The Effect of Communication Mode in E-negotiations

Eva-Maria Pesendorfer and **Sabine T. Koeszegi**

School of Business, Economics, and Computer Science
University of Vienna
{Eva-Maria.Pesendorfer, Sabine.Koeszegi}@UniVie.ac.at

Abstract

In this paper, we study the effects of synchronous and asynchronous communication mode on electronic negotiations. By applying content analysis, we compare the negotiation processes of two e-negotiation simulations conducted in a synchronous and an asynchronous mode. Our results show significant differences in communication behavior of subjects. Synchronous negotiation mode leads to less friendly, more affective and more competitive negotiation behavior. Asynchronous communication mode leads to more exchange of private and task-oriented information and to a more friendly communication style. These results suggest that de-individuation and escalating effects might be caused by communication mode rather than by the ability of the media to transmit social cues.

1 Introduction

Internet allows geographically dispersed persons to cooperate and exchange information at low cost and nearly without time delay. Therefore, an increasing number of people exploit the potentials of electronic communication and negotiation systems to conduct business over the Internet.

Recently, several experimental (G.E. Kersten & Noronha, 1999; Schoop & Quix, 2001) and commercial (e.g. www.smartsettle.com) electronic negotiation support systems (eNS) have been developed. These systems facilitate electronic negotiation processes (e-negotiations) by enhancing the capabilities for information storing, processing, and transferring. At the same time, however, these systems reduce communication bandwidth. Similar to other computer-mediated-communication (CMC) technologies – eNS impede the transmission of interpersonal cues and can therefore be referred to as "cool" communication media. On the one hand, eNS are therefore associated with more rational problem-solving and decision-making since information is processed without social considerations that might otherwise lead to poor decisions (Lea, O'Shea, Fung, & Spears, 1992). On the other hand, it is argued that electronically mediated communication increases the probability of misunderstandings and communication problems and thereby raises the likelihood of conflict escalation (Friedman & Currall, 2004). We expect that whether computer-mediated communication has a de-escalating effect (more rational problem-solving) or an escalating effect on conflict resolution depends - amongst other factors - on the communication mode. While Pool, Shannon, & DeSanctis (1992) show that the communication media have different effects in the differentiation and integration phase of a negotiation, we assume that synchronous and asynchronous communication modes also influence negotiation processes. We recognize therefore a need for an in-depth analysis of electronic negotiation processes in this regard.

To date, researchers have investigated the differences of synchronous and asynchronous negotiations only by comparing face-to face negotiations with computer-mediated negotiations. Electronic negotiations using different communication modes, however, have not been investigated so far.

Furthermore, many studies compare only negotiation outcomes and ignore the process leading to these results. In this paper, we make a contribution to fill this gap by comparing electronic negotiations conducted in a synchronous and an asynchronous mode.

The remainder of this paper is structured as follows: in the next section, we give a brief review of relevant literature and develop hypotheses to be tested in this study. In section 3, we describe the simulation cases, the subjects, as well as the system used in the experiments. In section 4, we discuss content analysis, the methodology applied to analyze the data. Section 5 summarizes the findings of the analysis and finally, in section 6, we draw conclusions and give an outlook for further research.

2   Literature Review and Hypotheses

The research question discussed most recently is whether CMC technology is, in principle, an appropriate means to resolve conflicts. The discussion revolves the general matter how social CMC technology is. Basically, there are two opposite positions:

(1) Representatives of the *pessimistic view* base their assumptions on the media richness theory by Daft and Lengel (1986) and the reduced social cues approach as well as the de-individuation theory put forward by Kiesler and colleagues (Kiesler, Siegel, & McGuire, 1984; Sproull & Kiesler, 1996). De-individuation effects and missing social cues increase the danger of conflict escalation processes (Friedman & Currall, 2004).

(2) The more *optimistic view* has different theoretical and empirical sources. First of all, negotiation support systems literature strongly supports positive effects of CMC mediated negotiations on outcomes and satisfaction, e.g., (Rangaswamy & Shell, 1997). Secondly, Spears and Lee (1992) differentiate between interpersonal and social cues. While, in fact, interpersonal cues are reduced in CMC, social cues are also transmitted in text-based media. Therefore, CMC is social enough to inhibit negative de-individuation effects. Thirdly, researchers focusing on computer-mediated group processes, e.g., (Walther, 1995, 1996) attest a similar potential like face to face communication for relationship building and social interaction to CMC technology.

Daft and Lengel (1986) distinguish between media efficiency and media richness. The former means the information processed per unit of time by the sender and the receiver, whereas the latter means the measure of emotional and social content that occurs while communicating (Sheffield, 1995). According to Lengel and Daft (1988), three relevant media characteristics exist: The possibility to (1) provide multiple information cues simultaneously, (2) address individuals personally and (3) give and receive immediate feedback. Lengel and Daft (1988) argue that media richness increases with the possibility of the media to provide these features. Furthermore, they assume that highest media richness is necessary for non-routine tasks. In a similar vein, Sheffield (1995) argues that in a negotiation, a rich medium helps to interpret the other party's bargaining orientations and increases perceptions of trust or dominance, thus facilitating conflict resolution.

We contend, however, that the three characteristics have to be analyzed more concisely with regard to the negotiation task. We suspect that, for instance, the provision of interpersonal and social cues (e.g., race, gender, status, stigmata such as stuttering, attractiveness…) can be - in some cases - counterproductive for negotiation and conflict resolution. Furthermore, the possibility of immediate feedback may lead to affective communication. In case of positive emotions, this can facilitate the problem-solving process, whereas, in the case of negative emotions, this may have escalating effects.

Studies comparing face-to face with CMC negotiations concentrate mainly on the first criterion, i.e., the provision of information cues (Delaney, Foroughi, & Perkins, 1997; Perkins, 1996; Rangaswamy &

Shell, 1997). Since eNS are designed to address individuals personally, this criterion can be neglected. The possibility to provide immediate feedback, which is determined by the communication mode (synchronous vs. asynchronous), has been neglected so far.

The characteristic of a synchronous CMC, like for instance chat, is that the communication takes place in real time without a time delay. This makes synchronous text-based communication richer compared to asynchronous CMC technology. Asynchronous CMC systems do not consist of the real time feature and delays are usual when communicating via such a system. Examples are electronic mail (e-mail), discussion boards, newsgroups and asynchronous electronic negotiation systems (Dietz-Uhler & Bishop-Clark, 2001).

Sproull and Kiesler (1986) suggest that reduced social context cues in electronic communication lead to disinhibited behavior. Constrained self-awareness about the actual situation and about consequences of one's own behavior, as well as reduced concern about judgment from others cause disinhibition. Disinhibited behavior, sometimes also referred to as 'flaming' (Lea, O'Shea, Fung, & Spears, 1992), comprises behavior ranging from impoliteness to the expression of emotions (Joinson, 1998).

We assume, that in synchronous communication, time pressure and the need for immediate reaction are causes for spontaneous and un-reflected emotional behavior. Furthermore, in synchronous negotiations people have less time to consider alternatives and to reflect and analyze the actual situation. Therefore, negotiators might use more competing and offensive behavior. On the contrary, in asynchronous negotiation settings, emerging emotions can be reflected and the negotiator has more time to calm down and to consider consequences of (affective) behavior. In addition, negotiators might exchange more information, develop different alternatives and use problem solving behavior (Fisher & Ury, 1981) when they have more time to react.

Therefore, we hypothesize that

1. Synchronous communication leads to more disinhibited behavior compared to asynchronous communication.

We expect to observe more emotional statements (negative as well as positive) and less polite communication (thanking, apology, business phrases, etc.) in synchronous negotiations.

Furthermore, we expect that

2. Synchronous communication leads to more competitive and less problem-solving negotiation behavior compared to asynchronous communication.

We expect to observe less information exchange, less empathetic behavior (express understanding), less soft tactics such as promising, excuses, etc. as well as less exchange of private communication in synchronous negotiations. At the same time, we expect to find more persuasive behavior and more use of hard tactics, such as exerting pressure, threatening etc.

Apart from differences in negotiation strategies, we know that written communication demands specific communication behavior (Koeszegi, Srnka, & Pesendorfer, 2004): there are communication protocol, text-structuring and process coordination requirements.

Communication protocol elements (comprising salutations and communication indicating politeness, such as 'Thank you for your message', etc.) can be found in almost every message in asynchronous communication. They allow to tie in with previous and upcoming events and to keep up a communication flow perceived to be continuous over time. This need for re-integration is not necessary in synchronous communication. On the other hand, time pressure will force negotiators to coordinate their process more precisely in synchronous settings.

We therefore assume that:

3. Synchronous communication leads to more process coordination needs.
4. Synchronous communication leads to less communication protocol statements.

To test these four hypotheses we conducted two simulation experiments, which we describe in the following section.

3 Experiments

In this study, we use data from two experiments conducted in May 2003 and March 2005. In May 2003, students from an international negotiation course at the University of Vienna and the National Sun Yat-sen University Taiwan participated in a buyer-seller-negotiation experiment using the web-based e-negotiation platform SimpleNS (www.interneg.org). The subjects negotiated in an asynchronous mode and had three weeks time to reach an agreement. The synchronous negotiation experiment was conducted in computer laboratories at the University of Vienna. In this setting, the students had only forty-five minutes time to reach an agreement using the same platform. All negotiations were conducted in English.

In total, we analyze in this study the negotiation behavior of 100 participants (50 in each setting). Subjects, mostly graduate students, received credit points for participation. The roles were assigned randomly. The negotiators had to complete questionnaires before and after the experiment to gain data on demographics and feedback.

Simulation Cases

We simulated two buyer-seller negotiations with a similar structure. One case dealt with the supply of bicycle parts, the other with pharmaceutical products. Both cases were designed in a mixed motive setting, including both, integrative and distributive elements. In both cases, the subjects represented either a buyer or a seller company and negotiated on behalf of their constituents. They received a detailed explanation of the case and of their respective role, however, they were not suggested a particular strategy. The cases only indicated that, for instance, for a buyer a lower price would be preferable. In both simulations, subjects had to agree on price, delivery, and quality issues. In the bicycle case, subjects additionally had to agree on terms of payment and in the pharmaceutical case on future cooperation. The parties were informed about alternative partners in both cases, so that a termination was possible throughout the whole negotiation.

Negotiation System

We used SimpleNS, a text-based electronic support system, for both simulations. As a passive system (Gregory E. Kersten, 2004), SimpleNS merely offers a communication platform to exchange, store, and retrieve offers as well as messages. It does not provide any additional support features.

4 Methodology of Data Analysis

We applied content analysis to the logged negotiation transcripts. Content analysis is a research method developed specifically for investigating problems in which the content of communication serves as the basis of inference (Holsti, 1969). The method originates from communication research (Krippendorff, 1980) and is applied for systematic analysis of even huge amounts of textual material (Mayring, 2002). Qualitative analysis comprises the following major steps (Koeszegi, Srnka, & Pesendorfer, 2004; Srnka & Koeszegi, 2004):

(1)   Unitization: the textual material is divided into units for further analysis. In this stage, researchers decide which type of units (sentences, thoughts, speaking turns, etc.) is used for coding and analysis. This choice depends on the research problem and the focus of analysis. For multi-focus studies investigating several dimensions like our study, thought units (conveying one thought communicated by a negotiator) are appropriate units of analysis.

(2)   Categorization: this is the development and revision of categories relevant to the research questions through an iterative process of analysis. We started with existing categories of the BPA framework (see Koeszegi, Srnka & Pesendorfer 2004) and adapted these categories for both communication modes, the synchronous and asynchronous communication mode. The resulting category scheme consists of nine main categories and is, apart from slight differences in some sub-categories, identical for both modes.

(3)   Coding: this is the assignment of coding units to categories. For further analysis, the data was coded based on the adapted category scheme (see following Table 1).

Table 1. Category Scheme and Frequencies of Thought Units

	Main category	Examples & Sub categories
Content	*Substantive negotiation behavior*	Communication that constitutes fundamental negotiation behavior, such as making an offer, a concession, or reject an offer, logrolling
	Task-oriented behavior	Communication that promotes or facilitates problem solving and that is not substantive, persuasive, or tactical. e.g. request or provide information
	Persuasive argumentation	Communication that supports the claims a negotiator makes e.g. self- or other supporting arguments, persuasive remarks
	Tactical behavior	Communication that is intended to influence the negotiation partner, such as exerting pressure, making promises
Relationship	*Affective behavior*	Communication linked to the expression of feelings about the content, the opponent, such as expressing positive or negative emotions or thanking
	Private communication	Communication that is not related to the negotiation task itself e.g. release of identity information, communicate about private topics
Process	*Communication protocol*	Communication units at the beginning and in the end of a message as well as formal business letter phrases such as address, close and signature, politeness
	Text-specific communication units	Communication particularly linked to written electronic communication 'E.g.', or 'p.s.', or "This is my offer:"
	Procedural communication	Communication that facilitates the negotiation process such as exchanging information about IT or about time issues

Each main category summarizes up to seven sub-categories. In total, the category scheme comprises nine main categories and 42 sub-categories. The first four main categories pertain to the content of the negotiation. Affective behavior and communication about private topics are relationship categories. Procedural, text-specific communication units and communication protocol are categories intended to coordinate and structure the negotiation process.

Minor differences in the category schemes were observed for the following sub-categories: we did not find sarcastic communication units, humor and text-specific elements such as '…' in the asynchronous mode. In order to compare the two modes, we subsumed sarcasm in negative emotion, humor in positive emotion, and neglected "…". Since we had only a few observations in the sub categories self- and other-supporting arguments in the synchronous mode, all sub-categories of persuasive behavior were summarized in one category. Similarly, we summarized apology and thanking in one category.

From the 50 negotiations, we extracted 4418 communication units. Two trained, independent coders assigned each communication unit to a main and a respective sub-category. The coding process was run individually and after the first run, the coders compared categorization of units and discussed the differences. Then they went through another round of coding and compared their results again. Inter-coder reliability was measured with Cohen's kappa. In the asynchronous mode, the Cohen's kappa amounted to = .84, and in the synchronous mode, Cohen's kappa was = .86 (Cohen, 1960). These values are considered to be very good in the literature (Brett, Shapiro, & Lytle, 1998; Weingart, Thompson, Bazerman, & Carroll, 1990). The remaining differences between coders were resolved through discussion.

5 Results

From 50 dyads, 31 dyads reached an agreement. There was no significant difference between the communication modes, 17 dyads in the asynchronous and 14 dyads in the synchronous mode terminated negotiations with an agreement.

The following Table 2 gives descriptive statistics of general communication behavior (number of messages, words, and communication units) in the two different communication modes.

Table 2. General differences in communication behavior

Variable	Mode	N	Mean	SD	F-Value	p
Number of communication units	asyn.	50	38,60	23,29	2,014	0,159
	syn.	50	44,52	18,10		
Number of words	asyn.	50	383,08	264,08	0,078	0,781
	syn.	50	371,10	150,45		
Number of messages	asyn.	50	5,06	2,88	131,902	p<0,001
	syn.	50	19,02	8,10		
Average number of units per message	asyn.	50	8,16	3,78	93,956	p<0,001
	syn.	50	2,77	1,06		

In both settings, negotiators expressed on average about forty-one thought units comprising about 377 words. There is no significant difference between the two communication modes indicating that, in fact, the simulations are comparable. There is, however, a significant difference in the distribution of the thought units in messages. In synchronous negotiations, messages are significantly shorter and therefore more messages are sent compared to asynchronous negotiations.

Table 3. Distribution of Communication Units.

Main category	Asyn. N (%)	Synch. N (%)	ANOVA (cu/subject) F, p
Substantive negotiation behavior	315 (16.1%)	414 (16.8%)	0.032, p=.859
Task-oriented behavior	500 (25.6%)	498 (20.2%)	8.130, p=.005
Persuasive argumentation	183 (09.4%)	251 (10.2%)	0.388, p=.535
Tactical behavior	72 (03.7%)	324 (13.2%)	60.645, p<.001
Affective behavior	108 (05.5%)	234 (09.5%)	8.441, p=.005
Private communication	104 (05.3%)	110 (04.5%)	0.028, p=.869
Communication protocol	554 (28.3%)	156 (06.3%)	90.617, p<.001
Text-specific communication units	43 (02.2%)	278 (11.3%)	24.212, p<.001
Procedural communication	76 (03.9%)	198 (08.0%)	24.412, p<.001
TOTAL	**1,955**	**2,463**	

The distribution of communication units in the main categories of Table 3 is also displayed in Figure 1.
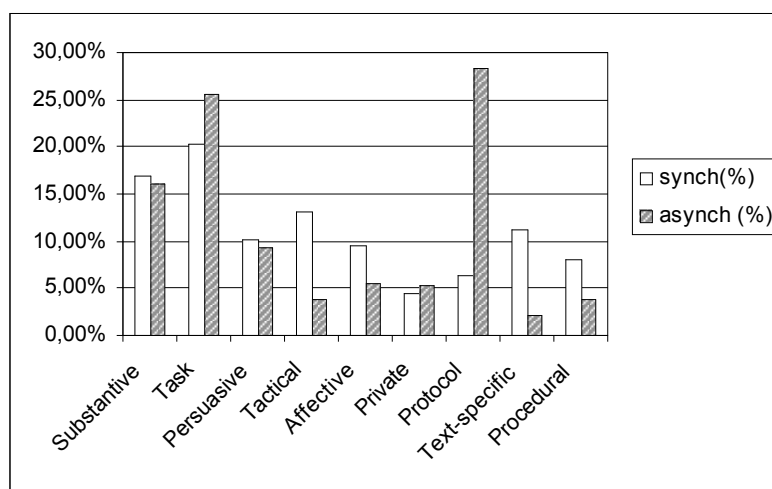

Figure 1. Synchronous/Asynchronous Communication

ANOVA analysis of relative frequencies of communication behavior of each user in the main categories demonstrates significant differences. There are significant differences in the task-oriented

and tactical category, as well as in process and affective communication. We observe – overall – more tactical, more affective, more procedural, and more text-specific communication in the synchronous communication mode, while there are more task-oriented and communication protocol units in the asynchronous mode. For the remainder of the main categories, i.e. substantive, persuasive, and private negotiation behavior, the data shows a similar distribution in the two communication modes.

In the following tables 4 to 6, we display the differences of the communication behavior on the level of each individual negotiator. Since we have count data, which is – especially in the subcategories with fewer observations - not normal distributed, we decided to use non-parametric statistics to compare the communication modes. For every subject, we calculated the relative frequencies of communication units in each main and sub category and used the median split method to divide the sample in a low and a high category of users of a specific communication category. These categories are then cross-tabulated with communication mode and tested with a Chi-squared-test.

Table 4. Differences in affective and private communication behavior

Main Category		Mode %		p	Sub category		Mode %		p
		asyn	syn				asyn	syn	
affective	low	62	38	0,014	positive emotion	low	64	36	0,004
	high	38	62			high	36	64	
					negative emotion	low	86	34	<0,001
						high	14	66	
					apology/ thanking	low	38	66	0,004
						high	62	34	
private	low	58	42	0,081	release ID	low	60	84	0,007
	high	42	58			high	40	16	
					release other private info	low	74	84	0,163
						high	26	16	
					private emotion	low	86	92	0,262
						high	14	8	

As predicted, we find fewer positive and negative affective statements but more thanking and apology communication units in asynchronous negotiations. This supports hypothesis 1, that synchronous leads to more disinhibited behavior.

Hypotheses 2 is supported by the data: in the synchronous mode, we find more tactical behavior, i.e. exerting pressure and referring to alternative suppliers/buyers, more request of information, more persuasive argumentation and also more rejections. We find less concessions, less release of private information and less provision of information. In summary, this behavior clearly indicates more offensive and competitive negotiation behavior (Koeszegi, Srnka, & Pesendorfer, 2004; Putnam & Jones, 1982) in the synchronous communication mode. The only surprising result is the more empathetic communication (express understanding) in the synchronous mode. This type of behavior can, however, be interpreted as tactical behavior too and also fits to the competitive style.

Synchronous communication - as assumed in hypothesis 3- necessitates significantly more procedural coordination. Time and process coordination are higher in the synchronous communication mode. Subjects also used significantly less communication protocol units in the synchronous communication mode, which is clearly supporting hypothesis 4.

Table 5. Differences in content negotiation behavior

Main Category		Mode % asyn	Mode % syn	p	Sub category		Mode % asyn	Mode % syn	p
substantive	low	54	46	0,274	concession	low	40	62	0,022
	high	46	54			high	60	38	
					rejection	low	62	38	0,014
						high	38	62	
					logrolling	low	58	48	0,212
						high	42	52	
					full offer	low	54	46	0,274
						high	46	54	
					single issue offer	low	52	48	0,421
						high	48	52	
task oriented	low	30	70	<0,001	request info	low	58	38	0,036
	high	70	30			high	42	62	
					provide info	low	32	70	<0,001
						high	68	30	
					express understanding	low	84	58	0,004
						high	16	42	
					reference to relationship	low	56	44	0,159
						high	44	56	
persuasive	low	50	50	0,579	persuasive arguments	low	60	38	0,022
	high	50	50			high	40	62	
					self supporting	low	70	82	0,121
						high	30	18	
tactical	low	76	24	<0,001	commitment	low	64	52	0,156
	high	24	76			high	36	48	
					exert pressure	low	94	60	< 0,001
						high	6	40	
					authority related excuse	low	78	86	0,218
						high	22	14	
					promise	low	94	86	0,159
						high	6	14	
					alternative buyer/seller	low	84	62	0,012
						high	16	38	

Table 6. Differences in technical communication behavior

Main Category		Mode % asyn	Mode % syn	p	Sub category		Mode % asyn	Mode % syn	p
communication protocol	low	16	84	<0,001	formal address	low	64	44	0,035
	high	84	16			high	36	56	
					informal address	low	18	82	<0,001
						high	82	18	
					formal close	low	34	88	<0,001
						high	66	12	
					informal close	low	88	86	0,500
						high	12	14	
					formal signature	low	86	96	0,080
						high	14	4	
					informal signature	low	42	94	<0,001
						high	58	6	
					politeness	low	44	56	0,159
						high	56	44	
procedural	low	76	26	< 0,001	time coordination	low	68	40	0,004
	high	24	74			high	32	60	
					process coordination	low	80	20	< 0,001
						high	20	80	
text specific	low	72	28	<0,001	redundancy	low	86	92	0,262
	high	28	72			high	14	8	
					filler	low	80	20	<0,001
						high	20	80	
					text structuring	low	72	54	0,048
						high	28	46	
					emoticons	low	84	82	0,500
						high	16	18	

6 Conclusion and Outlook

Our main concern with existing studies on the effects of electronic media on negotiation processes is their mere focus on cues transmission. We believe, however, that the possibility of immediate feedback – one of the three characteristics of the media richness theory according to Daft and Lengel (1986) - is similarly important. We contend, that time pressure and immediate feedback associated with synchronous communication mode leads to behavior that is more competitive and consequently may have escalative effects on negotiations.

Although we do not find a significant difference in the number of agreements between the two modes, we clearly find different negotiation behavior and all four hypotheses were supported by the data. As predicted, synchronous negotiation mode leads to more affective, more competitive, and less friendly behavior. Conversely, we find more problem solving attempts (e.g. provide information) in the asynchronous communication mode. These results suggest that in fact asynchronous negotiation support systems can facilitate problem solving and integrative behavior in negotiations. We assume that the differences in the two modes can be explained by a faster sequence of interaction in the synchronous mode. In this mode, individuals not only expect that their communication partners respond immediately but also know that their counterparts have the same expectations. Therefore, they try to come up to these expectations. The pressure for immediate reaction might be perceived even stronger since the duration of the negotiation is much more constrained in a synchronous setting.

We suggest expanding existing theories (of the pessimistic view) by the feedback dimension and reconsider predictions, since our results indicate that de-individuation and escalating effects of computer-mediated behavior are, indeed, mediated by communication mode.

The problem with comparing synchronous and asynchronous communication is that the latter is less controllable in experiments and might introduce unobservable impact on process and outcome of experimental research. For further research, we suggest to compare different phases of the negotiation in both settings. This procedure would allow analyzing whether time pressure at the end of asynchronous negotiations (with an imposed deadline) shows the same or similar communication patterns as in synchronous communication. Furthermore, an analysis of escalating or de-escalating behavior and the sequence of tactics over time would provide interesting insights into the negotiation process. With this knowledge we would be able to predict consequences of negotiation behavior and different negotiation styles more precisely.

References

Brett, J. M., Shapiro, D. L., & Lytle, A. L. (1998). Breaking the Bonds of Reciprocity in Negotiations. *Academy of Management Journal, 41*(4), 410-424.

Cohen, J. (1960). A Coefficient of Agreement for Nominal Scales. *Educational and Psychological Measurement, 20*, 37-46.

Daft, R. L., & Lengel, R. H. (1986). Organizational Information Requirements, Media Richness and Structural Design. *Management Science, 32*(5), 554-571.

Delaney, M. M., Foroughi, A., & Perkins, W. C. (1997). An Empirical Study of the Efficacy of a Computerized Negotiation Support System (NSS). *Decision Support Systems, 20*, 185-197.

Dietz-Uhler, B., & Bishop-Clark, C. (2001). The use of computer-mediated communication to enhance subsequent face-to-face discussion. *Computers in Human Behavior, 17*, 269-283.

Fisher, R., & Ury, W. (1981). *Getting to YES*. Boston: Houghton Mifflin.

Friedman, R. A., & Currall, S. C. (2004). *E-Mail Escalation: Dispute Exacerbating Elements of Electronic Communication*. Nashvill: Vanderbilt University.

Holsti, O. R. (1969). *Content Analysis for the Social Sciences and Humanities*. Reading, MA: Addison-Wesley.

Joinson, A. (1998). Causes and implications of disinhibited behavior on the internet. In J. Gackenbach (Ed.), *Psychology and the internet. Interpersonal, intrapersonal, and transpersonal implications* (pp. 43-60). San Diego et al.: Academic Press.

Kersten, G. E. (2004). *E-negotiation Systems: Interaction of People and Technologies to Resolve Conflicts*. Paper presented at the UNESCAP Third Annual Forum on Online Dispute Resolution, Melbourne, Australia, 5-6 July 2004.

Kersten, G. E., & Noronha, S. J. (1999). WWW-based Negotiation Support: Design, Implementation, and Use. *Decision Support Systems, 25*(2), 135-154.

Kiesler, S., Siegel, J., & McGuire, T. W. (1984). Social psychological aspects of computer mediated communication. *American Psychologist, 39*, 1123-1134.

Koeszegi, S. T., Srnka, K. J., & Pesendorfer, E.-M. (2004). *Electronic Negotiations: A Comparison of Different Support Systems* (No. Working Paper OP 2004-02). Vienna: University of Vienna.

Krippendorff, K. (1980). *Content Analysis. An Introduction to its Methodology*. Beverly Hills, CA: Sage.

Lea, M., O'Shea, T., Fung, P., & Spears, R. (1992). "Flaming" in Computer-Mediated Communication. In M. Lea (Ed.), *Contexts of Computer-Mediated Communication* (pp. 30-65). New York: Harvester Wheatsheaf.

Lengel, R. H., & Daft, R. L. (1988). The selection of communication media as an executive skill. *The Academy of Management Executive, 2*(3), 225-232.

Mayring, P. (2002). Qualitative Content Analysis - Research Instrument or Mode of Interpretation? In M. Kriegelmann (Ed.), *The Role of the Researcher in Qualitative Psychology* (pp. 139-148). Tübingen: Huber.

Perkins, W. C. (1996). Can a Negotiation Support System Help a Purchasing Manager? *International Journal of Purchasing and materials Management, Spring*, 37-45.

Poole, M. S., Shannon, D. L., & DeSanctis, G. L. (1992). Communication Media and Negotiation Process. In L. L. Putnam & M. E. Roloff (Eds.), *Communication and Negotiation* (Vol. 20, pp. 46-66). Newbury Park: Sage Publications.

Putnam, L. L., & Jones, T. S. (1982). Reciprocity in negotiations: an analysis of bargaining interaction. *Communication Monographs, 48*, 171-191.

Rangaswamy, A., & Shell, G. R. (1997). Using Computers to Realize Joint Gains in Negotiations: Towards an "Electronic Bargaining Table". *Management Science, 8*, 1147-1163.

Schoop, M., & Quix, C. (2001). DOC.COM: a framework for effective negotiation support in electronic marketplaces. *Computer Networks, 37*, 153-170.

Sheffield. (1995). The effect of communication medium on negotiation performance. *Group Decision and Negotiation, 4*, 159-179.

Spears, R., & Lea, M. (1992). Social Influence and the Influence of the "Social" in Computer-Mediated Communication. In M. Lea (Ed.), *Contexts of Computer-Mediated Communication* (pp. 30-65). New York: Harvester Wheatsheaf.

Sproull, L., & Kiesler, S. (1986). Reducing social context cues: Electronic mail in organizational communication. *Management Science, 32*(11), 1492-1512.

Sproull, L., & Kiesler, S. (1996). Reducing Social Context Cues: Electronic Mail in Organizational Communication. *Management Science, 32*, 1492-1512.

Srnka, K. J., & Koeszegi, S. T. (2004). *Integrated Qualitative and Quantitative Research: A Structured Framework and Exemplary Study on Electronic Negotiations* (No. OP 2004-05). Vienna: University of Vienna.

Walther, J. B. (1995). Relational Aspects of Computer-mediated Communication: Experimental Observations over Time. *Organization Science, 6*(2), 186-203.

Walther, J. B. (1996). Computer-Mediated Communication: Impersonal, Interpersonal und Hyperpersonal Interaction. *Communication Research, 23*(1), 3-43.

Weingart, L. R., Thompson, L. L., Bazerman, M. H., & Carroll, J. S. (1990). Tactical Behavior and Negotiation Outcomes. *The International Journal of Conflict Management, 1*(1), 7-31.