



## COMMUNICATION AND SUPPORT OF INTERNATIONAL BUSINESS E-NEGOTIATION

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**Abstract.** Internet, computing and communication technologies provide new opportunities to design and implement programs that may support the negotiators. In the international remote negotiations negotiation support system plays a significant role. Electronic negotiation systems can be an effective tool dealing with complex problems in managing large amounts of information. In this article the analysis was done on the global scientific literature of international electronic communication in business negotiations. The paper investigated the electronic support systems for business negotiations. In the conclusions the authors provides suggestions on how to facilitate negotiation support system, to determine a more precise context of the negotiations, as well as suggestions for further negotiations research.

**Keywords:** electronic business negotiations, negotiation support, negotiation support systems, international negotiations, negotiation communication.

### Introduction

Intercultural communication directly affects negotiations. Negotiations are impossible without communication. The existence of intercultural differences between the cultural dimensions in the negotiations may result in unavoidable inconsistencies: symbols understanding differences, language barriers, different behavior patterns, gestures and so on.

For obvious economic reasons in negotiations communication frequently is in a distance interactive way. There is a variety of technical means in distance negotiations: email, phone, mail, video conferencing, chat boards, text messages, multimedia online bargaining and others. Information collection, analysis and presentation should be effective negotiations, especially when the information is needed in expeditious negotiation situations, for example video conferences.

Electronic negotiation systems can be an effective means of dealing with complex problems in managing large amounts of information. Electronic negotiation systems can be specialized and directed to facilitation of specific processes or to be universal for all processes.

The problem - distance communication of international business negotiations do not cover all the bargaining power.

The object of investigation - electronic negotiation support systems of international business.

The aim - to make a comparative analysis of electronic negotiation support systems in world literature and practice of international business.

Research methods - the systematic, comparative, logical analysis and synthesis of scientific literature.

### Intercultural communication impact on negotiations

Intercultural communication is an integral part of such factors as bargaining environment, culture, ideology, bureaucracy, law, stability and so on. All these factors have an impact on the negotiation process. Therefore, developing negotiation strategies is necessary to take into account key factors affecting. This section will review the most important factors that influence international negotiations.

The outcomes of communication atmosphere of international negotiations may be: positive, neutral and negative. In the first case, negotiators show solidarity, evaluates the status of one another, help each other, negotiations dominated by slack positive socio-emotional

climate in which each is joking, showing satisfaction. In the second case, the social-emotional factors is less influenced, the negotiating parties exchange views, perform analysis and change analysis, calculations, convey, or asking about mutual desires, feelings, exchange tips, leads / calls directed in the right direction, allows for autonomous action.

In the third case consists predominantly intense negative socio-emotional atmosphere, the negotiating parties may indicate dissatisfaction passive opposition, to act in a purely formal negotiations feels voltage display hostility, degrading status angrily defended or argued. One of the most important parts of the international negotiations is the ability to understand the structure of negotiations and create an atmosphere of trust. This can be achieved by drawing the status of participants, recognizing them in showing solidarity with the other side of negotiations and helping each other.

To ensure communications effectiveness negotiating parties often require re-validation of information, amendment to the direction of negotiations or presentation of new information. In international communication there is the problem of the evaluation of the situation, the negotiators needed. Opinion of the other side of negotiations, calculations, analysis, wishes and feelings of rendering help to assess properly the situation. To successfully control the process, negotiators should be able to consistent direction of other negotiating party, to provide advice and give action autonomy.

Each side hopes for a fruitful decisions and there is necessary to see whether the other side of the negotiations shows agreement, understanding, or otherwise supports the opponent's position. In international negotiations may prevail tension between the negotiating parties, which can be neutralized or reduced, showing satisfaction with jokes, offering a wide range of assistance, etc.

In intercultural negotiations, the biggest problem is the language. In international business negotiations is important intercultural communication, cultural, ethical, emotional and other differences in the perception and estimation (Suvanto 2000). Misunderstandings in communicating can affect business relations objectives, and successful negotiation is based not only on the business knowledge, but also on cultural and economic bases of the other party (Suvanto 2000). This author notes that both sides can understand the business terms and concepts and purpose of the transaction, but some words or even non-verbal communication can lead to misunderstandings between the parties that can affect the outcome of negotiations. The assessment of impact takes into ac-

count the particular case and a reasonable person's decision, and thus the perception of the negotiators themselves, as an example negotiating atmosphere concept can mean different things to different people and can be dependent on the negotiating environment (Dee 2011). Business involves bargaining and negotiating (Pitta et al. 1999), different cultures have different thinking patterns and ways how to solve problems and culture forms the basis for ethical behavior and determines what is ethical and what is considered unethical. International negotiations have many elements, such as intercultural communication, the zone of influence, coalition formation processes, problem solving, growing the bargaining power of the parties, bilateral agendas, and discussion.

In special literature is written that the negotiating strategy and tactics are the action or communication between the two parties (as well as running around) influencing the results. If negotiation strategy is aimed to achieve long-term goals and is based on a mutually acceptable values, then the negotiation process and tactic must be ethical and moral. A successful international negotiation requires the promotion of intercultural understanding to allow a successful communication to understand other cultural and ethical attitudes and needs. Participants must prepare responsibly for the negotiations, in detail will know another side of the negotiations and determine whether the negotiators will be competing strongly or tend to cooperate (Suvanto 2000). Lincke (2003) proposes to consider the negotiator's language and understanding it as a negotiator psychology summary. This author shows that the negotiator's psychology affects speech, which is reflected in the behavior of a negotiator. Van Aswegen (1983) identified cultural factors that affect intercultural communication and communication in the negotiations. These factors are: perception, philosophy, values, beliefs, attitudes (stereotypes, prejudice and ethnocentrism), roles, time factors, language, non-verbal communication.

In the negotiation process the information is much appreciated and the style of communication plays a very important role in intercultural communication (Christopher et al. 2005). Despite cultural differences, the optimal outcome of the negotiations can be achieved if in the negotiations will be three key elements of success (Christopher et al. 2005):

- All the negotiating parties must assess the exchange of information.
- Be a tool for achieving information.
- Both sides in the negotiation process must be willing to get information.

Laid down standard features which can often put up barriers for successful negotiations (Suvanto 2000):

- Negotiating environment.
- Culture.
- Ideology.
- Foreign bureaucracies and organizations.
- Foreign law and government.
- Different currencies.
- Instability and rapid change.

In intercultural interaction play cultural, social, ethnic variations that works in interactions between individuals in complex of societies.

Negotiator in communicating remotely with potential customers is an important remote communication technique. The initial distance communication objective is to arrange a meeting during which the negotiator should increase bargaining power than is possible remotely. The most important steps in the remote before the negotiation of communication:

I. The optimum communication state (negotiator focus interview).

II. Greeting.

III. Caller identification.

IV. Introduction. Further communication can facilitate the other details of the information received. Request side or the other right time to communicate.

V. Calls target. This step is necessary to give the call target, which demonstrate the potential benefits of the meeting, as well as intrigue the other side to meet. During the interview should not provide all information, especially which would be provided at the meeting, arguing that it is possible to do so only at the meeting.

VI. Meeting required. The importance of the meeting is significant because of opportunities to exploit more bargaining power than in remotely. In calls accuracy is brought the meeting intrigue which encourages to meet and to obtain the additional information.

VII. Alternative timing techniques. Potential meeting time should be combined by the negotiator to favor a few alternatives going to a more accurate time. For example: Is it better for you to meet on Monday or Thursday, in the first half of the day or after 14 hours, etc.

The development of the needs of other side of negotiations is an actual aspect in the negotiations. From this point belongs success of counterparty. The demands development technique may include:

1) Determining the situation of another side of negotiations (actual problems / needs). At this stage there are considered or even prompted by the existing problems / needs. These problems / needs before the negotiations

could not exist, but the negotiator can discover and present them.

2) Justification of solutions to these problems / needs. At this stage, the arguments are presented why it is necessary to deal with these problems and needs.

3) Argumentation the suitability of the proposed decisions. At this stage the estimation is given for potential problems / needs solutions performance.

All the demand development phase must be specifically targeted to the negotiator's useful direction. Negotiations usually are managed by those who ask targeted questions and they lead the conversation in the direction of benefit, and managing the situation. Prior to the negotiating conversation it is possible to prepare for interview scheme, in order to better manage the negotiating process. During the conversation is necessary to ask as many questions so exploring the needs of other side and the current situation, position. Most importantly is that the questioning would be tactful, unobtrusive and will not spill to interrogation. You should not forget to provide information about yourself, and organization you represent. During the meeting you need to figure out the most important criteria according to which the deal will be evaluated. You also need to get all the information that is required to submit the proposal. When proposal was made it is appropriate to consult the counterparty perspectives and possible future steps.

The following will be presented question types and their applications:

A. Situational. These are mostly neutral questions in order to clarify the situation, position. With these questions you should not abuse.

B. Problematic questions. When problems and the needs of the other side of the negotiations are identified.

C. Actualizing questions. These questions may prompt to another side the possible consequences of negotiations problems. These questions should be the most.

D. Referring questions. Referring questions should lead to a negotiator's proposed solution benefits. These questions should be at least - a few.

After the questions which asked other side of negotiations they can feel that they more deeply have understood own problems and the necessary solutions. This can be achieved by the successful outcome of the negotiations.

In negotiations are a variety of situations in which appear different contradictions. Those conflicts can be managed in the following ways:

1. When the contradiction is transferred to the reason.

- A. Hearing of contradiction.
- B. The reason adjustment (for example, why not?).
- C. The answer to the reason.

2. Blocking. When is given condition that after the dissipation of contradiction the deal will be. For example whether it is the sole reason why deal is not been concluded? If the answer is "Yes", then must be asked whether the deal be if the contradiction will be resolved. If the answer is "No", then are eliminated other contradictions until remain the last and before removing it will be requested a deal.

Nonverbal communication can perfectly illustrate the communication during the transferred values between different cultures. Intercultural negotiations are influenced by negotiator's power, status, inequality, also act negotiators attitudes that affect perception, behavior, and communication. The trust between negotiating parties there may also be cross-cultural problem, depending on what cultures people negotiate.

Symbols are only one communication phase, and it has a direct influence on the content of messages that transmit communicating negotiator and the other side it takes. A positive outcome of the negotiations depends on the unity of message content and meaning. Signs and meanings of symbols can be determined only in communicating.

In order to fully explore the negotiations communication and innovation are necessary to know and understand the key negotiation parameters and principles. The principles of negotiations are essential for the design of various negotiations support systems. The next section will examine negotiations parameters and principles.

**Negotiation support system**

Over the past decades advances in computing and communication technologies appeared in a variety of communication and support measures. So in this section will be made review about the basic negotiations support systems which help the negotiators more quickly and economicaly to accept efficient solutions. Internet, computing and communication technologies provide new opportunities to design and implement programs that may support the negotiators, mediators and arbitration (Braun et al. 2006).

Electronic negotiations systems (ENS) are using internet technologies that the negotiators could communicate (Kim et al. 2007). Therefore in the next section will be more widely reviewed electronic negotiations systems and their typology. Since 1970, various systems have been designed so as to meet the complex negotiation

tasks: conflict detection, management and distribution, consensual search, agreement stability assessment and balance analysis (Kersten and Lai 2007). Programs such as group decision support system (GDSSs), group support systems (GSSs), and meeting support systems (MSSs) have functions which aim to resolve conflicts and to organize (Fjermestad and Hiltz 1999).

NSS (negotiation support system) the minimum content: DSS (Decision Support System) and communication, where DSS is focused on a user because it helps them to understand and formalize the goals and desires, and is focused on the problems because it helps users to understand the structure of the problem, search for solutions and to perform sensitivity analyzes (Kersten and Lai 2007). NSS provides support that works with the negotiation process, providing support for users to understand the other side of the negotiator priorities and potential limitations prescribed by their actions, offering the possible coalitions and advising on agreements (Kersten and Lai 2007).

Table 1 below presents main dimensions NSS, which are divided into context, process, and outcome measurements.

**Table 1.** Key constructs in NSS (Kersten and Lai 2007)

Contextual dimensions	Process dimensions	Result dimensions
User <ul style="list-style-type: none"> <li>• Individual characteristics</li> <li>• Number of users</li> <li>• Knowledge of the opponent</li> <li>• Orientation</li> </ul>	Process <ul style="list-style-type: none"> <li>• Concession type structure</li> <li>• External communication</li> <li>• Type and number of tenders</li> <li>• Message number and type of</li> <li>• Frequency of offers and messages</li> <li>• Regulations, issues and opportunities for modification</li> <li>• Process length</li> </ul>	Agreement <ul style="list-style-type: none"> <li>• The negotiations resulted in</li> <li>• Use the value</li> <li>• Efficiency</li> <li>• Justice</li> <li>• Satisfaction</li> <li>• Trust</li> </ul>
Task <ul style="list-style-type: none"> <li>• Type of problem</li> <li>• the degree of conflict</li> <li>• Time pressure</li> <li>• The degree of anonymity</li> <li>• complexity</li> <li>• Context</li> <li>• Communication Model</li> </ul>	Perception <ul style="list-style-type: none"> <li>• Expectations</li> <li>• BATNA</li> <li>• reservation Levels</li> <li>• Aspiration Levels</li> <li>• Subtleties and the error</li> <li>• Settings</li> <li>• The opposing disclosure</li> </ul>	Assessment of the other party <ul style="list-style-type: none"> <li>• Degree of cooperation</li> <li>• Friendliness</li> <li>• Willingness to work</li> <li>• Satisfaction</li> <li>• Trust</li> </ul>
System <ul style="list-style-type: none"> <li>• DSS model</li> <li>• Incoming / outgoing media</li> <li>• Communications Media</li> <li>• Protocol</li> <li>• Mediation, intervention</li> <li>• Support Phase</li> </ul>	Approach <ul style="list-style-type: none"> <li>• Degree of cooperation</li> <li>• Confidence</li> <li>• Focus on the task</li> </ul>	Process evaluation <ul style="list-style-type: none"> <li>• The length of evaluation</li> <li>• Satisfaction with the process</li> </ul>

Context dimensions are divided into user tasks and system. Process consists of the dimensions: process, perceptions and attitudes. The results consist of agreement, assessment of the other party, process and system evaluations.

NSS (negotiations support system) tools and features must be designed according to users (Kersten and Lai 2007):

- A. Free to use in their decision-making powers.
- B. Represents themselves and / or management interests.
- C. Dependent on their ability to achieve their goals.
- D. May terminate the process on their own will.
- E. You may not agree with every proposal, ask for another proposal and offer a response.

NSS has four main sub-systems, it has a language system (LS) consisting of messages and presentation system (PS) consisting of the messages that are delivered to the user (Holsappl *et al.* 1996). NSS has problem processing system (PPS). This system uses the knowledge system (KS). The result is given from KS to the PS.

Negotiation support system (NSS) is a program which implements the models and procedures, has the communication and coordination facilities, and is designed for two or more countries and / or contained in a third negotiations party (Kersten and Lai 2007). Some systems focus on the effectiveness of communication, information sharing and documentation of negotiations coordination (Turel and Yuan 2007), these systems are more focused on the process support than to the problem support, they lack the DSS component. In Table 2 below are presented negotiations support functions, which are divided according to the following parameters: the problem, participants, consent, boundaries, position, strategy, action, negotiation rules for intervention.

Other systems have extended support giving to the other side's actions and reactions to the anticipation and constructive arguments (Sycara 1990). In order to include all these systems there have been proposed the creation of electronic negotiations systems (Insua *et al.* 2003). In these days the internet plays an important role in business communication. Cyberspace provides more opportunities for quick and effective negotiators to analyze exchange of information. In order to do this effectively is necessary to identify the key electronic negotiations systems and their applications. Next section will examine the basic electronic negotiations systems.

**Table 2.** Functions that a NSS could perform in support of a negotiation (Holsappl *et al.* 1996)

Parametres	Possibilities of support
Problems	Set the dimensions of negotiations problem. Set each dimension value for each entity. Set boundaries for each dimension. Formally present problem space. Set the possible problem space. Space of the process reflecting the problem. To supplement and support changes in problem space.
Participants	Knowledge about the participants. Completion of knowledge about the participants.
The consent limits	Set of one or more participants in the consent limits. Change the limits of consent players. Monitor and record the participants consent limits. Calculated limits of agreement
Position	Show the position in problem space. Present all possible positions in space of consent. Provide all the possible positions in agreement area. Calculate the relative values of all positions between the consent limits. Detect when the situation is at the boundary of agreement. Monitor all the players and keep track of changes. Measure current or potential positions variances. Find variance trends between the each point of negotiations process
Strategies	Monitor participants previous strategies and analyze changes. Provide participants strategies. Design, select and monitor strategies. Notice the need of coalition and monitor it. To analyze the potential effects of forming coalition.
Actions	To get the position of all the candidates to be able to move around chosen strategy. To choose whether to recommend new position situation of the possible positions. To capture the history of all players actions and analyze changes. To predict participants' actions.
Negotiating rules	Collect and maintain knowledge about the negotiations rules. Protect the participant's behavior that he would keep compliance with rules. Detect when the potential actions may violate. Recognize potential deadlock situation. Recognize when it is better to terminate the negotiations.
Intervention	To introduce participants about the intervention action and vice versa. Recognize the time and situation in which the intervention is necessary.

### Electronic negotiation systems

Electronic negotiations systems can be an effective means of solving complex problems in managing large amounts of information. Electronic negotiations systems can be specialized and targeted for specific processes to facilitate or to be universal for all processes.

Negotiations are complex when examined all the complex issues, because of it into the various phases of negotiations and tasks the computers were included (Kersten and Lai 2007). Recently, electronic commerce had replaced the traditional business techniques and skillful agents are making business processes more efficient in

electronic commerce (Ren et al. 2011). With the help of electronic commerce, people can easily publish information, negotiate with opponents, and search for items.

Negotiating agents play an important role in electronic commerce and became very popular, but e-commerce is a relatively closed and static, is also not realistic (Ren et al. 2011). In a rapidly changing environment agents involved in the negotiations may be unsuccessful due to environmental changes and their unforeseeability, depending on the dynamics of e-commerce, negotiations agents should adapt their negotiation strategies, respectively (Ren et al. 2011).

Negotiations network is usually referred to as electronic negotiation and the systems they use are called electronic negotiations systems (ENS). ENS is an information system that employs web-based technologies that are installed on the network. In defining the concept of ENS this is a program installed on a network, which can help to one or more of the negotiators, mediators. In this order are employed e-mail, mail chat boards, and video streaming in the negotiations, the same as are used in automatic negotiations or auctions (Braun et al. 2006).

As about the ENS as a program to assist in the negotiations, which is posted on the network and adding to the range of the negotiating framework, it can help to one or more of the negotiators, mediators or assistants, this includes e-mail, chat, video streaming is used in negotiations (Lempereur 2004), a program used to facilitate (Bichler et al. 2003), the automated negotiation and auctions (Jennings et al, 2001), and programs, which includes both negotiations and auction mechanisms (Teich et al., 2001).

Early NSS use has been limited because (Braun et al. 2006):

1. Limitations of information and communication.
2. Restricted computer literacy managers.
3. Model structure complexity, often based on rationality, which requires a significant amount of user input.
4. Insufficient attention to the psychological and sociological factors in negotiations.

Negotiating framework agents have advantages on automation of structured problems, so these agents can work well-defined and structured in terms of the negotiations, as for these agents is not necessary to perform all the actions (Braun et al. 2006). Electronic negotiations systems (ENS) use internet technologies and media that the negotiators could communicate. The main challenge for the development of

electronic negotiations systems (ENS) is that the system must be suitable to the context, which may vary in different negotiations situations (Kim et al. 2007).

When negotiations are conducted face to face (called Face to Face - F2F), the context is defined by interpersonal relationship patterns, which are usually implicit and the negotiations that are supported by systems must have a well-defined context, that the system could provide effective support (Kim et al. 2007). While the context of the negotiations is changing in every question so application of specific systems is limited. Context dependency is one of the major problems which hinder the development of ENS the main goal and adaptation of practice (Kim et al. 2007). One way to mitigate the dependence on the context is to separate protocol from execution. Adapting the component-oriented approach to protocol makes it possible to ENS development efficiency and modification process improvement.

For negotiation support and automation was designed four types of programs (negotiated support system - NSS; electronic negotiations boards - ENT; negotiations programs-NSA agents, negotiations for agent assistance - NAA) and DSS (decision support system were designed to support individuals in the negotiations. These models evolved mixed model variations (in management science, operations research, decision science and artificial intelligence) that have to interact with their users, data collection, calculation and storage (Kersten and Lai 2007). Some systems, for example NSS can have agent systems that automate simple and mundane tasks, the other system (ENTS) can use common tools from software engineering, computer science: database, SQL, security (Kersten and Lai 2007).

Kersten and Lai (2007) present electronic negotiation typology and their definitions:

- Negotiation Support System (NSS) is a program which implements the models and procedures has the communication and coordination facilities, and is designed for two or more countries and / or situated in a third negotiation activity party.

- E-negotiations system (ENS) is a program that employs web technologies and is deployed in the network for the purpose of facilitating, organizing, supporting and / or automation negotiators and / or third party activities.

- E-negotiations boards (ENT) is a program that provides a virtual space for negotiators (negotiating boards) and tools that they can use through bargaining activities.

- Negotiating software agents (NSA) is a program that is actively involved in meaningful negotiations and

decisions are carried out on behalf of human or artificial basis.

- Negotiation agents aid (NAA) is a software agent that provides a timely human negotiator and / or third party advice, criticism and support according to the specific context.

ENT is simply a virtual meeting place where parties can publish proposals and messages, which can be seen only they (and potentially a reliable third party), this service is provided to organizations that provide services and ancillary services, mediation, legal and competitive analysis (Rule 2002). Two other types of software systems which have been successfully used in various aspects of the negotiations and have potential in various important roles, which is based on agent technology programs. Agent software technologies have three main characteristics (Kraus 1995): operates autonomously on behalf of others, and they can be reactive and proactive in addressing a variety of actions, convey the appropriate level of skills such as learning, collaboration, and mobility. These characteristics allow designers and developers to construct and implement software agents, which are able to cooperate and negotiate (Rule 2002).

NSA systems target is to automate negotiations activities in which agents are able to perform all the negotiations or register selected negotiations activities according to the appropriate principles (Jennings et al., 2001). These agents are not directly involved in negotiations, they observe the process and provide their managers (the negotiators) with information and knowledge about the problem, process, and / or colleagues (Chen et al. 2004). Other systems are based on the same design and technology, with the purpose to provide an intelligent and independent advice, criticism and support for one or more of the negotiating parties.

ENS can be differentiated according to acumen and degree of autonomy. Some systems may negotiate by human principles, the other can perform specific actions, while the other can't do anything without concrete specifications, these different roles and skills in negotiating programs allows us suggest two different environments in which they work, that is, (Kersten and Lai 2007):

- Negotiating social system which consists of a negotiator seeking for consensus and opportunities but not necessarily the program is used by one or more of the negotiators.

- Negotiating a socio-technical system in which program is an important and active unit involved in conflict management and resolution.

The difference between the social, technical and socio-technical system is useful for such processes as in the negotiations because of the variety of different roles the program may reflect the roles and play them (Kersten and Lai 2007). The system can support one or more of the negotiators (Kersten and Lai 2007), and it can support the coalition and to perform one or a lot of negotiating activities, this program can be used as a facilitation or as a mediator, while the DSS is active and involved in many activities in negotiating. He becomes a member of the Social - Technical system.

NAA target is to help the negotiators (third party) to reach an agreement, which they crave, these agents provide important knowledge and information about colleagues, process, and the problem they are working analysts and experts (Kersten and Lai 2007). NAA can be designed to assist one negotiator than anyone and give the negotiator a competitive advantage over others. NAA differs from the NSS their autonomy and mobility, and possible bias. Given the typology of participatory programs can be divided into three types (Kersten and Lai 2007):

1. The passive system is a single-purpose tool or system that requires users fully control their actions. The passive system can be divided:

- (a) Passive communication systems that help users interact with partners located in different places, convey to them your thoughts, suggestions and arguments. These systems can provide storage, organization, information received incentives.

- (b) Passive computing system can help to calculate that what is difficult. This is often a complex mathematical and statistical formulas which allow for users to summarize, to test and compare solutions or suggestions. But they have no chance to check the assumptions, their completeness, to seek solutions that are not fully defined.

- (c) Passive visual system can help users to display data used in various forms, graphs, maps and other visualization techniques.

2. Active mediation-support system that helps users to formulate, measure and solve complex problems, concession building and offers construction, process and consensus evaluation. These systems have components of problem structuring and solution, as well as the evaluation and answers construction components.

3. The proactive intervention-mediation system has the same capabilities as the active support-mediation systems, but they can coordinate the activities of negotiating, to criticize the actions to offer what recommendations should be made and what understandings can be

accepted. In order to use these capabilities, these systems use the knowledge and specific intelligence so being able to follow the process and negotiation activities.

There are three people's roles in computer systems - as a neutral party (Kersten and Lai 2007):

1. Computer-facilitated negotiations, when the program is used as a tool to allow the negotiating parties to communicate, store and swap information. In these negotiations, only communication and coordination is required. Technologies such as e-mail, chat boards, video streaming allows the parties to communicate. Communication channels and bandwidth are defined by technology and may result the parties communication. This technology is passive.

2. Computer support for negotiations based on the program with condition that will be reduced the opening efforts in the negotiations, will expand their ability to assess a problem and determine possible solutions. The condition is to provide information to the negotiator that he would not have received. This makes better understanding of the problem and learning about their prospects (and their opponents). This method is actively involved in the negotiations. This system must be able to support cognitive effort, which is needed for negotiations. Simulation systems and programs for priority setting are such examples.

3. Computer mediational negotiation uses the program assist the parties to reach a consensus. This program involves the heavy moments and offers directions, which may reduce the degree of conflict. It offers the potential trade-offs and offer concessions, which may lead to the consensus. Objective of the program is to be something similar to the man- mediator, who is active in the process so to reach an agreement. These types of programs can attempt to explain the rationale against the other party actions.

The differences between the programs that are used to facilitate, support and mediate creates two categories of systems (Kersten and Lai 2007): 1) a program that extends the physical capabilities and 2) a program that expands the intellectual capacity. The program facilitates the communication as e-mail does – stores, sorts, moves information. The program plays an important role in out of sync communication between geographically separated people, it has major influence on the way how people will present their arguments and will interact with each other, as well as influence to their skills but it is not the target to expand mental capacities (Kersten and Lai 2007).

The negotiation process works through the phases and activities. For the negotiator is very important how

the negotiation process works because it can be important criteria for the classification (Davey and Olson 1998), the system can be designed to support the automation of one or more activities in the phase or during any negotiations. Four types of systems are distinguished (Davey and Olson 1998):

1. Planning and preparation systems, which are designed to help one party to organize private or public information, to identify alternatives that are acceptable to this side. Determine the value function or decide to use a different evaluation scheme to prepare negotiation strategies and tactics. They are used before negotiation planning phase.

2. The evaluation system is designed to construct alternatives and assess their consequences, to select an alternative that is presented as a proposal and assess the proposals of the other side. These systems are used on one side. The evaluation systems can be used during all negotiations or through selected phases.

3. The intervention system supports people mediators or arbitration and provides mediation and arbitration services. Intervention system can be used during activities such as agenda setting, exploration, formulation, analysis and exchange of proposals and arguments supply as well as the consensus achievement.

4. Process systems are designed to both negotiators individuals and the groups, they operate in the negotiation dynamics and procedures. They provide electronic communications media, and can provide all the support tools that are in the planning, assessment, and intervention. Process systems can be in all negotiations and in all phases.

Electronic negotiation support and automation activities can be classified in two technical perspectives (Kersten and Lai 2007): a process that focuses on using a variety of models and procedures (decision support), and the interaction, which focuses on communication between people and systems (communication). Electronic media is the active interface development and has three main functions (Kersten and Lai 2007):

1. Transportation and storage.
2. Search and selection.
3. The formatting and presentation.

Traditional elastic ENS system is Lim and Benbasat SNA architectural model (1992). Free negotiation support systems are the programs that layout in one or more computers. This system has a specific task on behalf of the negotiator. The main activities are coordination of tasks and different systems, perform actions, this coordination can be carried out by dedicated program that communi-



cates with other participants of system, decentralization of coordination among the systems is also possible (Kersten and Lai 2007).

In negotiations electronic negotiating support systems may be useful in negotiating remotely with other national partners (customers, suppliers, colleagues and others.). Knowing the available technology options to support the negotiations, it is possible to adapt them in supporting of individual processes, but it should be noted that adaptation of the negotiating support system for specific situation should not request more resources than the process itself without negotiation support systems, otherwise the negotiating support system would be meaningless. Negotiating support system is relatively new, so every day as technology is advancing, it can be improved in different ways and used to solve the problems of today, such as negotiation support systems adaptation for situations in negotiating context, negotiation support in order to avoid cross-cultural differences, negative impact on negotiating process, performance and results, and other things.

## Conclusions

Intercultural communication is an integral part of such factors as a negotiating environment, culture, ideology, bureaucracy, law, stability and so on. All these factors have an impact on negotiating process. Therefore, in the development of negotiation strategies is necessary to take into account key factors affecting. The existence of intercultural differences between the cultural dimensions in the negotiations may result in unavoidable inconsistencies: the characters understanding differences, language barriers, different behaviors, gestures, and so on. Negotiations are often interacting at a distance in an interactive way for obvious reasons of cost. There are various technical measures in remote talks: e. mail, phone, mail, video conferencing, chat boards, text messages, multimedia online negotiating and others. With the help of video conferencing in the international negotiating communication can be exploited more bargaining power than for instance telephone, e-mail, text message or other.

Use multi negotiating support systems, in which are used to the situation and unnecessary features may require more resources for system knowledge and to select appropriate functions than without the use of negotiating support systems. In negotiations the help of electronic support systems may be useful in negotiating remotely with other national partners (customers, suppliers, colleagues and others). Knowing the available technology

options to support the negotiations, it is possible to adapt them in supporting of individual processes, but it should be noted that adaptation of the negotiating support system for specific situation should not request more resources than the process itself without negotiation support systems, otherwise the negotiating support system would be meaningless.

The authors proposes the use of internet search engines' ranking algorithms and cultural dimensions as elements of negotiating context in order to more accurately simulate the processes of international business negotiations, and the final results. In further studies will be required in more detail to explore effects of innovations for negotiations. It is also necessary to explore the impact of cultural differences in negotiations and the possibility to simulate the interaction between representatives of different cultures in the negotiations.

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## TARPTAUTINIŲ VERSLO EL. DERYBŲ PARAMA IR KOMUNIKACIJA

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Santrauka

Internetas, kompiuterija ir komunikacijos technologijos suteikia naujas galimybes projektuoti ir įdiegti programas galinčias paremti derybininkus. Tarptautinėse nuotolinėse derybos derybų paramos sistemos vaidina reikšmingą vaidmenį. El. derybų sistemos gali būti efektyvios priemonės sprendžiant kompleksines problemas, valdant didelius kiekius informacijos. Šiame straipsnyje atlikta pasaulinės mokslinės literatūros šaltinių tarptautinių el. verslo derybų komunikacijos analizė. Darbe tiriamos el. paramos sistemos skirtos verslo deryboms. Darbo išvadose autorius pateikia siūlymus galinčius palengvinti derybų paramos sistemų darbą siekiant išsiaiškinti tikslesnę derybų kontekstą, taip pat pateikiami pasiūlymai tolimesniems derybų tyrimams.

**Reikšminiai žodžiai:** el. derybos, derybų parama, derybų paramos sistemos, tarptautinės derybos, derybų komunikacija.