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Learning Business Negotiations with Web-based Systems: The Case of IIMB

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Abstract

Access to, and the ability to use computer and communication technologies varies widely between countries. It is often lack of proficiency rather than access that creates the barriers between developed and developing countries. The InterNeg Web site and its online systems INSPIRE and INSS, aim at overcoming these barriers by educating people around the world about decision and negotiation analysis and providing them with an opportunity to use decision support techniques. The systems allow one to conduct simulated negotiations with people from different cultures and solve realistic managerial decision problems. In this paper we present and discuss the limitations of the prevailing methods for teaching decision making and negotiation and present a technological solution that is Internet-based. We present our experiences with using our Web-based decision and negotiation support systems in executive training programs at the Indian Institute of Management Bangalore (IIMB), India and discuss both the participants' and teachers' experiences. The discussion of extensions to the presented methods and their use in higher education in developing countries concludes the paper.

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1. Introduction

Policy makers and managers in developing countries face numerous new challenges in such diverse fields as labor management, international affairs, business relationships, and environmental regulations. Governments, judiciary, business and other organizations, and the public are breaking new grounds in decision processes related to the environment, ecology and policy making (Zartman, 1994). In most cases these decisions can only be made through negotiations which are one of the most common processes for making decisions and resolving conflicts at every organizational level.

The old colonialist tradition was that it was up to the nobles and representatives of the rich and well educated to initiate interaction and to negotiate (Mumford, 1996). This tradition was based on the naive and a short-sighted assumption that those educated in Western universities were more competent to make decisions. Furthermore, it was assumed that the North (or West) knew more or was superior in all areas pertaining to governance, development, organization and business. The results of this tradition were also visible in negotiation behaviour, i.e., the assumption that there was no need for negotiations because one side knew what was good for the other. The second half of the twentieth century clearly showed how naive this approach was and how wrong its underlying assumptions were. It also showed that the past divisions and assumptions were inadequate and that business, educational, and other links now flow in all directions and not just from the developed to developing countries. These links are established by people and organizations from different cultures who have to negotiate among themselves.

There are similarities to every negotiations and also significant differences that recently have attracted more interest with the globalization of markets (Hofstede 1989; Adler 1993; Faure and Rubin 1993). With the increasing economic and political roles of developing countries studies were undertaken on similarities and differences between developing and developed countries in the process, context and form of negotiations

(Graham 1993; Druckman et al., 1976; Stone, 1989; Pechter, 1992). Cultural implications impact attitudes towards contracts, value for formality, and status in human relations in both the developing and developed countries (Swierczek, 1990).

Pechter (1992), having analyzed more than fifty real life negotiations amongst Western and developing countries, states that the ethic of trust in most Asian countries is alloyed with an appreciation of shrewdness. While compromise is considered an appropriate outcome of negotiation in the Western world, it may often be considered defeat in Asian countries. These differences have significant implications for designing training programs that stress effective mediation. They also have to be considered in the construction of tools (including software) to provide with understanding of the valuation of the decision alternatives, assessment of concessions made by both sides, and the utility of a compromise in some situations.

Graham (1985, 1993), in his studies of negotiation styles of business people in various countries, observed that the Japanese offered more extreme initial offers, used the word "no" less frequently, were silent longer and used aggressive tactics only in later stages of negotiation. Brazilians' behavior in negotiation was characterized by more extreme first offers (even more extreme than those made by the Japanese), fewer promises and commitments, more commands, and longer interactions than exhibited by Americans in their negotiations.

The existing organizational and institutional structures in a developing country often do not provide support for negotiation efforts. In a developing country, the negotiators seldom have a past bargaining relationship or a history that establishes channels of communication. This may be a reason behind a less structured setting for resolving disputes and informal dispute settlement practices (Ghauri 1988).

With an increase of international trade and shifting manufacturing from developed to developing countries there is an increased pressure on managers to engage in negotiations. This leads to growing interest in studying negotiation theory and practice, and cultural similarities and differences in decision making. Studies have revealed that most developing countries lack negotiators capable of translating their own and their organizations principles and general goals into concrete bargaining proposals, and systems for widespread and efficient training of decision makers (Stubbs, 1984; Schermerhorn et. al, 1985; Ghauri, 1988). To bargain effectively, one must not only have the ability to articulate interests and bargaining positions, but also the skill to interpret and transmit bargaining communications to other negotiators. Similarly, one must now learn the opponent's mindset rooted in their national and organizational cultures.

While the abilities to understand and effectively communicate with counterparts from different cultures are critical to negotiations, they are also a known weakness. Feliciano (1990) states that developing countries do not have a long history of negotiations with other countries or with foreign corporations; and this situation has not changed significantly till today. "They generally lack cadres of experienced negotiators in their foreign offices, in their ministries of finance and of trade and industry, in their boards of investment, in their agencies charged with coordination and implementation of development work, and in their private sector." (Feliciano 1990, p. xxi). Language, customs and time zones also act as barriers to effective communication between the developing and developed worlds (Xing 1995; Grindsted 1994).

Negotiators from developing countries often rely, “more or less consciously, on confused, romantic notions of ‘special’ or ‘historic relations’ or shared ‘fundamental interests’, and feel grievously disappointed when such counterparts refuse to sacrifice their own interests and defer to the former’s claims.” (Feliciano 1990, p. xxii). They may also rely on the cultural differences and ignore the processual and analytical aspects that are similar to any negotiations. The concept of process in negotiation and negotiation analysis are complex issues that are being taught at universities and executive development courses.

Training in negotiations at the university level was first introduced in the United States, and later spread to other parts of the world. In developing countries there are educational organizations with highly developed infrastructure. In most of them, however, the infrastructure is underdeveloped. Furthermore, the available infrastructure is often poorly utilized due to a lack of highly skilled instructors and missing elements (e.g., up-to-date teaching materials). These are some of the reasons that teaching negotiations to managers has been fraught with many problems.

The traditional tools for teaching negotiations are cases, experiments and simulations. These tools are often culture-specific, require highly skilled instructors, and organizational support. Their focus is often on the development of communication skills, situation assessment and evaluation. If they are used in conjunction with formal problem solving techniques and information and decision support tools, their effectiveness is greatly enhanced. This is the case in undergraduate and graduate management programs where negotiation courses are offered.

Rapid changes in communication patterns and an exponentially increasing number of new organizations that are engaged in electronic commerce and negotiations require changes in the traditional approach to teaching negotiations. One trend is to increase the cultural content and the other to enhance the analytical and technological aspects. Developing and sustaining programs that allow for teaching behavioral and organizational aspects of negotiation together with decision and negotiation analysis and computer-based support have been undertaken at American and European universities. These programs can be fully or partially offered via the Web and thus they have a very significant potential to alleviate some of the key difficulties that many instructors and students in developing countries face.

The new trend in which negotiation analysis and negotiation support is being recognized as a significant component in negotiation teaching and training is the underlying concept behind the InterNeg project, the Web site and its Web-based support systems. This paper presents the authors’ experience in developing the InterNeg Support Program for International Research Experiments (INSPIRE) and using it in managerial training in India. Section 2 presents different approaches to teaching negotiations in developed and developing countries. Section 3 discusses the opportunities of Web-based systems in education. It also outlines INSPIRE, a Web-based system designed to support international negotiation training. The system and its use in bilateral negotiations are discussed in Section 4. Section 5 describes the use of INSPIRE in post-graduate and executive training at the Indian Institute of Management Bangalore, India. Extensions of INSPIRE and its use in higher education in developing countries conclude the paper.

2. Negotiation Teaching

2.1 Traditional approaches to negotiation teaching

The first course entirely devoted to managerial negotiation has been offered at Dartmouth College in 1973 (Lewicki, 1986). In the early 1980s, many business schools started to offer courses on negotiations. Most courses employed an experiential learning methodology (Lewicki 1986). The pedagogical techniques used in experiential learning include: having an actual concrete experience with a phenomenon; reflecting upon that phenomenon to sort out the experience and identify key elements; identifying generalizations and actively experimenting to create the new behavior (Kolb, 1974). Most negotiation courses implicitly or explicitly follow these steps.

Negotiation teaching concentrates on lectures about theories, discussions of case studies, and conducts and analyses of simple experiments. Case studies describe some elements of negotiations, for example, framing, power strategies, and negotiators' personalities (Shubik, 1971). Their study allows students to evaluate factors that influence the chances that a dispute may be resolved through negotiation. The analysis of the events that occurred in specific instances of a negotiation provides a factual grounding for discussion. This focuses the discourse on gaining insights and practical directions. Furthermore, detailed case studies enable students to see the importance of individuals and organizations involved in the negotiations and also their broader context (Weiss-Wik, 1983).

Negotiation experiments are used in courses as a learning tool (Winham and Bovis 1979; Carnevale 1995). They offer an opportunity for students' direct participation and the subsequent rigorous analysis of the dynamic aspects of negotiation and human biases. Some experiments are conducted in the form of pen-and-paper tests involving brief and well contained tasks (Francis, 1991). For practical reasons, these experiments do not extend beyond one or two hours and therefore they are typically narrowly focussed. Furthermore, because they are conducted in a classroom, the participants know each other and their interaction is face-to-face.

Many experimental studies are based on classroom experiments. These studies make it possible to analyze, assess and possibly measure specific attributes and mechanisms characterizing the negotiation processes. They are also used to analyze attitudes and perceptions of the subjects. This has usually been achieved at the cost of a highly stylized and unrealistic negotiation process and setting. Experiments have typically dealt with a fairly simplified negotiation problem and a small number of well defined participants.

Discussion of cases and experiments conducted in a classroom are useful in ingraining the principles of the art of negotiation. They also help to illustrate formal techniques of decision and negotiation analysis. However, it is difficult for the students to apply the learned principles and use formal techniques in negotiations that resemble real-life situations. The limitations of these methods that have been discussed in the literature are as follows:

1. Low control and focus: students and trainees often find that they have little control over the negotiation process, and the focus of the negotiation is determined by instructors and trainers. Pruitt (1986), (based on his analysis of six negotiation courses in U.S. universities) observed that most cases fail to anchor the actors, and

the locus of control seems to rest with the instructor. Instructors often intervene to complete the game in time, retain students' interest, or cover the various aspects of the negotiation process.

2. No flexibility in scheduling training sessions: given that negotiation experiments are conducted in a classroom and given the restrictions of semesters, instructors find that the lack of flexibility in conducting these simulations affects the learning process. This problem is acute in courses on International Business, where the instructors should arrange groups of participants from different countries. The problem is not just the time zones, but the sole organization and effort required for such negotiations which typically makes them impossible.
3. Low level of involvement: Short-time and limited focus of negotiation experiments, high level of control, as well as the common lack of real-life complexity in the simulations, contribute to low involvement of the participants (Thompson 1991).
4. Narrow domain of simulation: Simulations allow one to analyze students' behavior and their interactions and discuss these in a classroom. Hence it is an important vehicle to teach and study negotiations (Adler and Graham 1989; Bazerman and Neale 1991). Traditionally, simulations are restricted to the classroom and did not involve people from outside of the class. Further the cost of setup, administration, analysis and feedback is high and contributes to limited use of simulations in which only very simple problems are employed.

2.2 New demands and challenges

Negotiation courses are typically offered for business students and by instructors with a very strong behavioral background. Our review of curricula of conflict resolution and negotiation courses offered at the Harvard Business School, Georgetown University, Northeastern University, University of Maryland, University of Washington, University of New Hampshire, Washington University and some of the consulting companies offering negotiation courses (e.g., The Management Concepts, Inc. at: <http://www.mgmtconcepts.com/> and The Negotiation Skills Company at: <http://negotiationskills.com/>) show that the organizational behavior approach to negotiation is predominant. The focus is on types of negotiations and conflicts, parties' behavior, planning and communication, mediation and third party intervention, and the social and organizational context of negotiations. It is obvious that these are the key issues to negotiations. There are, however, other issues that are becoming increasingly important. On one hand these result from the implementation and use of new communication and computer technologies, and a change in roles that small and medium size organizations and countries play in the world.

Electronic commerce, electronic markets and intelligent systems introduce new challenges to negotiation teaching. Negotiations are already being conducted via electronic means (e.g., email) and this may require a somewhat different approach to effective communication than in face-to-face negotiations. Data mining and knowledge discovery tools are increasingly being used in situation assessment and process analysis and they may have an important role in the preparation for, and conduct of, negotiations. Decision and negotiation support systems are becoming increasingly popular and used in formulation and evaluation of alternatives, assessment of offers and counter-offers, organization and visualization of the negotiation process. Expert systems

were developed to support teaching cross-cultural communication and negotiation [Rangaswamy, 1989 #301]. These issues are rarely taught if at all.

Another key aspect of negotiation teaching and training involves the use of computer-based simulation models. Negotiators dealing with engineering, financial or environmental issues need to be able to construct and assess scenarios to formulate offers and evaluate the opponents' offers.

2.3 Negotiation teaching in developing countries

The focus in negotiation training followed curricula prepared in developed countries with the main difference being the emphasis on the cultural factors. That is the focus is on the negotiation process that takes place over time and in space in the context defined by particular economic, political, and cultural environments (Sunshine, 1990).

Educational institutions in developing countries are riddled with many problems. Most business schools offer their courses in the regional language and may suffer due to lack of training materials or poorly translated notes. While obtaining teaching materials from outside sources is not difficult, often the material will not reflect the dominant practices or culture of the country. This not only affects the quality of course delivery, but also the participation of the registrants.

There is a shortage of trained and qualified instructors in these countries and the number of available cases relevant to local conditions. The result is a demand for creating educational programs and systems that allow for an easy development, storage and retrieval of cases and simulation models. It is expected that such systems should also allow to access and use decision and negotiation techniques, and to facilitate communication between instructors and students, from both the developing and developed countries.

There is a growing number of highly educated managers and engineers which are employed in organizations that successfully compete in the global marketplace developing innovative technologies and products. With this success there is an urgent need for these managers and engineers to obtain communication and negotiation skills and this need is being addressed at such educational institutions as the IIMB.

New technologies such as the World Wide Web offer exciting avenues for teaching and training for international negotiation. The technology seems to have the capacity to respond to a variety of negotiation training needs, and to address many of the problems mentioned in the discussion above that developing countries are facing. By offering easy access to materials and computer-based support, the technology can facilitate upgrading the qualifications of instructors. The Web-based negotiation systems can accommodate any number of users, thus many participants, be it instructors or students, can benefit from using it at any given time. Systems such as INSPIRE offer an opportunity for direct participation in a negotiation and thus experiential learning which is deeply rooted in the theory and practice of negotiation training. The level of participants' involvement is considerably higher (comparable to that in real life negotiations) than in the traditional training sessions. This is probably due to the fact that each participant is fully responsible for all the decisions that he/she makes and all the communication that occurs during the negotiation process. Hence, the locus of control is very high.

One of the features of the INSPIRE system that has a promising potential, is the possibility for users to develop their own materials (i.e. case studies) that are relevant to their particular situation and interests. This allows for the development of “custom made” materials. A pool of such materials will grow fast, providing a group of enthusiasts from developing countries interested in preparing such materials to become involved.

What the system does not do however, is focus on cultural diversions. The attention of the user who engages in the negotiation is on the procedural aspects and on the analysis of the negotiation process. In other words, while conducting negotiations, the participants rely on procedural rather than regional culture. Thus the experience with negotiations via INSPIRE seem like the first step in “a-cultural training” for international negotiations.

All this being said, the authors believe that systems like INSPIRE prepare professionals such as engineers and business people for a negotiation environment that will dominate international negotiations in the very near future.

The following section describes the technological advantages offered by Web based systems such as INSPIRE, a negotiation support system that enables unconstrained inter-cultural negotiations.

3. The Web and Negotiation Teaching and Training

Technology is a critical resource that can eliminate some of the problems related to teaching and training of communication and negotiation in developing countries. Some of these technologies, being system independent (in terms of operation and maintenance), allow users from remote parts of the world to communicate and to use previously inaccessible resources. Widespread use of computer networks, especially Web-based systems, indicate that the information access barrier between the developing and developed worlds could be overcome.

The principal feature of the World Wide Web is that it provides people at different locations and time zones a communication medium that is rich in functionality, and gives them the ability to use previously inaccessible computational resources. While the Web's greatest use currently is as a powerful source and means for dissemination of information, it is increasingly being used as a means for remote execution and control of complete software systems, thus adding another dimension to the value it delivers. In education, its ability to access and run remote programs and databases allows users to extend classroom and laboratory boundaries across geographical and time zones. It thus allows instructors and students to retrieve and use resources from remote sites. This flexibility can nullify the effects of inequality between developing and developed country managers, policy makers and citizens by enhancing their ability to communicate, negotiate and participate in business and other activities.

These technologies allow rich communication amongst the actors in a negotiation, by virtue of computation-intensive techniques and visualization of data. The users can review the negotiation process and its dynamics. Language and other barriers shrink or disappear since these technologies allow extreme customization. User-specific front ends can be built which can be connected to the common core of the system, thus increasing participation while retaining functionality. The cost of duplicating a technological solution is another major factor that determines whether a particular

solution can reach a larger population. Web browsers allow for portability and thus increase the access of the users in remote countries to training and real-life negotiations with minimal computing resources. These tools and systems are accessible to everyone, lay people and experts alike, and enable them to interact more directly with persons from different cultures, thus immensely reducing the effect of distances.

The flexibility of Web based systems enables customization of the case material to reflect regional specifics. It is also easier to bring about a discipline based orientation in teaching and training sessions. The systems can be tailored to reflect, say, behavioral, decision theoretic or any other focus to suit the teaching and training needs. This is very useful for management teaching and training where different modules are combined to reflect a particular focus of the course. Web pages are very good at representing context, and independent Web pages may be assembled by a dispatching system that determines which page to present, based on a given situation.

The InterNeg Web site and its Web-based system INSPIRE have been constructed to exploit these technologies and their use in teaching. They aim to provide people around the world with analytical knowledge and decision support techniques within the domain of negotiations. The INSPIRE system allows to analyze and solve real-like decision problems and conduct negotiations by people from different cultures.

The INSPIRE system is the first Web-based negotiation support system. It is based on analytical models rooted in decision and negotiation analysis (Kersten 1985; Kersten and Szapiro 1986; Rangaswamy and Shell 1994). Developed in the context of a cross-cultural study of decision making and negotiation, the system has been primarily used to conduct and study negotiation via the World Wide Web as well as in teaching information systems, management science, international management and English as a second language.

Although INSPIRE has been implemented as an application accessible remotely over the Web, it is conceptualized as a client-side software assisting a negotiator, much like a traditional desktop application belonging to the negotiator, and communicating over the Internet with a similar “copy” of the software belonging to the other negotiator. The intention is to convey that INSPIRE does not act autonomously like a third party arbitrator; rather each “copy” acts entirely in support of a given negotiator. INSPIRE supports asynchronous negotiations, thus ameliorating the time zone problem. To facilitate this type of negotiations the system saves the state resulting from each user's actions in a form that can be retrieved when the counterpart logs on some time later (Kersten and Noronha, 1997).

INSPIRE views negotiation as a process involving three stages: pre-negotiation, conduct of negotiation and post-settlement. The first stage involves understanding of the negotiation problem, issues and options and preference elicitation through hybrid conjoint analysis. This allows one to obtain a rating for every possible offer. The second stage involves support for offer construction and counter offer evaluation, and finally, the last stage involves computation of possible offers that dominate the most recent compromise and re-negotiation. Details of the methodology and the system's architecture can be found in Kersten and Noronha, (1998) and at <http://interneg.org/>.

The system can be used to conduct multiple bilateral negotiations. The most commonly used case involves trade negotiations between two companies: Itex, a producer of bicycle parts and Cypress Cycles, which builds bicycles. To reflect the dynamics of

negotiation in developing countries, we have developed cases about negotiations for international technology transfer and for the sustainable development of natural resources.

4. Negotiations via INSPIRE

4.1 Cases

At IIMB, INSPIRE has so far been used in four different courses. The first was an elective course on Technology Management, offered to post-graduate students. The primary focus of this course was to understand issues related to technology adoption, technology pricing, adaptation of a technology to local needs and fostering technological innovations at the firm level. Two courses were long-term executive development programs: Management Program for Technologists and Reliance Engineers Program. The focus of the module for these programs was on international negotiations. The fourth course was an elective offered for students concentrating in marketing. Given the variation in the focus of the programs and participant needs, different cases were used for the above programs.

For the first course, we developed a case on international technology transfer that focuses on commonly used mechanisms for technology transfer and preparation for effective transfer at the firm level. This is the INSPIRE *Techno* case, and it deals with a technology purchase decision. The case involves two companies, Pegard Technology Inc. (PTI), a U.S.-based manufacturer of industrial robots and Intelligent Tools Inc. (ITI), a small south Asian firm dedicated to manufacturing of transmissions for robots and automated guided vehicles.

The international technology market for design and know-how for the product and processes, presents a fairly wide range of technological possibilities and choices. ITI has identified sensors market as an important element of sustaining its competitive advantage. Mastering this technology requires a thorough understanding of optics, computer science, and electronics. ITI lacks expertise in several of these areas and has thus decided to obtain the needed technology from an outside source. Its search process has led to PTI who expressed its interest in co-operating with ITI. The two companies need to discuss and agree on the terms of technology transfer.

There are four issues that both sides need to discuss, namely, price, collaboration content, technology restrictions and payment. Collaboration content refers to the mode of actual technology transfer. Technology can be transferred in different forms: as blue print, technical collaboration involving process designs and drawings or parts of the plant (semi-knocked down) or the shipping of the complete plant itself (completely knocked down condition). Restrictions on improvements, development of next generation technology or transfer within a geographic area are common in international technology transfer. Technology restriction refers to the product and process improvements or constraints. Both parties are presented with their side of the case, told that they are to represent PTI and ITI respectively, that their companies are interested in achieving a breakthrough. No indication as to the desirability of the options (issue values) either in terms of directions or specific trade-off values is made. This is because, the class room sessions have already focussed on the issues of each interest

group and hence a repetition. Also, at a later stage we wanted to uncover with a larger sample, the specific directions and their trade-off for each interest group.

For the three other programs, the emphasis was more on negotiation strategies per se. Because the majority of the participants already had some expertise and interest in the area of purchase management, the “Cypress and Itex” bicycle parts procurement case was used. In this case there are four issues that both sides have to resolve, namely the price of the components, delivery times, payment arrangements and terms for the return of defective parts.

4.2 Introduction of INSPIRE to participants

The negotiation course starts with a basic introduction to negotiation and international technology negotiation. The participants are exposed to cases such as Metro Corporation (Contractor, 1995) and Brother Surgicals (Madanmohan 1997) to facilitate negotiation tactics, issues related to licensing in international technology negotiation, effects of sunk costs and other topics relevant to managerial decision making and negotiations. At the end of the class, a brief presentation about InterNeg and INSPIRE is made. It is made clear at the beginning of the course that INSPIRE is an important module of the course and participation is compulsory. However, it is also stated that the final result of their negotiation (compromise or not) and its utility is *not* used for grading purposes. This is important because the participants should be able to negotiate in as realistic situation as possible. That is, negotiations with one company can be broken and new negotiations initiated with another, the counterparts may have their own agenda, and the sole objective of the negotiations cannot be the achievement of a high utility value. The latter is critical because sophisticated users can easily manipulate the utility so that they may achieve a compromise yielding a very high utility value but which does not reflect the interests of the company they represent.

Before beginning a negotiation, participants are asked to submit a pseudonym (to ensure anonymity) and their e-mail address (which is kept confidential by the system) before a particular date. Once the list is obtained, all the participants are informed about a demonstration session of INSPIRE. This session is intended to familiarize the participants with the Web (mostly for executive participants), and INSPIRE. The participants are shown how to log in to INSPIRE, how to construct and send offers using the system, and how to incorporate changes in any of the offers or issues in subsequent visits. The typical sequence of activities involves: logging in using the user's pseudonym and the name of the game (for group-identification purposes), expressing preferences by rating the issues and options in the negotiation case, and submission of an offer. This demonstration session usually lasts an hour and a half. The instructor uses hardcopies of the forms used in the INSPIRE negotiation so that the participants can actually see what kinds of forms they will fill in. This activity is quite useful as a preparatory step that aids in structuring the negotiation process.

During the demonstration session students log in and read the INSPIRE case. They often are able to conduct initial analytical activities: specify the relative importance of each issue and the options for the issues. This information is used to determine their subjective utilities for all packages.¹ In many cases the session ends with making the first offer to the counterpart. Before the session ends, the participants are reminded that they will be notified by INSPIRE via e-mail whenever a message or offer from the counterpart is received by the system. Then the participants have to log into INSPIRE to read and evaluate the offer and submit a counter-offer.

4.3 An example of negotiations using INSPIRE

This section describes a typical example of user activities in an INSPIRE negotiation. The description is illustrated with six screen snapshots. The first five figures are snapshots of negotiations between Gregory and Madan, co-authors of this paper. The INSPIRE users are assured that the information they exchange is confidential and therefore we do not show their messages and offers. The last figure presents negotiation between two users. It contains aggregated data (utility values of one side) but not any specific information that these users had exchanged.

Negotiations proceed thorough several main steps and in each step the user conducts one or more specific activities. The steps and the current step are displayed every time the user logs into the system. The initial screen that the user sees when beginning INSPIRE supported negotiations is given in Fig. 1. This is the screen seen by Gregory in his negotiations, called Vienna, with Madan.

At the bottom of Fig. 1 is a request to read the negotiated case that has been selected for the particular negotiations. Having read the case description of the case the user can move to the next step which is the preparation for negotiations. In this step the user has to evaluate the relative importance of the negotiated issues and, for each issue, their options. The issue rating activity is presented in Fig. 2 and the option rating for the four issues is illustrated in Fig. 3.

¹ In INSPIRE each negotiation issue has several options listed a priori. A “package” or “offer” is constructed by selecting one option for each issue. For example, if there are two issues, price and quality and price options are R45, R54, R51, and the quality options are “high” and “medium”, then there are 6 different packages (R45 and “high”; R45 and “medium”; R54 and “high”, etc.).

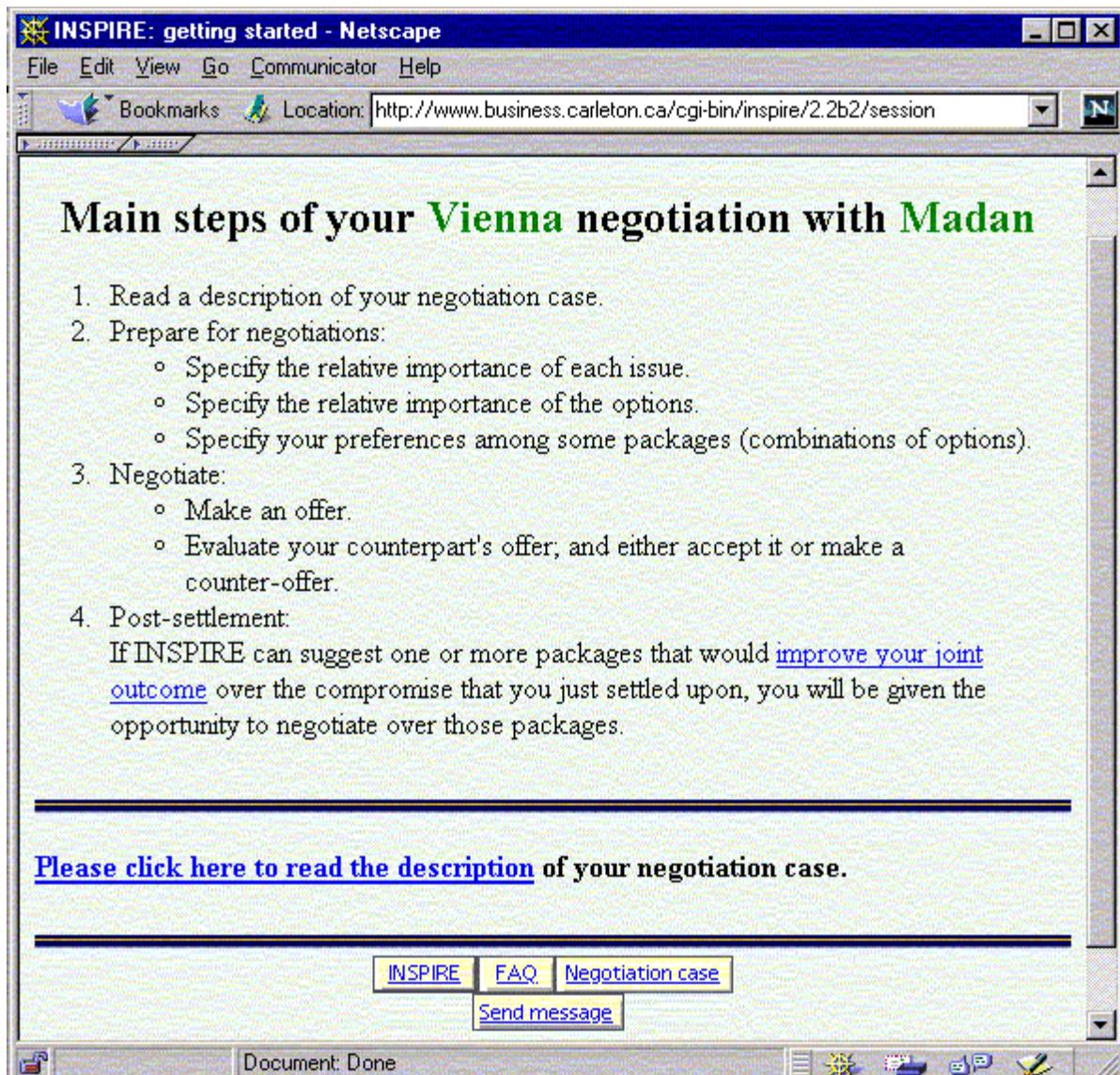


Figure 1. Initial outline of the negotiation process

INSPIRE: Rate the issues - Netscape

File Edit View Go Communicator Help

Bookmarks Location: //www.business.carleton.ca/cgi-bin/inspire/2.2b2/save/pre_negotiation

Rate the issues

INSPIRE needs to learn about your preferences with respect to this negotiation. Please specify roughly how important each issue is to you, relative to the others.

The preference information that you provide here will *not* be made available to your counterpart (of course!). The information is used for two purposes: to help you to evaluate and compare packages, and to enable INSPIRE to determine whether a better compromise can be found for you during the post-settlement stage of the negotiation. Therefore *it is to your advantage to enter values that really reflect your preferences*.

Please distribute a total of 100 points among the issues listed below. The more the points you assign to an issue, the greater is its importance to you. No issue can be given a zero rating. When you are done, press the submit button below.

Negotiation Issue	Rating
Price	30
Payment	10
Collaboration content	35
Technology restrictions	25

There are points still to be distributed.

[Clear all entries](#) [Submit your ratings](#)

[INSPIRE](#) [FAQ](#) [Negotiation case](#)

[Send message](#)

Document: Done

Figure 2. Rating the issues under negotiation

INSPIRE: Rate the options - Netscape

File Edit View Go Communicator Help

Rate the options

To further describe your preferences to INSPIRE, for every issue you must specify roughly how important each option is to you, relative to the other options in that issue. You do this by assigning a rating between 0 and the **maximum** value to each option. For each issue, *at least one of the options must be given the maximum rating* and *at least one of the options must be given a zero rating*. As before, it is to your advantage to enter values that really reflect your preferences.

Please enter your ratings below. Remember, the greater the value you give to an option, the more important it is to you, relative to the other options *within the issue*.

Price	Rating (Max = 30)	Payment	Rating (Max = 10)
10,240,000 \$	30	50% down + 2 installments within 1 year	0
9,220,000 \$	27	25% down + 2 installments in 6 months	7
8,710,000 \$	10	75% down + 25% within 1 year	8
8,200,000 \$	0	100% down	10

Collaboration content	Rating (Max = 35)	Technology restrictions	Rating (Max = 25)
Blueprints + 15% consultancy fee	0	Complete	25
Blue prints + process plans + 10% consultancy fee	10	Selective on product	10
Blue prints + route sheets + 20% consultancy fee	25	Selective on process	0
Financial with 50% equity holding	35		

Figure 3. Option rating

Each negotiation has a deadline. Typically, the deadline is set to expire three to four weeks from the start of the negotiation in order to allow the participants adequate time to complete their negotiation. (After the deadline expires, participants can no longer send offers through the system, effectively representing a “failed” negotiation.) Participants are asked to inform the faculty concerned about any difficulty encountered

during the course of the negotiation. When conducting the negotiations, users construct offers, analyze counter-offers, send and receive messages, and review the negotiation's dynamics.

Figure 4 is a snapshot of the offer construction screen: it illustrates how the users can communicate either by plain messages or structured offers, and how the score attached to an offer helps to select a good offer.

The screenshot shows a Netscape browser window titled "INSPiRE Offer Construction". The URL in the address bar is http://www.business.carleton.ca/cgi-bin/inspire/2.6.2/page/offer_send.html. The main content area displays the title "INSPiRE Offer Construction" and a message: "Your counterpart Madan's most recent offer (with its accompanying message, if any) is:" Below this is a table showing the previous offer:

Price	8,200,000 \$
Payment	50% down + 2 installments within 1 year
Collaboration content	Blueprints + 15% consultancy fee
Technology restrictions	Selective on process

Below the table is a note: "Your rating: -3".

Below the table, a message states: "Please construct a new offer by selecting options from the menus below, and press the "Submit" button to send the offer to Madan".

The offer construction form includes dropdown menus for Price (9,220,000 \$), Payment (75% down + 25% within 1 year), Collaboration content (Financial with 50% equity holding), and Technology restrictions (Complete). To the right of the form is a message box with the heading "Optionally, include a message with your offer:" containing the text:

Dear Madan,
Thank you for your message. We appreciate your willingness to achieve an agreement. As you can see we are willing to accept a lower price and are flexible on the payment conditions. The remaining two issues are critical to achieve good and long lasting cooperation.
Regards,
Gregory

At the bottom of the form, there is a note: "Your rating for the above package is 95".

At the very bottom are two buttons: "Clear" and "Submit your offer".

Figure 4. Offer construction.

In the INSPiRE system the offer construction activity involves analysis of the counterpart's previous offer, and optionally, formulation of a message to the counterpart explaining one's position and providing appropriate argumentation.

Received offers are presented in a separate screen and the user has four options to choose from. Figure 5 presents an offer sent by Madan. His counterpart, Gregory, has four options listed in Fig. 5; he may accept this offer, decide to make a counter-offer (then the offer construction screen would be displayed), send only a message, or terminate negotiations.

INSPIRE: Offer Review - Netscape

File Edit View Go Communicator Help

Evaluate Madan's offer

Your counterpart **Madan** has made you an offer, which you may now review. If you have made a previous offer, it will also be listed below. If your counterpart's offer seems satisfactory, you may choose to accept it. Otherwise you can make a counter-offer or send a message.

Your counterpart's most recent offer (with its accompanying message, if any) is:

Price	8,200,000 \$
Payment	50% down + 2 installments within 1 year
Collaboration content	Blueprints + 15% consultancy fee
Technology restrictions	Selective on process
Your rating: -3	

Any newer messages that were unaccompanied by offers are not displayed above; please [click here to view a full history of offers and messages](#) and examine recent activity. [Click here for a note on interpreting offer ratings.](#)

Please choose one of the following four options:

1. [Yes, I accept my counterpart's most recent offer as listed above.](#)
2. [No, I wish to make a fresh offer.](#)
3. [I do not wish to make an offer either, but I want to send a message.](#)
4. [I wish to terminate the negotiation.](#)

[INSPIRE](#) [FAQ](#) [Negotiation case](#)
[Issue ratings](#) [Option ratings](#) [Package ratings](#)
[Send message](#) [Make offer](#) [Negotiation history](#)

Document: Done

Figure 5. Offer evaluation

At any point the user may review the status of the negotiations by accessing a complete negotiation log that includes all offers and messages with their timestamps. This option is shown in Fig. 5, both below the table with Madan's offer and at the bottom of the screen when menu buttons are displayed.

Negotiation history contains the log and also a graph that presents the dynamics of negotiations in a simple form. An example of the negotiation graph is shown in Fig. 6.

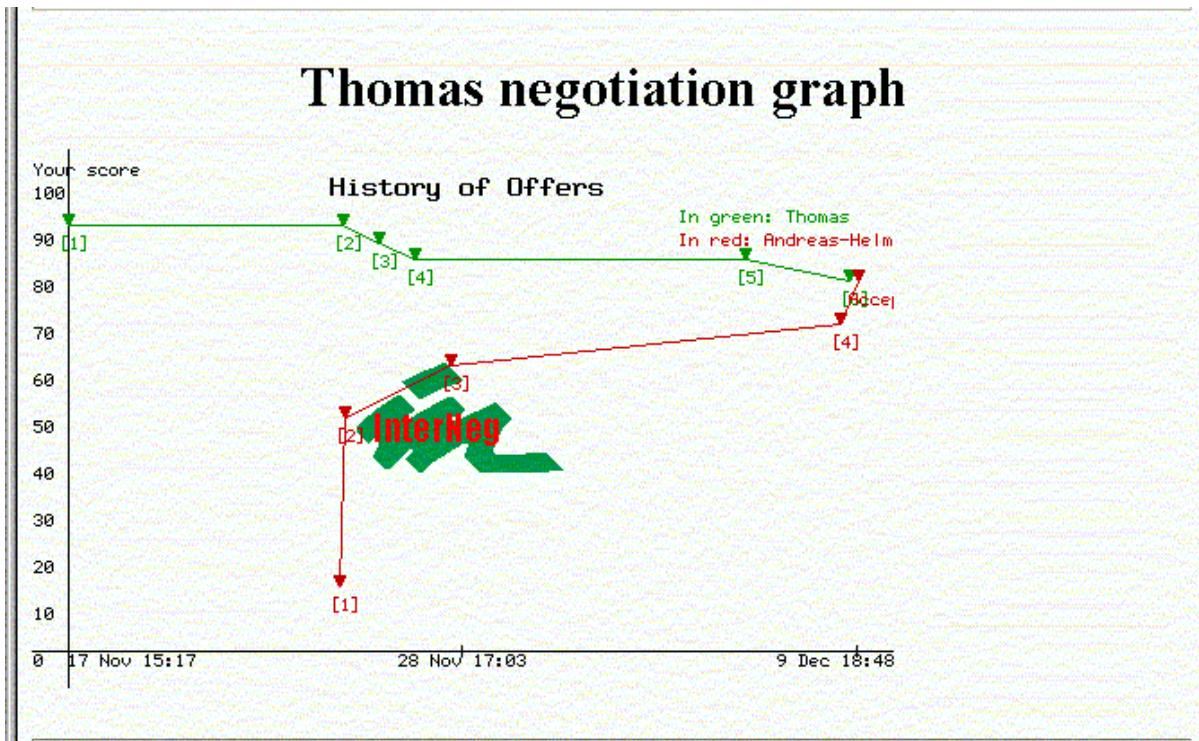


Figure 6. The negotiation graph

Figure 6 is an example illustrating the dynamics of the negotiation between Thomas and Andreas-Helm. These names are pseudonyms that users have chosen for their negotiation. The small numbered triangles denote offers; the X axis shows the time at which each offer occurred and the Y axis represents the score associated with the offer. Note that although both parties' offers are shown, only a single utility function (that of the participant viewing the graph) has been used to evaluate all of them. This reflects the fact that INSPIRE does not expose each participant's preference function to the counterpart, and that comparison of all offers, whether one's own or one's counterpart's, can only be meaningfully done according to one's own value system.

5. The IIMB Experience

5.1 Course offering and students' needs

The Indian Institute of Management Bangalore (IIMB), established by the Government of India in 1973, is an institution of higher learning committed to the cause of excellence in management education. The Institute offers both postgraduate and doctoral courses for students selected through a national level entrance exam and interviews. The Institute offers specialization in Marketing, Production and Operations, Finance and Accounting, and Human Resource Management. With a view to enabling practicing managers to stay current with respect to new developments in various fields of management, IIMB offers short as well as long duration training programs for executives in general and, in particular, for functional managers. These programs can be

divided into two types: (a) those that are open to managers from different firms, and (b) tailored programs to suit the requirement of a specific group or firm.

At IIMB a course on negotiation is offered as an elective, typically in the last year of the postgraduate program. Modules on negotiations are also offered in other courses. For example, in the Technology Management course there is a module on technology transfer negotiations. This module focuses on the dynamics of technology transfer between a donor and a recipient, and typically a case is discussed.

The Institute also offers a two-week executive level program on negotiation and there are several other executive programs, such as Purchasing and Supply Management wherein the participants are exposed to the nuances of negotiation. The pedagogy adopted in these courses, prior to the introduction of INSPIRE, used to be largely lecture based, coupled with cases and games. Some of the homegrown cases were quite useful in helping the participants understand the behavioral part of negotiation: emphasizing mostly the negotiation style, holding-back strategies, etc. While these pedagogical tools were useful drivers for imparting the fundamentals of negotiation, the participants had more demands.

The feedback from postgraduate students indicated that they would actually prefer a tool that would enable them to participate, understand the real motives of the counterpart, and see how they fared in the process. The usual restrictions of the semester and class duration also limited the role-play and the associated experiential learning. A post-graduate student from the batch of '96-97 stated:

"The international technology negotiation game should expose us to the real motives of the donors, the vulnerability of governments and the recipient. A more dynamic representation wherein we could don the role of choice and enhance our learning is needed".

The feedback from the executive program participants was more revealing. One of the participants from the Management Program for Technologists said:

"Given the experience we have in negotiating with the French and others, I look for the negotiation course to actually aid in understanding the dynamics of negotiation from our perspective. In a technology transfer we may be more interested in a typical arrangement, say only technical. We need a course wherein the instructor need not actually hand-hold us through negotiation, but devise programs that help us to uncover ourselves first. Well, later may be we need to know what to do better".

During the early 1990's, several departments of IIMB identified areas of research and consulting interest that would specifically address the needs of Indian industry in an increasingly multilateral and global context. Hence there has been a renewed interest in cross-cultural business, especially negotiations. Faculty teaching related courses felt a need for offering a dynamic platform from which cross-cultural research and training can be pursued along the same lines.

5.2 Users' experience

All the students and participants of executive development programmes at IIMB Bangalore are graduates with English as the medium of instruction, hence no specific language training was required. However, for few of the executives who had had no prior computer experience, a hands-on tutorial about the Internet was provided. They were encouraged to log-in to different addresses, attempt some basic operations such as

adding a bookmark and printing. They were also guided by teaching assistants during their first few sessions with INSPIRE. Every alternate day the participants were contacted to find out whether they experienced any snag or difficulty. The participants were requested to describe every activity they undertook related to their negotiation via INSPIRE. This record was used for their own assessment of the overall negotiations after they were completed and discussed in the class. It also facilitated individual discussions with the instructor about the difficulties and problems students encountered. On completion of all participants' negotiations, the results of several negotiations were discussed in subsequent classes.

Two batches of post-graduate students and three executive program participants, totalling thirty-three participants, were exposed to INSPIRE. They had registered for the Technology Management and International Management Courses, wherein either technology purchasing or managing across boundaries was the main focus. Descriptive data of the participants who had an average negotiation experience of 2.2 years is shown in Table 1. Despite currently low levels of access and use of the Web, all the users expected a significant increase in access to the Web. For a significant majority of the participants INSPIRE was the first DSS/NSS that they had used and most participants did not have any problems during the negotiations.

Most participants exceeded their own expectations and achieved almost all they could get. The upper limit for the utility value is 100 and the average value of the compromise is 82. If the negotiation is strictly competitive, that is each side wants the opposite options for the issues (e.g., one side wants the lowest price and the other - the highest) and the sides preferences are also opposite then the sum of the two sides utility values is 100. On the other hand, if the sides have exactly the same interests (e.g., both want the lowest price), then the sum of the utility is 200.

Very high scores on expected utility (E-utility) and actual utility (A-utility) indicate that the participants might have been more interested in the utility value than the actual compromise. Note, that this has happened despite the fact that the utility value is not considered as an indicator of successful negotiations nor was it used for grading purposes. One may hypothesize that the very high scores reflect high competitiveness of Indians. This has been confirmed earlier by Druckman et al. (1976). For comparisons, the expected and achieved utility values by Americans, Canadians and Finns are between 40 and 60 (Kersten and Noronha, 1998).

Out of the twenty two participants who reached an agreement in a negotiation, about 34 per cent achieved efficient solutions. This is one example of the usefulness of a system like INSPIRE. Despite the fact that the negotiation problem is relatively simple and with only 180 potential offers, most of the participants do not achieve an efficient agreement. In this case the system displays up to five solutions which are all better (that is, yield higher utility value) for both negotiators.

Table 1.

Descriptive statistics of users' profile and satisfaction with the experience

Current use of Internet ^a	3.8 (1.4)
Used DSS/NSS previously	19%
Expect increased Web access	100%
Satisfaction with agreement ^b	3.1 (1.3)
Satisfaction with own performance ^b	3.8 (1.4)
Agreement met expectations ^c	3.7 (1.6)
No agreement	11 (33%)
Achieved agreement	22 (67%)
Expected utility value ^d	91 (10)
Utility value of the compromise ^d	82 (22)
Efficient compromise achieved	34%

a = 1 several times a day, 6 rarely; Average (Variance)

b = 1 extremely satisfied, 7 extremely unsatisfied; Average (Variance)

c = 1 yes completely, 5 - no, not at all; Average (Variance)

d = 100 or less; Average (Variance)

Other than the data from the post-negotiation questionnaire presented in Table 1, additional information collected at the conclusion of the course offered additional insights into the user evaluation. Table 2 offers descriptive details of some of the feedback received. A significant majority of users said they perceive INSPIRE to have actually helped them to hone or acquire better negotiation skills. Many felt it helped them to prepare for a negotiation and focus better. For example, an executive from United Bristlers and Brushes Ltd., said:

"when negotiating service contracts with a Taiwanese manufacturer we had great problem. Often, he did not understand what I wanted and I did not have a clue of what he was saying. More than language barrier, the major handicap was lack of preparation. INSPIRE prepared me for low communication negotiation and I think that does add value to my practice."

Another participant from a large public sector organization said:

"I find it extremely useful for two purposes. First as a training tool. Second as a platform for small and medium industries managers from India who can negotiate their orders through the system".

A few of the participants stated that INSPIRE helped them to see an intercultural point of view. This occurred in a situation where the participants did not know the nationality of their counterparts. A significant majority said INSPIRE did help them to better understand their counterpart's position and actually helped them to refine their own negotiation skills. Acquiring negotiation skills without direct intervention of the instructor is considered one of the biggest benefits of using INSPIRE. Despite a low

experience of the participants with the Internet, their ability to achieve expected compromises suggests that the INSPIRE system and Web-based negotiations do not introduce a significant burden or add complexity to the already-complex negotiation process.

Table 2.

Users' perception of their negotiations via INSPIRE

Helps in honing/development of negotiation skills ^a	3.3 (1.1)
Obtain intercultural point of view ^a	1.4 (1.3)
Understand counterpart strategies ^a	2.9 (1.6)
Will use INSPIRE for real-life negotiation ^b	2 (13%)
Will use INSPIRE for preparation of negotiation ^b	6 (40%)
Will use INSPIRE for practice ^b	8 (53%)

a= 1 no, not at all .. 5 extremely; Average (Variance)

b= based on 15 completed post-negotiation questionnaires.

5.3 Teacher's experience

Being an Internet based tool, INSPIRE required different preparation, handling and conduct of the negotiation than those conducted face-to-face. Unlike case oriented teaching, teaching negotiation through INSPIRE required first ascertaining the level of Internet expertise of the users. Appropriate training sessions on internet may need to be planned before the INSPIRE session starts. Typically, at IIMB a one week orientation program was carried out to meet the requirements of the participants.

For a teacher whose class conduct a Web based negotiation the process involves preparation and handling of three major stages: (1) introduction to the system, (2) the first exchange of offers and messages, and (3) discussion that follows the negotiations. At the IIMB a formal lecture was adopted to introduce various aspects of INSPIRE and INSS. Its focus is on the specification of the environment in which the participants would negotiate, clarification of any queries regarding sequence and submission of ratings, and the provision of certain broad guidelines about the INSPIRE system itself.

The first hands-on class was always conducted at the computer center. In this session, participants were guided through the subsequent steps such as login, reading of the case, submission of rating of issues and packages, and finally the first offer. Deft handling of varying levels of experience and expertise of the participants is of crucial importance here. From personal experience, we found it useful to keep one skilled and not-so skilled participant as neighbors. The role of faculty here is one of a facilitator and his presence after the submission of the first offer, was not required.

The typical problems in running an Internet based negotiation are: 1) system's problems, 2) team problems, and 3) mechanisms for strong administration. System problems include both hardware and software compatibility problems (INSPIRE requires Netscape 3.0 or later browsers), systemic problems (which include power shutdowns, and network problems, common in India) which are often specific problems of a developing country.

The more acute problem in running INSPIRE negotiations was related to team dynamics, i.e. lack of a response from counterpart at various stages of a negotiation. This poses serious difficulties in the executive development programs of short duration. We worked out several strategies to counteract this. One was the expectation that students inform their instructor if they do not receive a response within two days after the submission of their offer. In such a situation, the instructor immediately e-mailed the counterpart instructor with a copy to the participant to activate the negotiations. In some cases, the instructor had to remind the participant in person about the upcoming deadline and ensure that negotiations were on. By design the INSPIRE negotiations is a non-credit activity. To stimulate participants we posted pseudonyms of those who were active and likely to complete their negotiation. During the classes the participants were reminded of the approaching deadlines and the not-so-active participants were approached and asked if they encountered difficulties.

To ensure successful completion of a negotiation through INSPIRE the instructors needed to plan and develop strong administrative mechanisms. These included identifying a module coordinator from the group of participants, who could help the group stay focused and productive during the negotiation. Administrative support also had to be planned for unintended interruptions, support that may be required during subsequent negotiations and overall management of negotiations. Fortunately, once the students are on to INSPIRE there is very little intervention required from the instructors. After completion of the negotiations, most of the participants typically wanted to compare their analyses. The analyses of experiences can be done in many ways, i.e. instructors may comment on the process or a participant uncovering the process himself with or without external feedback or a classroom discussions of typical negotiations. The second method proved to be most useful for the executive development programs, while post-graduate students preferred classroom discussions. The instructor's role here is more to reflect on the various scores, probe why some scores reflect compromise rather than rank scores or evaluate on their basis the negotiation process and its outcome.

Having conducted 33 bilateral negotiations, we learned that the compatibility between electronic media must be checked ahead of time, and that various administrative roles and responsibilities must be clearly stated. It is important to ensure compatibility of software and protocols of systems between different groups before negotiations begin. Another important thing is to clarify the role and responsibilities of the module coordinator and the person who is responsible if things need fixing.

6. Conclusions

This paper outlines ongoing teaching activities at IIMB in which Web-based materials and support systems are heavily used. It is intended to share the experiences and provide directions for effective use of Web technologies for teaching and training. An important outcome of our experiments is very high acceptance of the INSPIRE system and its features. The system was designed for both training and research purposes and with a cross-cultural focus. However, most of the users see its practical usefulness in its analytical, presentation, and communication aspects. They said that they would use the system for training and honing negotiation skills.

Web-based solutions such as the InterNeg site and the INSPIRE negotiation support system enhance the instructors' ability to teach negotiations more effectively. Unlike other media, systems available on the Web allow for expanding the discussion beyond the local borders. They create a more realistic environment by allowing communication between individuals with similar educational or professional background. Obviously, it is also possible to have students from the same group negotiate with each other and this mode of the use of INSPIRE was also successfully used.

At present Web-based systems and materials rarely allow for communication other than written. Clearly this reduces the participants' range of tactics and strategies because, admittedly, non-verbal communication plays an important role in negotiations (Faure, 1993). However, this limitation may be seen as a difficulty that the negotiators have to overcome. Further, the communication bandwidth in many developing countries does not allow for media rich exchanges of messages (e.g., voice, video, complex images).

INSPIRE requires negotiators to define their interests, set targets, and anticipate actions and strategies of their opponents. Its important feature is in that it also allows the formulation of arguments and explanations. The system does not indicate poor negotiation outcomes that can be tied to inadequate planning. Purposefully, it allows users to make mistakes, use any tactic they want, and change it whenever needed. The maintenance of the verbal negotiation history and the graphical presentation of the negotiation dynamics allow users to review and assess their actions.

Currently, the system does not categorize what skills were acquired and, while it does not teach the 'art' of creative deal-making and dispute resolution, it is a critical tool for identifying and shaping the core skill components that compromise effective negotiations.

The INSPIRE system has proven its usefulness in teaching and training. However, its more sophisticated users request more features and more flexibility in the use of particular decision making and negotiation techniques. Instructors ask for more negotiation cases and for cases that can be adapted to a given local situation or teaching program. Because the system is also used for research purposes (it is a data collection tool) a decision has been made to freeze its development and instead build another system that can be continually upgraded. This second system, called INSS (InterNeg Support System) is operational and has been used in a small number of negotiations. It allows to select a negotiation case, add new options and new issues options during the negotiations. Further, it has mechanisms for the specification and modification of BATNA (Best Alternative to the Negotiated Agreement) and reservation prices, and additional graphs that are used to display different aspects of the negotiation process.

INSS is a more complex system and its use requires more initial involvement of the instructor who has to find opponents for his/her students. This is because with the ability to choose a case the InterNeg negotiation managers are not able to set negotiations. The use of INSS requires more negotiation expertise than was the case with INSPIRE. One possibility then is to first use INSPIRE with the simple Itex-Cypress negotiation case and then let students use INSS with a more complex case. This is the route that was used in the negotiations between the IIMB students and students from the Universidad Tecnologica Equinoccial in Ecuador conducted in Summer 1998.

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