
F	25	F	15	F	10
G	0	G	0	G	0

You are going to negotiate the prices of the integrated circuits with L. M. Simpson, a manager in the Integrated Circuits Division of Alphatec. Simpson is at the same organizational level in Alphatec as you are. You have learned from your experiences during the past two years that you can not trust Simpson, personally. There has been a high level of mutual fear and suspicion between the two of you.

OBSERVER'S REPORT
Alphatec Situation

YOUR NAME: _____
NAMES OF NEGOTIATORS:

_____ is Babson

_____ is Simpson

Your job is to observe the process of negotiating between the representatives of the two divisions of Alphatec. Class participation points for you and for the negotiators will be based on this report. Please take notes on the following.

1. How much time did the negotiators take to realize that they could **both** achieve their important goals -- the transfer and promotion? (Check blackboard for official time.)

_____ minutes

2. How much time did the negotiators take to develop all the terms of their agreement?

_____ minutes

Questions 3 through 12, circle appropriate answer:

Very much <----------> Very little

3. How hard did Babson try to get what he/she needed?
   5 4 3 2 1

4. How much did Babson help Simpson get what he/she needed?
   5 4 3 2 1

5. How hard did Simpson try to get what he/she needed?
   5 4 3 2 1

6. How much did Simpson help Babson get what he/she needed?
   5 4 3 2 1

7. How much information did Babson share with Simpson?
   5 4 3 2 1

8. How relevant was the information that Babson shared with Simpson?
   5 4 3 2 1

9. How much information did Simpson share with Babson?
   5 4 3 2 1

10. How relevant was the information that Simpson shared with Babson?
    5 4 3 2 1

11. How much did Babson seem to trust Simpson?
    5 4 3 2 1

12. How much did Simpson seem to trust Babson?
    5 4 3 2 1

13. What was the negotiated price of the IC-8090?
    A B C D E F G

14. What was the negotiated price of the IC-6090?
    A B C D E F G

15. What was the negotiated price of the IC-2230?
    A B C D E F G

16. How much total profit will Simpson's firm make?
    $ _____

17. How much total profit will Babson's firm make?
    $ _____

18. How are the ICs going to be delivered? (Circle one number.)

    1. The IC Division will ship them to the Storage Device Division
    2. The IC Division will send them by special messenger to the Storage Device Division.
    3. The Storage Device Division will send a special messenger to pick them up.
    4. Simpson will deliver them in person to the Storage Device Division.
    5. Babson will go in person to the Storage Device Division and pick them up.
    6. Babson and Simpson will accompany each other and carry the ICs together.
    7. They did not decide.
    8. Any other plan (please specify).

19. What method of transportation will they use?
    1. Air 2. Other 3. Not decided

20. Was there a third party involved in the solution? (Circle all that apply.)

    1. No.
    2. Yes, Armed guards.
    3. Yes, Neutral site to receive, then deliver the ICs.
    4. Yes, Military.
    5. Yes, Lawyers.
    6. Yes, Other (specify).

21. Please describe how you felt as they were bargaining. For example, did you feel: (Circle all that apply.) anxious? discouraged? frustrated? uncomfortable? bored? indifferent? afraid? excited? interested? disgusted? angry? nervous? superior? inferior? surprised? Other?
    _____

22. Please describe the process that the two managers used as they went about reaching an agreement. (Use the back of this page if necessary.)

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