Working Paper

International Negotiation Support Systems: Assessing the Need for Practical Tools

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WP-93-35
July 1993

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Preface

The concept for this study originated at a workshop on Systems Analysis Techniques for International Negotiation sponsored by the Processes of International Negotiation (PIN) Project at the International Institute for Applied Systems Analysis (IIASA) in Laxenburg, Austria in October 1991. That meeting was attended primarily by methodologists who have studied and developed a wide range of systematic and quantitative analytical techniques that seek to assist negotiators in effectively accomplishing various aspects of their practical tasks. All of the participants had published widely on particular methodological tools that, at least theoretically, would increase the process efficiency and outcome satisfaction of negotiating parties.

The PIN Project sponsors of the workshop bluntly confronted these experts with an anomaly: If the analytical methodologies which they developed were so useful, why are they not being applied widely in actual negotiation settings? Under what circumstances were these methods being used, what were the problems encountered, and what were the effects on the negotiation process and outcome?

One of the conclusions reached at the workshop was that these methodological experts had many good ideas to enhance the process of negotiation through the use of analytical techniques, but had very limited conceptions of the practical needs of negotiators. In market terms, they had a good handle on the supply but limited knowledge of consumer demand. Thus, a valuable outcome of the workshop was the recommendation to conduct a study to explore the analytical requirements of practical negotiators. If these needs could be understood, then the appropriate analytical methodologies could be designed and offered to an interested and attentive user group, negotiators. This report is the product of that requirements analysis.

This project was undertaken in collaboration with Prof. Gerhard Hafner, Institute for International Law and International Relations, Vienna, and Dr. Paul Luif, Austrian Institute for International Affairs, Laxenburg.

The author would like to thank a negotiation researcher who provided many constructive comments and suggestions at various stages of this study: Dr. Daniel Druckman, National Academy of Sciences, USA, who was a visiting scholar at IIASA. Gratefully acknowledged for their efforts are the researchers who assisted in collecting interview data: Cecilia Albin, Anna Korula, and John Rohrbaugh.

We also thank the Austrian Secretary-General for Foreign Affairs, Botschafter Dr. Wolfgang Schallenberg, for graciously providing access to personnel in the Ministry.

Finally, without the generous support of the Austrian Federal Ministry for Science and Research under Contract GZ.308.902/3-43/92, this research could not have been accomplished. In particular, we wish to thank Dr. Leopold Ziegler for his sincere interest and encouragement of this endeavor.

Table of Contents

Objectives

How do practical international negotiators really "do it?" How do they plan, problem-solve, strategize, analyze the issues, generate options to put on the table, assess the impacts of alternative proposals, assess the interests and commitments of the other side, and evaluate the likely reactions of the other side, within the context of many other tasks and responsibilities? What is observable publicly at international negotiations is just the tip of the iceberg in terms of the work that is necessary to diagnose, prepare, conduct, and adjust at the negotiation table. Much happens behind the scenes -- at the home office, in private caucuses, by the staff. Only the well thought out product of these assessments ever comes to light at the visible negotiations.

This research examines how negotiators process information and perform analyses to conduct international negotiations. Certainly, one way of obtaining such information would be to ask practicing negotiators directly what *their analytical processing needs* are. Experience has shown that asking such direct questions of negotiators is very difficult. Often, they do not know how to respond. Analytical tasks, while they do occur, are almost like reflex actions; they certainly happen, but they are difficult to describe or explain. Sometimes, such questions are difficult for senior diplomats to answer because they are far removed from the detailed analytical exercises that occur within their delegation or at the home office; such analyses are typically conducted by the staff which only present the digested results to the senior negotiators.

As a result, we have gathered information about analytical needs in international negotiation by asking practitioners, given their experience, where the *problems lie in the substantive prenegotiation and negotiation processes*. What would they have liked to know? What would have been useful in finding a mutually acceptable solution? The goal was to identify a set of operational needs and problems for negotiators. Knowing this, the research team could make the translation from

substantive needs to analytical needs, from negotiation requirements to analytical tools that would fill existing gaps in negotiator knowledge. The goal is to provide meaningful support before and during the negotiation process, and to develop this support in a way that can be easily accepted and absorbed into a negotiator's routine.

There is no doubt that analytical methodologies already exist that can be applied to support negotiators and policymakers in reaching better negotiating results. The central question is to identify specifically how this existing capability can be brought to bear effectively to help these officials, both at the negotiating table and back home in national capitals. Such techniques are particularly important to small- and medium-sized countries that need to enhance their capabilities in order to interact on a more equal footing with larger and more powerful nations. A goal of this study is to identify the requirements of negotiators in this regard and to begin the process of matching their needs with available techniques.

Information engineering and logic suggest that any attempt to apply analytical methodologies to support international negotiations should commence with a needs assessment (Andriole, 1990). Ideally, this evaluation would seek to identify both the information and analytical requirements of negotiation participants at all levels (from policymakers back home, to technical experts, to negotiators and their staffs), at all stages of the process (from the prenegotiation, to setting the stage, to the give-and-take, and the endgame phases), and within all types of negotiations dealing with different substantive issues. Taken all together, this would be an extremely large, if not impossible, task. However, it is feasible to conduct such a requirements analysis in more manageable pieces and in an incremental fashion. Based upon the recommendations of a recent workshop on Systems Analysis Techniques for International Negotiation[1] attended by an international group of

[1] Sponsored by the Processes of International Negotiation (PIN) Project at the International Institute for Applied Systems Analysis (IIASA) in October 1991.

methodological and negotiation researchers, the development of such a requirements analysis was deemed essential to the rational design of analytical tools that would be viewed as useful and meaningful by actors in the international negotiation process (Spector and Korula, 1991). This report is the culmination of these recommendations to conduct such a needs analysis to support international negotiation.

In this report, we seek to identify what is currently done to analyze information in support of international negotiations, what the pitfalls are, and where the opportunities lie to improve analytical support. This is a "bottom up" analysis; we seek to describe what is and how that can be improved with the help of systematic methodologies. The approach seeks to understand the negotiator's needs and provide appropriate techniques to satisfy their needs, not to impose idealized solutions without reference to their requirements.

Background

What is most apparent to anyone who has participated in, analyzed, or sat through a public international negotiation are the often lengthy, seemingly haphazard, meandering of the debates, and the positioning and posturing that appears to skirt the issues at stake. It certainly bears the image of a most unsystematic process. While some of this conspicuously roundabout behavior may be driven by conscious strategies and tactics, it would seem reasonable to assume that the efficiency of the joint decision making process of negotiation can be enhanced significantly by the judicious application of logical and quantitative methodologies from the management sciences, psychology, economics, statistics, and computer sciences.

There has been relatively little research accomplished on how such analytical methodologies

can be engineered to assist international negotiators in a practical way, either to diagnose, plan or develop strategies independently or bargain interactively. Zartman (1993) criticizes the lack of dialogue between the negotiation research community and the methodological research community. Spector (1993a) identifies several important challenges that must be addressed by future collaborative efforts between these communities:

1. The transformation of descriptive and explanatory analytical approaches into normative and prescriptive approaches.

2. The synthesis of process and substantive models.

3. The application of end user-focused strategies rather than technique-focused approaches to developing analytical support.

4. Design of effective presentation and delivery of practical analytical tools.

But the first logical step in developing a research dialogue that is aimed at producing useful negotiation support systems is to identify the analytical requirements of practical negotiators -- answering the question: What do they need?

Analytical Needs

The negotiation research literature suggests that practical negotiators gather information and conduct analyses now, but on a mostly ad hoc basis. Spector (1993b) emphasizes the prenegotiation period as the principal point of entry for analysis. This is the phase of negotiation in which the need for information, planning, and tradeoff assessment can be instrumental in developing effective

approaches to resolving conflicts. It is when parties generally diagnose the situation: generating alternate formulas, defining their own interests clearly, inferring the motives and interests of the other parties, identifying opportunities for tradeoffs and compromises between opposing perspectives, and developing expectations for the final outcome of the negotiation.

Zartman and Berman (1982) also cite the importance of this early "information hungry" period and specify seven fundamental information-gathering and analytical tasks: reviewing and being well briefed on the facts of the problem, looking into precedents and referents governing similar situations, knowing the contexts and perceptions that give meaning to the situation, trying to list and understand the stakes and interests of each side, being aware of the affective elements in the parties' viewpoints of the situation, and beginning to hear out the other parties' points of view. Such analytical requirements, though, are not limited to the prenegotiation phase; they continue through to the conclusion of negotiations -- until an agreement is reached or talks are broken off.

A more broadly stated set of requirements is offered by Winham (1979), who presents a "Checklist for Negotiators" that was developed by a U.S. State Department's Senior Seminar on Foreign Policy. This checklist is a practical guideline for the conduct of negotiation. It inventories the type of substantive information and planning that is generally required to prepare for international negotiations and defines three overarching tasks:

1. Define problems and goals, establish a negotiating framework and procedures, and prepare opening position.

2. Conduct day-to-day negotiation (ie., attend meetings, analyze alternative proposals, liaise with home government, accommodate positions on issues, reach general agreement if possible).

3. Assess negotiation; reach agreement on major issues if possible; conclude negotiation (ie., decide whether to accept available terms or discontinue negotiation) (pp. 132-135).

While they are not explicitly identified, the analytical support requirements implied by these substantive tasks can be easily derived.

Application Examples

Some attempts have been made and documented to support international negotiation using analytical methods. Decision analysis models and group problem-solving facilitation have been used to support delegations in the Panama Canal negotiations (1974), U.S. military base negotiations in the Philippines (1978), and the negotiations to develop international oil tanker standards (1978) (Raiffa, 1982; Ulvila and Snider, 1980; Ulvila, 1990). An economic model that simulates alternate deep sea mining conditions was used in the Law of the Sea negotiations (Raiffa, 1982). A meteorological model on acid rain emissions and depositions is currently being used to assist the United Nations Economic Commission for Europe (UN/ECE) renegotiation of a sulfur protocol (Alcamo, Shaw and Hordijk, 1990). Several other examples are presented in Spector (1993c).

These applications of analytical techniques, while interesting and worth learning from, represent a biased sample. The methodologists were allowed to develop their techniques to support the negotiations only because the practical negotiators were positively inclined toward such systematic methods in the first place. It would be very difficult, if not impossible, to transport many of these approaches to other, even similar, negotiation settings without the goodwill and tolerance of the particular personalities who were involved in these original applications. Certainly, the goal should be to develop analytical support tools that will be acceptable regardless of personality and can be incorporated into the negotiator's routine functioning. To do this, it is important to begin by conducting an analytical requirements assessment -- to understand and specify the needs, problems, and tasks of negotiators at a practical level.

Analysis

The best to assess the analytical requirements of international negotiators is to ask them directly. Their needs for information and analysis can only be evaluated in terms of their experiences and subjective impressions of what is required to conduct the negotiations effectively. However, practitioners, senior ones in particular, often do not think in terms of analysis and study; they perform their assessments in informal, nonstructured ways, based upon their past experiences, understanding of their own goals and interests, understanding of other nations' goals and interests, and an understanding of the issues at stake in the negotiation.

Analytical approaches, while integral to their preparation for a negotiation, are not considered in a systematic and rigorous fashion. In fact, they may not even consider what they do as analytical processing at all. They are reflex actions, part of doing their job, something indistinguishable from other preparation and planning activities.

Yet, it is only the professional negotiator community that can possibly know what information and analysis is required by practitioners at the table and prior to arriving there. As a result, it was essential to identify an alternative, less direct, means of obtaining information from negotiators about their analytical needs. The selected approach was to develop an interview schedule that asked practitioners to identify what types of information they needed to conduct their negotiations, how they obtained that information, and the impact of having or not having that information in terms of the effectiveness of the negotiation process and outcome. We also asked questions relating to problems encountered and opportunities missed because the right information was not available at the right time. (See Appendix C for a copy of the Interview Guide.)

In depth, partially structured interviews were conducted with 23 Austrian diplomats in Vienna

during the Spring 1993. Many respondents were senior negotiators who have served as heads of delegations to one or more international negotiations. Others were mid-level diplomats who served on delegations. Yet others had served as support staff for particular Austrian negotiating teams. The interviews were structured so as to take advantage of the data collection efforts of another research study which involved interviewing the same sample of Austrian diplomats (see Druckman, 1993). Thus, a special section of questions related to this requirements analysis was inserted into a larger interview guide. (The requirements analysis questions which were included in the interview guide are presented in Appendix A.) Each interviewee was asked to select a particular international negotiation that they had participated in personally and, as a result, that they could describe in detail. The result was a descriptive profile of each selected negotiation case across a wide range of factors.

The fact that the requirements assessments were collected in conjunction with another study effort had some important payoffs. It enabled the correlation of the needs analysis factors with other factors about the negotiation case at hand. Information and analytical requirements could be related to issue, situation, strategy, and outcome factors, for instance. This integrated interview approach enabled us, as well, to reach a sample of high level negotiators for both studies that we could probably gain access to only once, due to their very busy schedules.[2] The negotiations included in the study offer a range of cases in which information and analytical requirements are likely to vary, including cases that are bilateral and multilateral, those involved with national, regional and global issues, and those dealing with the key issue dimensions of environment, economics, and security.

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[2] As a result of the decision to combine the interviewing needs of this study and the Comparative Negotiation Methodology study (Druckman, 1993), it was necessary to change the negotiation targets that had been suggested in the proposal. Originally, it was conceived that interviewing would be conducted with diplomats who were involved in the Conventional Forces in Europe (CFE) and Conference on Security and Cooperation in Europe (CSCE) negotiations that have been taking place in Vienna. This proved to be an impractical goal, as it was difficult to arrange appointments. Alternatively, the decision to conduct the interviews exclusively from a set of Austrian respondents was a advantageous one. The research team's access to high level Austrian diplomats yielded a sample of serious and attentive respondents, who provided us with the time required for an in depth interview. As well, interviewing only Austrian diplomats enabled us to examine a wide range of different negotiation cases in which the analytical requirements might vary more than in the single context originally planned.

(See Appendix B for a list of negotiation cases.)

The information gathered for each question in the interviews was categorized and coded so that the responses could be compared systematically and evaluated to identify possible patterns in analytical needs and problems across different case types. Statistical analyses were conducted across the requirements analysis and other sections of the interview guide, as well.

Results

The interview results are organized to answer three basic questions about analytical support for negotiations:

- How is analytical support used in negotiations?
- Does analytical support improve the process of negotiation?
- Does analytical support have a positive impact on the outcome of negotiations?

Analytical Support for Negotiations

Patterns among four dimensions concerning analytical support for negotiations are presented:

- The *structure* of analytical assistance
- The *type* of analysis provided
- *Problems* incurred

- The *effect* of analytical support.

Table 1 provides the basic descriptive findings.

Structure of Analytical Assistance

Over 82 percent of the interviewees indicated that some or a lot of analytical assistance is provided to support negotiation efforts. However, this support is often (52 percent of the time) provided with no special infrastructure, resources or personnel allocated to collect information or conduct analyses either at home or in the negotiation delegation; the analyses must be conducted on an ad hoc basis. As a result, the task usually falls to the delegations to collect their own information to plan, strategize and conduct the negotiations (57 percent). Analysis of this information is performed either by the delegation itself (48 percent) or by the home office (43 percent).

When analyzing economic negotiations separately from all other negotiations in the sample, an interesting pattern appears. Two thirds of all economic negotiations had a special infrastructure established to support the delegation in analyzing the issues and interests in the negotiation process; 65 percent of all other negotiations were allocated no special analytical infrastructure at all. Moreover, analysis for 83 percent of all economic negotiations was conducted by the home office in a centralized fashion; analysis for 65 percent of all other negotiations was conducted in a decentralized fashion -- by the delegation itself.

Categorization of the data by size of the negotiations indicated further interesting conclusions. Bilateral negotiations primarily had a lot of special infrastructure allocated for analysis (57 percent); 81 percent of multilateral negotiations had only some or no infrastructure to provide analytical support. The analysis for bilateral negotiations was primarily centralized at the home office (57

percent of the

Table 1. Analytical Support for Negotiation -- Basic Patterns

(in percent, N=23)

Structure of Assistance				
Assistance provided?	None = 17	Some = 30	A lot = 52	
Special infrastructure?	None = 52	Some = 17	A lot = 30	
Collect own information?	No = 26	Some = 17	A lot = 57	
Where Analyzed?	By Delegation = 48	Sent home, but not analyzed = 9		
	At Home = 43			
Type of Analysis				
Type Used	None = 22	Qualitative = 61	Quantitative = 17	
Own Side Analysis	None = 22	Informal = 48	Mixed = 13	Formal = 17
Other Side Analysis	None = 17	Informal = 57	Mixed = 9	Formal = 17
Outcome Analysis	None = 35	Informal = 48	Mixed = 9	Formal = 9
Problems	None = 61	Problems = 39		
Effect of Analytical Support	Negative = 13	Neutral = 13	Positive = 74	

time), but decentralized at the delegation level for multilateral negotiations (63 percent of the time).

The Type of Analysis

Most analytical support provided to international negotiations are qualitative (61 percent). Moreover, the analysis is conducted rather informally, whether it is an analysis of own side interests and strategies (48 percent), other side interests and strategies (57 percent), or outcome alternatives

(48 percent). What types of analysis were performed to support the negotiators in the sample? Table 2 provides some examples. This certainly represents a wide range of analytical tools, defined very broadly.

Interestingly, when we breakdown the data by seniority and educational background of the interviewee, we get a clearer picture of the findings. The junior and mid-level diplomats used primarily qualitative analytical tools (83 percent of the time); the lawyers in the sample also used primarily qualitative analytical methods (71 percent of the time). The senior diplomats and respondents with scientific backgrounds were more eclectic in their use of a variety of analytical tools.

Categorized by the type of negotiation, additional insights are gained. Economic negotiations appear to be different from the other types of negotiations captured in the sample, namely those dealing with environmental, security and other issues. Quantitative or qualitative techniques were used in 83 percent of all economic negotiations; 65 percent of the other cases used qualitative tools only. Sixty-seven percent of all economic negotiations conducted analyses of own side interests and strategies in a formal manner or using a mixture of formal and informal approaches; 59 percent of all other negotiation cases used informal analysis exclusively.

Similar differences are found when the data are analyzed by the size of the negotiation -- from bilateral to large multilateral. Eighty-six percent of the bilateral negotiations had formal or mixed (formal and informal) analyses performed of own side interests and strategies; 94 percent of the multilateral cases conducted only informal or no analysis at all of own side issues. Very similar findings appeared for other side analyses.

Table 2. Types of Analytical Support for Negotiation Used in Sample of Cases

Information Organization Tools

- o Sifting through and organizing documents
- o Preparing arguments
- o Legal analysis
- o Conduct structured survey of interested ministries and government organizations

Comparison Tools

- o Comparing information on this case with other negotiations
- o Comparing interests of the various negotiation parties
- o Comparing priorities of the parties and possible tradeoffs
- o Comparing key issues under negotiation
- o Conducting informal dialogues with non-governmental organizations and other third parties
- o Analyzing expert reports from third parties

Creativity Tools

- o Brainstorming
- o Team problem-solving techniques
- o Gaming
- o Playing devil's advocate

Quantitative Tools

- o Economic forecasting models
- o Statistical analysis.

Problems Incurred

The majority of interviewees suggest that there were no problems related to data or analysis in their negotiation cases (61 percent). Data, analysis and feedback was sufficient to satisfy the complexities of the negotiation process. However, when the data were analyzed by seniority and educational background of the interviewee an interesting pattern emerged. Seventy-three percent of all senior diplomats indicated no problems in collecting or analyzing data for the negotiations. The more junior and mid-level diplomats were evenly split in their opinions. The same is true among the lawyers in the sample; 65 percent indicated no problems, while the others were again evenly split.

The Effect of Analytical Support

Overall, the analytical support performed for the negotiation cases in the sample was perceived to have a strong positive effect on the outcome of the negotiations (74 percent).

Impacts on the Negotiation Process

One would suspect that the active use of analytical support for negotiation would improve the efficiency of the process itself. The analytical support variables were correlated with the negotiation process variables (see Druckman, 1993) in the interviews (using Goodman and Kruskal's gamma coefficient)[3] to assess if there were any empirical findings to support our assumption.

[3] The gamma coefficient is a measure of non-parametric correlation that makes few assumptions about scaling of variables or frequency distributions. It analyzes the pattern of responses in contingency tables and is well suited to the type of data collected for this study. (See Goodman and Kruskal, 1954, for a discussion of this statistic.)

The Impact of Providing Analytical Assistance

There is a greater tendency for analytical support to be provided when the issues are packaged together than when they are deliberated singly (r=-.814). Issue complexity generates a need for more analytical support. Analytical support also motivates more strategizing, beyond mere study of the issues (r=.770). These techniques and tools allow the negotiators to delve deeper into the issues, compare interests and positions, and assess how to posture themselves *vis à vis* the other parties in the negotiation to produce better solutions.

The provision of analytical support yields more formal analyses of own side positions, interests, and strategies (r=.544), more so than analyses of the other side and of potential outcomes. This focus inward suggests a need to coordinate a unitary national policy and orientation among various possible stakeholders within government and among the public. The use of analytical support tools also tends to decentralize practical negotiation analysis; more analytical work tends to get accomplished at the delegation level rather than at the home office when analytical tools are available (r=-.778).

The Impact of Bureaucratic Support Structures

The complexity of issues in the negotiation -- the more that they are linked and packaged -- the more likely that special infrastructure, resources and personnel will be provided to support the negotiation analysis (r=-.616). Analytical infrastructures are also more likely as the issues dealt with in the negotiation pertain to national interests rather than ideological concerns (r=-.878). Negotiations that hinge on interests require extensive analysis in search of useful tradeoffs; negotiations dominated by ideological concerns, on the other hand, are influenced more by political dogma than by analysis.

The Impact of Where Analysis is Conducted

When the issues are packaged together, suggesting the complex nature of the problem, analytical support tends to be centralized at the home office (r=-.515). More extensive infrastructure to provide analytical support is also likely if the support is offered from the home office (r=.842). Another logical correlate of this centralization of analytical support is increased tracking of the negotiations by high level officials (r=-.535). Economic negotiations tend to have more highly centralized analytical support, which suggests increased importance of these issues and the more closely controlled conduct of negotiations in this issue area (r=-.532).

The Impact of Quantitative Analytical Support

The application of more quantitative and formal analytical support in negotiation is correlated with many process factors.

- Quantitative approaches tend to be more likely if there is a lot of analytical support provided (r=.625).
- Quantitative analysis tends to be used more when there are no deadlines to be met in the negotiations (r=.625).
- It is used when there is limited publicity and media coverage of the negotiations (r=.758).
- Quantitative methods are more common when negotiators are given limited latitude in the deliberations (r=-.644) and when the negotiations are regularly tracked by high-level officials in government (r=-.930).
- These techniques often suggest attractive BATNAs (best alternatives to a negotiated agreement), that is, acceptable solutions that can enable negotiators to walk away from the negotiations altogether (r=-.550).

o Quantitative techniques help negotiators strategize bargaining tactics more so than study the issues (r=.909).

Impacts on the Negotiation Outcome

Measures of the negotiation outcome were related to the analytical support variables to determine if such analytical assistance has a behavioral effect on the negotiation results. Three outcome indicators were collected in the interview: the perceived effect of the analytical support on the negotiation; whether or not a treaty, binding agreement or non-binding agreement was achieved; and the comprehensiveness of the resulting solution. Figure 1 graphically presents the results.

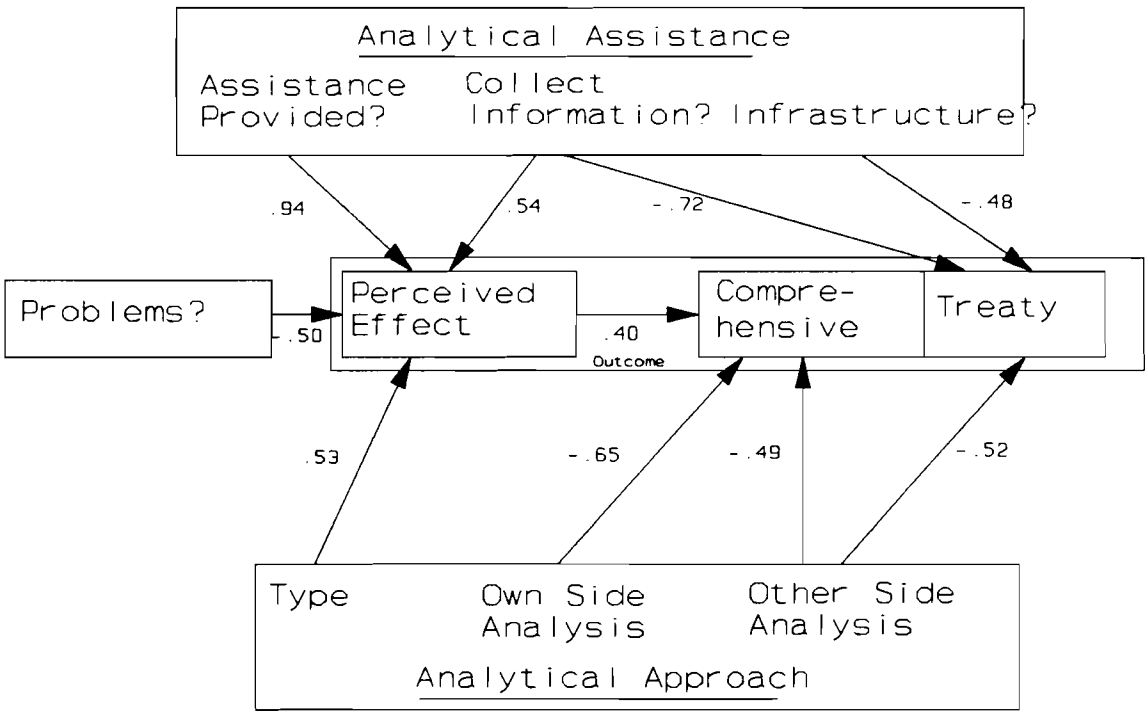

Figure 3. Relationship between Analytical Support and Negotiation Outcome

Analytical Assistance. The more analytical assistance that was provided (r=.938) and the more information collected (r=.541) in preparation for and during the negotiation, the greater the

perceived positive impact on the negotiation. More information collection, as well as more special infrastructure to support analytical functions enhanced the likelihood of reaching a treaty text (r=-.719 and -.481, respectively).

Analytical Approaches. The use of quantitative analytical techniques increased the perception that a positive result would occur (r=.533). As well, formal own and other side analyses resulted in treaties (r=-.351 and -.520, respectively) and more comprehensive solutions (r=-647 and -.492, respectively).

Problems. Finally, as might be anticipated, the more problems perceived in terms of insufficient data, analysis and feedback, the more negative the perceived effect of analytical support (r=-.500).

Discussion

The interview results suggest clearly that practitioners already perceive that they are receiving analytical support to facilitate the process and outcome of negotiations. However, this support is mostly qualitative and informal in nature, taking the form of information organization tools, comparative techniques, and creativity approaches. Only a small percentage involves quantitative or formal analytical techniques. Most of the analytical functions are performed with minimal special preparation, infrastructure, personnel or resources; the provision of analytical support is somewhat ad hoc. Data to support negotiations is collected primarily by the delegations themselves, and then analyzed by either the delegations or at the home office. Delegations do the analysis, for the most part, in multilateral negotiations; the home office has the responsibility primarily for bilateral negotiations and economic negotiations.

In general, most respondents had the impression that there were basically no problems related to data collection or analytic support for negotiations. However, this finding was primarily influenced by the reactions of senior diplomats and lawyers in the sample. When the junior and mid-level diplomats, as well as non-lawyers, in the sample were queried, they were not so sure that sufficient analytical support was being provided. This subsample, which is perhaps closer to the functions required for analytical support, was not as positive about adequacy of current analytical assistance to negotiations.

Analytical support is strongly related to the functioning of the negotiation process. More analysis appears to be a direct response to issue complexity and packaging of solutions. Analytical support can help in analyzing and developing acceptable tradeoffs, especially when multiple issues and multiple interests are at stake. Support helps most in performing own side analysis and clarifying national interests. Such assessments can assist in achieving unified national positions and postures in negotiation.

When analytical support is provided by the home office, there is more bureaucratic infrastructure and higher level attention to the negotiations. Complex packaged issues are usually analyzed centrally. In the end, these can yield treaty outcomes. However, whether centralized versus decentralized analytical support is the preferred option is not readily apparent from the interviews.

While qualitative support is more frequent, quantitative analysis helps in developing effective bargaining strategies and finding attractive alternatives to bargaining. It is engaged in when there is a lot of analytical support provided, sufficient time, and the negotiations are not in the public limelight. The use of quantitative techniques appears to provide a sense of confidence to the users resulting in a perception that positive negotiation outcomes will be concluded.

The provision of analytical support appears to yield both the impression and the reality of improved negotiation outcomes. It provides the perception of positive effects, and in fact, the conclusion of treaty agreements and comprehensive solutions. Especially, when own side and other side analyses are conducted during the negotiations, more comprehensive agreements tend to result, suggesting that such assessments facilitate an understanding of the issues, interests, and dynamics involved in the negotiation process.

Conclusion

Ultimately, the question that needs to be asked of this study is: Is investing in analytical support worth it? The results indicate that the amount and type of analytical support currently available to most practical negotiators is probably not sufficient. More infrastructure and resources are required and more of a variety of both quantitative and qualitative analytical approaches are needed. Analytical support is particularly important to bolster complex negotiations involving issue packaging and to better understand and develop national positions and strategies. Most importantly, the use of analytical support is correlated strongly with the perception of effective solutions, the conclusion of comprehensive agreements, and the achievement of binding treaties.

These findings suggest that analytical support and investing in more and better support *is* probably worth it. Future developments should focus on:

- Own side analysis
- Issue packaging and understanding the implications of different packages
- Expanding the types of quantitative techniques available.

As well, a checklist could be prepared for negotiators and their staffs to help them prepare for negotiations and manage throughout the process. Such a checklist could suggest the types of analyses

that should be conducted under different circumstances -- how to prepare and what to prepare. It could extend the U.S. State Department checklist mentioned earlier (Winham, 1979) by targeting not only substantive and procedural questions, but also analytical questions to address.

Certainly, more effort, research, and developments to produce analytical support for negotiators can be successful, in the end, only if such support is accepted by the practitioner. The findings indicate strongly that such support is likely to be acceptable and viewed as providing meaningful "added value" and capacity for the negotiating team. It has been suggested (Spector and Korula, 1991), especially with reference to the more quantitative support approaches, that we may only need to wait for the next generational change -- for the "personal computer generation" -- to obtain broader practitioner acceptance. In the meantime, much work can be accomplished to prepare useful analytical tools to support international negotiators.

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Appendix A

Coding Manual

1. Analytical assistance provided?
   1=none 2=some 3=a lot

2. Effect on negotiation?
   1=negative 2=somewhat/neutral 3=positive

3. Special infrastructure?
   1=none 2=some 3=a lot

4. Collect own information?
   1=no 2=some 3=a lot

5. Where is analysis conducted?
   1=no, by delegation 2=Sent home, but not analyzed
   3=Yes, at home

6. Own side analysis
   1=none 2=informal 3=mix of formal and informal
   4=formal

7. Other side analysis
   1=none 2=informal 3=mix of formal and informal
   4=formal

8. Outcome analysis
   1=none 2=informal 3=mix of formal and informal
   4=formal

9. Information/analysis problems?
   1=None, had enough data and analysis?
   2=Insufficient data, analysis and feedback

10. Type of analytical support used
    1=none 2=qualitative 3=quantitative

11. Seniority of respondent
    1=junior 2=mid-level 3=senior

12. Educational background of respondent
    1=law 2=other (scientific)

Appendix B

Negotiation Cases in the Sample

EFTA-EC Negotiations on a Common European Economic Area (1990-92)

EFTA-EC Negotiations on environmental issues (1990-92)

EFTA-EC Negotiations on scientific and technology issues (1990-92)

EFTA-Third Country negotiations

Preparatory meeting for the CSCE Council Ministerial Meeting, Stockholm (1992)

United Nations Conference on Environment and Development, Rio de Janeiro (1991-92)

Austria-Poland negotiations on the establishment of consular relations (1974-75)

CSCE, Helsinki (March-July 1992)

CSCE Convention on the Peaceful Settlement of Disputes (1992)

Convention on Biodiversity (1991-92)

Transit agreement between Austria and the European Community (1988)

Austria-EC negotiations over membership

ECE Conference on Environmental Impact Assessments in a transboundary context, Espoo (1988)

Negotiations in the Sixth Committee of the United Nations General Assembly

Negotiations in the Fifth Committee of the United Nations General Assembly

Central European Initiative (1989-present)

Climate Change negotiations (1990-93)

Multilateral negotiations on Middle East Water Resources (1992-93)

Austria-Italy negotiations on transfrontier cooperation of local entities (1992)

ECE Convention on Long-Range Transboundary Air Pollution

Socialist International Party Leaders' Conference

OECD Negotiations on Economic issues

Appendix C

Interview Guide
for Comparative Methodology and Analytical Requirements Studies

For the Interviewer:

The interview seeks descriptions of nine major elements of a negotiation: the structure of the talks, the structure and composition of the delegations, the bureaucratic support structure, the issues, the immediate situation facing negotiators, analytical support, the process, the outcomes, and events taking place away from the negotiation. This guide is intended to elicit information during an interview, not to be completed by a respondent as a questionnaire. The information should be coded by analysts rather than the informants, although occasionally we ask the informant to "rate" or "scale" his or her answer to a question about "the extent to which ..." Some questions may not be relevant for particular cases, and these need not be answered. Note, also, that some questions (marked with *) should be answered as it applies for each delegation if possible. The respondent should answer for his/her own delegation and provide, at least, a typical range for other delegations.

Background of Interviewee

Name:_____

Title/Position/Ministry:_____

Date of Interview:_____

Negotiation (and subprocess, if applicable):_____

Date of Negotiation described:_____

Your Role/Position in Delegation and/or in Negotiation:_____

I. Structure of the Negotiation

. How many national delegations were represented around the table?

. Was the venue primarily public (a visible negotiation), private, or a combination where some sessions were public and others private?

. What was the length of the negotiation in terms of rounds, plenary sessions, or months/years?

. Would you consider your delegation powerful or weak in comparison to others at the negotiation? Was there a wide divergence (asymmetry) in power between the various delegations or coalitions in the negotiation? What was the source of your power (military, economic, or political)?

. How many "off-the-record" consultations -- or informal meetings -- occurred among the various delegations -- before the talks and then during the talks? If you have difficulty coming up with a number, perhaps, you can distinguish among many, some, few, or none.

. How much time did your delegation use in preparing for the negotiation, first, before it began, and, second, between rounds. Please try to be specific in terms of a time unit such as days, weeks, or months. What was the typical amount of time for other delegations? What was the range of time for other delegations?

. For large conferences only: To what extent was the conference secretariat active in structuring the conference and remained involved in the discussions as opposed, for example, to merely making arrangements and handling physical logistics?

. Are there any other observations about the structure of the negotiation that you would like to make?

II. Structure and Composition of the Delegations*

. What was the size of your national delegation in terms of delegates present during the plenary sessions? What was the typical size of other delegations? What was the range of sizes for other delegations?

. Was there frequent turnover of delegates? How often, during the course of the negotiation, did the chief-of-delegation change? How often were other members of the delegation replaced?

. Roughly what percentage of the delegates had specialized technical knowledge on the issues or certain aspects of the issues? How technical did the delegates have to be?

. Did the chief-of-delegation exert very much control over the other delegates? Can you tell us something about his or her "style?" For example, as primarily someone who *controls* others or as a *delegator* of responsibilities and tasks?

. Were there major differences across delegations in terms of culture and language?

. Which national agencies had representatives on your delegation? How many agencies were represented? On other delegations, were several national agencies usually represented? If so, what type and how many?

. How experienced were the delegates? For example, how many previous international negotiations did they take part in?

. Have these same delegations negotiated in other forums, on other issues? Did they reach satisfactory agreements in those negotiations?

. Would you say that the relationship among delegations was primarily friendly, neutral, or antagonistic? Cite any relationships that were particularly extreme.

. Are there any other observations about the composition of the delegations that you would like to make?

III. Bureaucratic Support Structure*

. To what extent were the delegations constrained by instructions from national agencies prior to commencement of negotiations?

.. How often were instructions received from the home office during the negotiation?

.. How much latitude did the instructions give to the delegation?

.. How often was the delegation required to report its deliberations to the home office?

. Would you say that the delegation's objectives were clearly defined or vague?

. To what extent was there disagreement among national agencies on objectives (very much, somewhat, or little)? To what extent was there disagreement on the issues?

. Who was the highest level national official paying attention to this issue? Was this negotiation high or low on his/her agenda? Did he or she keep track of developments on a regular or irregular basis?

. Were there changes of national administration during the negotiations? If so, how frequent? Did any of these changes lead to changed objectives or positions during the talks?

. Would you like to make any other observations about the functioning of the bureaucratic support structure during the negotiation?

IV. Issues

. How many major issues were on the table? Were there any minor issues; if so, how many?

. With regard to each major issue, did it change or get redefined during the course of the talks?

. Were the issues highly, somewhat, or only slightly interrelated? Were they defined as parts of a package such that trade-offs could occur?

. Was there much or little public awareness of the issues?

.. In general, around the world?

.. Within each of the countries represented at the talks?

For each major/official issue:

. Please rate each issue as being highly complex, somewhat complex, or not complex at all? Perhaps you can distinguish between technical and political complexity, by rating each of these types of complexity separately?

.. On the same rating "scale," how technical do you consider the issue in terms of needed specialized expertise on the delegations?

. How important is the issue in terms of each delegation's (or coalition's) objectives for the negotiation, as discussed earlier?

.. Would you say that there was much, somewhat, or very little agreement among the delegations on their ranking of this issue in terms of relative importance?

. Can you indicate the "size" of the differences among the delegations in their positions on this issue, e.g., very far apart, not far apart, or quite close?

. Would you say that the issue focuses primarily on differences in interests or ideologies?

. Do you have any other observations, not covered by the questions above, about the issues?

V. Analytical Support

Our goal in this section is to evaluate how information and analysis were used or could have been used to facilitate the negotiation process and enhance the joint outcome.

. What information or analytical assistance was provided to your delegation by your home office, conference secretariat, NGOs, or others -- in the planning stage and during the negotiation?

.. Did this support change over time?

.. Was it sufficient?

.. Did it have a positive/negative impact on how well your delegation fared in the negotiation outcome, in your estimation?

. Were there any special infrastructure or special staff roles assigned to gather and process information, and conduct studies and analyses, either in the home office or on the delegation -- before and during the negotiation?

.. Did your delegation have the resources to collect and analyze information?

.. Was information collected by the delegation and then sent to the home office for analysis?

. What types of analyses were conducted *before or during* the negotiation? For example, (a) analyses to develop your own side's positions, strategies, and proposals, (b) analyses of the other side's positions, strategies, and proposals, or (c) analyses of possible outcomes.

(a) Analyses for own side

.. Were the analyses conducted in a formal, structured manner or an informal manner?

.. Did it have a positive/negative impact on how well your nation fared in the negotiation outcome, in your estimation? Was the information used effectively?

(b) Analyses of other side

.. Were the analyses conducted in a formal, structured manner or an informal manner?

.. Did it have a positive/negative impact on how well your nation fared in the negotiation outcome, in your estimation? Was the information used effectively?

(c) Analyses of outcomes

.. Were the analyses conducted in a formal, structured manner or an informal manner?

.. Did it have a positive/negative impact on how well your nation fared in the negotiation outcome, in your estimation? Was the information used effectively?

. In hindsight, what problems were encountered and what opportunities missed because information was not available or analyses not conducted? Was the need felt for more in-depth scientific analysis, decision support tools, etc.?

VI. The Negotiating Situation

. Was there a fixed deadline for getting an agreement? If so, how firm was the deadline?

.. If there was no official deadline, were there other types of time constraints on the delegates to come to decisions?

. With regard to publicity for the talks, was the coverage wide or limited, first, within each of the delegations' countries, and, second, more generally around the world?

. Were the talks held at a central (or capital city) or peripheral (country-side) location, or were some sessions in the city, others in the country?

. Were third-parties involved? If so, who were they: for example, mediators, international organizations, non-participating governments?

.. If there was third-party involvement, how active were they in influencing the negotiation process?

. For each delegation, were there attractive (or unattractive) alternatives to negotiating an agreement in this negotiation? Can you indicate what their alternatives may have been?

. Is there anything else that you would like to say about the negotiating situation?

VII. The Negotiating Process

. How did your delegation prepare for the talks, primarily by studying the issues or by formulating a strategy for "winning?" Did the prenegotiation period include both forms of preparation? Was this typical of how other delegations prepared? Please describe.

.. Would you say that the approach taken during the prenegotiation period consisted primarily of developing tactics for "winning" *or* developing solutions to a problem shared by other delegations who were consulted?

. To what extent did the agenda influence the way the talks were conducted, with regard to procedures and to the way the issues were discussed?

.. To what extent was the conference dominated by procedural versus substantive activities by the delegations or the secretariat?

. Were the talks directed toward achieving a comprehensive package that included all issues *or* toward partial agreements where "success" would be achieved if a few of the issues were resolved?

. Would you say that the process progressed in stages from the general to the specific or did it take a less predictable form? How would you depict the unfolding process in this negotiation?

. How would you characterize the pattern of concession-making (tit-for-tat)?

.. Were there reciprocal moves such that it was possible to gauge how much each party gave up on each issue?

.. Or, did the process consist primarily of a problem-solving debate toward the discovery of new solutions to the issues?

. Was the general shape of the agreement known in advance? Put another way, was there a framework or formula constructed from which an agreement of details could be crafted?

. To what extent did the delegates use such tactics as threats, promises, or commitments to influence their counterparts on other delegations? Often, occasionally, rarely?

. Can the negotiation be depicted as open, in other words, did the delegates reveal or conceal important information about their interests or positions? Was evasion often used in response to direct questions from other delegations?

. Anything else not covered by the questions on the process?

VIII. Negotiation Outcomes

. What type of agreement occurred?

-- Treaty?
-- Executive agreement?
-- Non-binding resolution?
-- Explicit but informal understanding?
-- Self-restraint contingent on the other delegations' behavior?
-- Suspension with intention to reconvene?
-- Deadlock or stalemate?
-- Other not included above?

. Of the issues you identified earlier, which were resolved? Was the agreement partial (only some issues resolved) or comprehensive (all issues resolved)?

. How many interim agreements were reached, e.g., a framework agreement, agreement in principle, agreement on some issues contingent on other arrangements?

. Is it possible to "calculate" gains and loses for each delegation? Can you distinguish between relatively short-term and long-term gains or losses incurred by the outcome? Who came out "best," "worst," somewhere in the middle?

. If an agreement was reached, how long has it been in effect since concluding the talks?

.. Were provisions made for renegotiating the agreement? How explicit were these provisions?

. Can you "rate" the outcome in terms of effectiveness? If an agreement was reached, did it serve as a genuine resolution of the issues (very effective), a settlement short of resolution (somewhat effective), or simply a way of managing the problems defined by the issues?

. Any other thoughts about the outcome?

IX. Events Outside the Negotiation

. Did non-participating governments, international organizations or nongovernmental organizations exert an influence on the talks? Was the influence helpful in terms of getting an agreement or not helpful in the sense of contributing to a stalemate?

. How would you characterize the general political relationships among the parties represented at the talks? For each pair of nations/coalitions, were relations very positive, somewhat positive, neutral, or negative?

. Were there any linkages (connections) made to other negotiating forums (a) involving the same parties or (b) involving the same issue-areas? If so, which talks?

. Did any important changes occur in international politics during the talks? Would any of these events be considered crises? Any positive changes in international relationships?

.. For each event, was it related or unrelated to the talks?

.. For each event, was it a positive or negative influence on the process or outcome?

. Finally, would you like to offer other thoughts about events outside the conference that may have had an impact?

Thank you very much for your time. We will share with you any results from the analyses of the information that you and others have provided.

November 30, 1992