Analyzing Computer Mediated Buyer-Seller Negotiations: An Application of Social Presence Theory

Guang Yang*

Abstract

The relative effectiveness of three communications media is examined by applying social presence theory. The three media: Face-To-Face Interaction (FTF), Instant Messaging (IM), and Email (EM) – are conceptualized to have different levels of social presence. Their impact on the buyer-seller negotiation processes, such as problem solving bargaining strategies, and negotiation outcomes, such as negotiation time, joint profit, and joint satisfaction were examined using negotiation simulations conducted in FTF, IM, and EM conditions. Participants completed questionnaires after negotiating in one of the three conditions. The central finding of the study is that higher social presence in the individualistically conditioned negotiation simulations caused more time spent, and lower joint satisfaction for negotiators.

Keywords: Social Presence Theory, Computer Mediated Communications, Partial Least Squares

INTRODUCTION

Conventional wisdom in the business negotiations literature of the last century suggested that face-to-face meetings are almost always best. That is, the more channels of communication available for face-to-face negotiations, the better will be the communication and negotiation outcomes. Further in recent times, there has been widening of Internet bandwidth and other technological advances in electronic media that have given more alternatives as well as made it more convenient and cost effective to use in business negotiations. Most recently communications and negotiations researchers have also begun to explore the comparative effectiveness of face-to-face negotiations vis-à-vis technologically mediated interactions (Barry 2004; Johnson & Cooper, 2009; Lee & Panteli, 2010), and even multi-channel communication behavior (Reinsch, Turner, & Tinsley, 2008).

Earlier research confirmed that communication media can have a significant impact on dyadic influence tactics and negotiations (Putnam 1992; Barry 2004; Croson 1999; Purdy 2000), and conventional face-to-face (FTF) negotiation, which often leads to inefficient outcomes (Gupta 1989; Neale & Bazerman 1991). A considerable research into seeking alternative ways to improve negotiation efficiency and effectiveness has been done. As an example, computer-mediated communication (CMC) has been considered as an alternative in a number of studies (Arunachalam & Dilla 1995; Barsness 1998; Croson 1999; Purdy 2000; Rangaswamy & Shell 1997; Loewenstein et al. 2005). Croson (1999) in comparing FTF to computer-mediated negotiation through e-mail in a potentially integrative (win-win) negotiation found that e-mail negotiation outcomes were more integrative and tended to be significantly more egalitarian than FTF negotiations.

The primary objective of the current study is to explain the probable causal mechanisms involved in the usually unpredicted, but often discovered negative relationship between social presence and negotiation process and outcomes. Social presence theory is used to justify categorizing the three different communication media considered in this study – Face-To-Face (FTF), Instant Messaging (IM), and Email (EM) – into different levels of social presence.

Short, Williams & Christie (1976) formalized what they term *social presence theory* and applied it to teleconferencing. Social presence was defined as the degree of salience of

* Assistant Professor, Department of Marketing, School of Business, Howard University. Author can be contacted at email-id: guang.yang@howard.edu

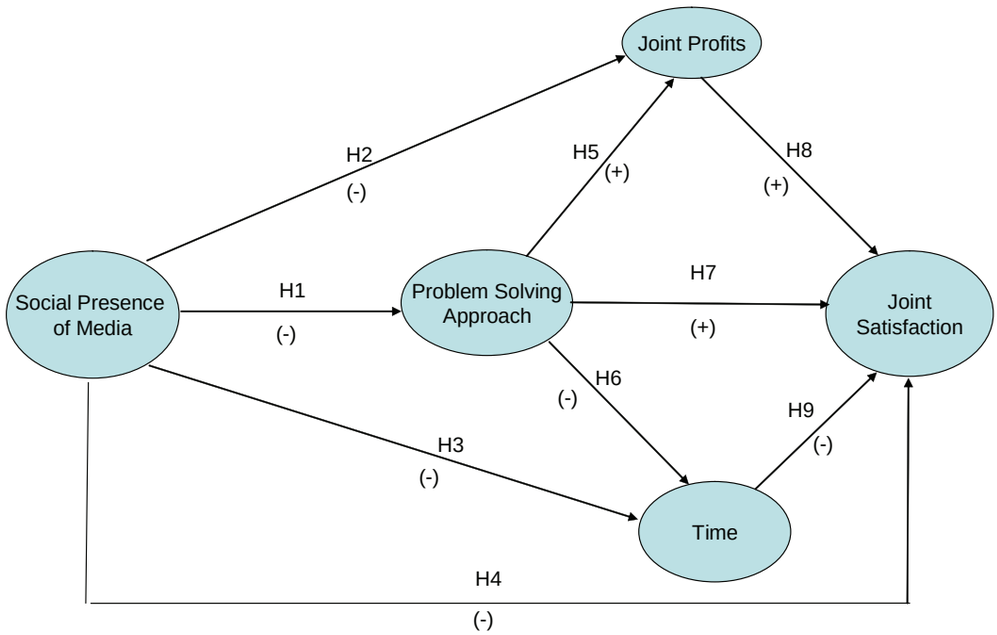
the other person in the interaction and the consequent salience (and perceived intimacy and immediacy) of the interpersonal relationships." Additionally, Social presence was "…the feeling one has that other persons are involved in a communication exchange" (Short et al. 1976). The degree of social presence is determined by the qualities of the communication medium: the fewer the channels or codes (cues) available within a medium, the less the user feels the presence of other participants.

Face-To-Face has the highest degree of social presence. It occurs when negotiators interact in close physical proximity to each other, offering negotiators access to a wide range of aural, visual and nonverbal communication cues. Aural cues may include the pitch and volume of the voice, the talking speed, paralanguages (e.g., filler words and laughter) and the use of pauses. Visual cues may include gestures, facial expressions, eye contact, body movement, and physical appearance (e.g., alertness, sweating, etc.) of the other negotiator. FTF may even allow the other three senses – smell, touch, and taste – to be engaged as well; and these "media" vary in importance across cultures. For FTF, all three measures of the social presence – awareness of mutual presence, the level of behavioral interaction, and visual access are at the highest levels.

The synchronous nature of Instant Message (IM) has a degree of social presence lower than FTF. While there is no visual access with IM, partners are constantly aware of the presence of the other party. To communicate through IM, the users of the IM type a message that pops onto the recipient's screen seconds after it is sent, and get one back just as fast. A message at the bottom of the window shows whether the other party is typing or not. The messages are then displayed sequentially on each person's screen. These messages convey two dimensions of social presence: the temporal presence of the other participant (i.e., mutual awareness of co-presence) and exchange of the messages (i.e., behavioral interaction). IM enables a user to be in one place physically while mentally and emotionally participating in an entirely different virtual context.

Alternatively, the usual assumption for an EM communication is that the recipient is not online (not present), thus the asynchronous characteristic of the channel. People do not expect to be replied to instantly.

Figure 1. Theoretical Model and Hypothesis



Sometimes EM can be used in ways that communicators are aware of the presence of the other party. Yet, the behavioral interaction is to a large extent asynchronous. Moreover, others have pointed out that "interactions over email tend to be highly impersonal" (cf. Gelfand, Major, Raver, Nishii, & O'Brien 2006, page 435) and negotiation impasses occur less frequently when negotiators are seen as having a personal relationship established through in-group membership or mutual self-disclosure (Moore, Kurtzberg, Thompson, & Morris 1999). Face-to-face promotes better personal relationships.

Therefore, the two Internet channels considered in the present study, IM and EM vary with respect to the two dimensions of social presence. Compared to FTF, both have no visual access. As a synchronous channel, IM communicators are constantly aware of the presence of each other, and engage in a degree of behavioral interaction that is very close to a phone conversation. As an asynchronous channel, e-mail communicators may sometimes be aware of the presence of the other person(s), but to a lesser degree than communicators in the synchronous IM channel. There is also a lower level of behavioral interaction in EM than in IM (frequency of messages exchanged within the same amount of time). Finally, such differences in social presence across electronic media have been shown to have important consequences on the efficacy of negotiation tactics (i.e., Lowenstien et al. 2005).

Conceptual Model

In the conceptual model presented as Figure 1, the degree of social presence of the medium used is an exogenous construct that influences the negotiation process constructs, problem-solving negotiation behaviors (Walton and McKersie 1965). The negotiation outcome constructs include observed outcome measures, joint profit and negotiation time, a perceptual outcome measure, and joint satisfaction (Purdy et al. 2000).

Negotiation processes

Problem-Solving Approach

In the problem-solving approach (hereafter PSA) buyer-seller negotiations involves, first an emphasis on questions and getting information from clients about their needs and preferences. Second, once the counterpart's requirements and circumstances are fully understood, then the negotiator accommodates the product/service offering to the counterpart's needs after the requirements and circumstances are fully understood. A PSA then can be described as cooperative, integrative, and information-exchange oriented.

Negotiation Outcomes

Multiple measures of outcomes of buyer-seller negotiations have been used in earlier studies. We employ three in this study – joint profits, time, and the joint satisfaction of the negotiators.

Joint Profits

Certainly actual negotiation outcomes are difficult to compare in the field. The laboratory context allows us to quantify and compare negotiation outcomes in a direct way. We are able to have negotiators participate in identical negotiation tasks with measurable outcomes such as profit levels achieved.

Negotiation Time

While joint profit is clearly an economic benefit, time may be viewed as a cost of effort in negotiation. From a cost benefit perspective, negotiators achieving a given level of efficiency within a shorter period of time should be more satisfied. Alternatively, Raiffa (1982) argues that while time is valuable and can be traded for profit, many unskillful negotiators put a dysfunctional premium on speed. Purdy et al. (2000) studied time as an objective outcome measure of negotiations. They argued that Computer Moderated Communication transmits less information than FTF per unit of time. Text-based chat (dealing with detailed prepared note) is slow and there tend to be long pauses between each participant's contributions. Negotiators in CMC tend to use fewer words and need more time to reach agreement (Sheffield 1995). Purdy et al. (2000) reported that negotiators need significantly less time to reach agreement when employing media.

Joint Satisfaction

Satisfaction is conceptualized as an important qualitative measure of outcomes of business negotiations (Graham 1986). Negotiators' Problem Solving Approach (PSA)

was found to impact partners' satisfaction positively in the FTF condition (Graham et al. 1994). Research has shown lower levels of satisfaction with CMC compared to FTF (Purdy et al. 2000).

Hypotheses

The degree of social presence of communication media in negotiation has already been discussed. FTF, IM, and EM are conceptualized to have high, medium, and low levels of social presence, respectively. The one process and outcome measures have been linked to different levels of social presence. The predictions are made based on its direct and indirect influence on the endogenous measures.

Hypothesis 1. Higher social presence conditions will yield less cooperative negotiation processes.

Norton, Frost, & Ariely (2007) explain why familiarity can breed contempt in interpersonal relationships. Based on their study, the authors summarized as follows: "… although people believe learning more about others leads to greater liking, more information about others leads, on average, to less liking" (page 97). Thus, as greater social presence delivers more information about other people (i.e., particularly in face-to-face settings when nonverbal and perhaps unconsciously communicated information may dominate interpersonal evaluations), on average liking and association cooperation, may decline.

Hypothesis 2: Higher social presence conditions will yield lower joint profits.

Further, experimental research (Carnevale & Isen, 1986; Carnevale et al. 1981; Lewis & Fry 1977) suggests that subjects who negotiate without visual access achieve more integrative solutions (similar to joint profits) than those with visual access. Croson (1999) found that subjects negotiating through e-mail obtained more integrative results than through FTF. Croson (1999) suggested that the filtering out of negative visual cues and the absence of immediate feedback made people more likely to cooperate in the e-mail condition – an explanation actually consistent with H1 above. That is, email allows for more thoughtful, as opposed to knee-jerk, responses. Indeed, the rapid turn-taking demands of FTF and IM can result in less than optimal negotiation outcomes (Loewenstein et al. 2005). Thus, the weight of the empirical evidence argues against the conventional notion that richer communication allows for greater creativity in negotiations.

Hypothesis 3: Higher social presence will yield shorter negotiations.

Verbal communication is faster than digital for most people – talking is faster than typing. Also, the visual access provides richer communication exchanges given the multiple, simultaneous channels of communication in use. Additionally, even email users holding the same social-psychological expectations about interaction pace physically cannot exchange information as quickly as IM users because of the necessity of hitting "send" and "open" buttons, etc.

Consistent with these views, Purdy et al. (2000) found that negotiators using richer media required significantly less time to reach agreement.

Hypothesis 4: Higher social presence will yield low joint satisfaction.

Although Purdy et al. (2000) found that richer media lead to higher levels of satisfaction they attribute the positive effects to the mediating role of collaborative negotiation strategies. Also, they included a manipulation in their instructions as follows; "Important: Your relationship with [the other negotiator] is ongoing…" – thus yielding a more cooperative environment that would work to attenuate distributive behaviors. Visual access that can lead to negative evaluations and allow domination attempts as well as the pressures of turn-taking expectations in both IM and FTF suggest that higher social presence will tend to reduce the mutual satisfaction of negotiators.

The next five hypotheses regarding relationships among the process and outcome constructs are included here mainly to give full pictures. The relationships have been often studied previously and findings have been quite consistent. Thus:

Hypothesis 5: Problem-solving approaches in negotiations will yield higher joint profits.

It is expected that problem-solving processes lead to faster negotiation agreements. More precisely, distributive tactics may be lengthy and unproductive if the parties are reluctant to exchange information or engage in sequential discussion of issues. More use of distributive tactics will make it more difficult for the two parties to find a mutually beneficial solution. Indeed, Purdy's et al. (2000)

empirical findings are consistent with this view. Thus:

Hypothesis 6: Problem-solving approaches in negotiations will yield quicker agreements.

Another consistent finding in the literature is that cooperative negotiation processes yield more satisfied negotiators (cf., Purdy et al. 2000). The positive effect appears to be at least somewhat independent of the higher profits and quicker agreements also associated with cooperative negotiations, and result from the psychological aspects of mutually positive interpersonal relationships. Thus:

Hypothesis 7: Problem-solving approaches in negotiations will yield higher joint satisfaction.

Finally, it is expected that both profits and time will influence post negotiation satisfaction. That is, negotiators that more efficiently reach more desirable joint outcomes tend to be more satisfied. Thus:

Hypothesis 8: Higher joint profits result in higher joint satisfaction.

Hypothesis 9: Shorter negotiations result in higher joint satisfaction.

Please review Figure 1 for the model and the hypothesized relationships among constructs.

Research Design and Methodology

Participants and Procedures

MBA students from a major western U.S. university were recruited for participation in the negotiation simulations. The participants were given two copies of a "Human Subject Consent Form" one week before the simulation. They were asked to read it before deciding whether or not to participate. If they decided to participate, they were asked to sign one of the forms and gave it back to the researcher. They were allowed to retain the other form for their records. Almost all students that were asked, decided to participate. The simulation was conducted as an in-class exercise without credit.

In both e-mail and IM conditions, the participants sat in front of their laptop computers in supervised classrooms. The participants were randomly assigned the roles of either buyer or seller. They were given negotiation simulation instructions to study for 15 minutes. Then they were permitted to negotiate freely through e-mail or Yahoo! Messenger. They were asked to stop when they reached an agreement or when the imposed one-hour time limit elapsed.

Post-negotiation questionnaires were administered to all participants to measure processes and outcomes. Profits were readily available from transcripts if they had reached an agreement.

The Negotiation Simulation

A negotiation simulation (Clopton 1984; Kelley 1966; Pruitt 1975) is used here. This simulation involves bargaining over the prices of three commodities. Each subject receives an instruction sheet that includes a price list with associated profit for each price level. From the payoff matrix, it can be seen that this mixed-motive game has both cooperative and competitive characteristics: the solution AEI (Appendix) produces the highest joint profit (i.e., buyer profit + seller profit =5200); AAA and III maximizes individual buyer and seller profit, respectively (both equals 4000). The solution space has 729 (9 by 9 by 9) agreement points. This game is both simple enough to learn quickly and complex enough to provide on average about one half hour of interaction. No explicit rewards were associated with performance or participation in the simulation.

Kelley's game is selected primarily because it best simulates an actual business negotiations and the potential for a variety of negotiation strategies, such as integrative and distributive bargaining (Pruitt 1986). Moreover, it is comparable in design to other more complex simulations most recently used by other researchers (e.g., Curhan, Neale, Ross & Rosencranz-Engelmann 2008). Buyers and sellers in the negotiation simulations of the present study were motivated to maximize their own profits first, which was accomplished by instructions (e.g., "Naturally, your company wants to make as much profit as possible").

Measurement

Media Conditions

As discussed earlier, two kinds of CMC were chosen for the present study because of their wide application in business communication. With FTF communication as the basis for comparison, the effect of social presence

Table 1: Participant Characteristics, Individuals, Means (SD)

Variables	*Media Conditions*			
	Total (n=408)	*FTF (n=152)*	*IM (N=140)*	*EM (N=116)*
Age (years)	31.4 (6.7)	32.3(9.2)	30.3(5.1)	31.5(4.3)
Fulltime work experience (years)	8.4(5.4)	9.2(8.0)	7.1(4.3)	8.8(3.9)
% Outside contact on job	49.0(30.1)	50.6(30.1)	51.6(29.8)	44.2(29.4)
% Women	28.3	34.7	28.6	24.7

will be examined in this study with three levels of Social Presence: FTF-high, IM-medium, and EM-low. This variable is coded FTF-3, IM-2, and EM-1 in the PLS analyses to show the degree of social presence from high to low.

Process Measures: Problem-Solving Approach

A measure used frequently in the literature to assess the cooperativeness of negotiators is the Problem-Solving Approach (PSA). Here we used a total of 16 items, all 5-point scales such as "honest…deceptive" and "interested in solving a problem…self-interested." Eight items were taken from each negotiator's questionnaire and summed to form a measure of dyad PSA. The Cronbach's alpha for the 16 items was .83.

Joint Profits were measured by calculating the sum of the profits made by the seller and the buyer. Other outcome measures such as negotiation time and joint satisfaction (four 5-point items from each negotiator's questionnaire, Cronbach's alpha for the eight times = .72) were taken from post-negotiation questionnaires.

Data Analysis and Results

Comparability of Participants

The Internet negotiation simulations were conducted with fully employed and full- time MBA students at a major western university. The FTF data were previously collected (Neu and Graham 1994) and used in this study for comparison purposes. A total of 408 U.S. subjects (204 pairs) participated in the simulations (See Table 2). Subjects' average age was 31.4. The average percentage of time on the job dealing with people outside the company 49.0%, and the average full-time work experience was 8.4 years.

ANOVA tests (with Bonferroni adjustment) were performed on all characteristic variables such as age, work experience, and percentage of time dealing with people outside the company. Results showed no significant differences across the three media conditions: FTF, EM, and IM. Different gender pairs (female-female, male-male, female-male) were also compared along key variables. ANOVA tests with Bonferroni adjustment showed no difference. All three types of gender pairs were grouped together for the final analysis.

Table 2: Descriptive Statistics Across Groups, Dyads, Means (SD)

Variables	*Total*		*Media Conditions*					
	Group I	*Group II*	*Group I*			*Group II*		
	N=204	N=112	FTF N=76	IM N=70	EM N=58	FTF N=20	IM N=48	EM N=44
Problem- solving Approach	51.2 (9.9)	51.4 (10.7)	50.4 (8.9)	52.1 (10.0)	51.1 (11.1)	49.8 (8.2)	52.3 (11.0)	51.4 (11.9)
Joint profits	4658 (439)	4678 (394)	4569 (480)	4740 (384)	4672 (432)	4626 (380)	4670 (367)	4688 (440)
Time (minutes)	33.7 (16.0)	35.0 (15.9)	28.1* (14.4)	32.6* (14.0)	42.5* (16.7)	25.5* (12.1)	31.4* (13.3)	43.9* (16.1)
Joint satisfaction	30.5 (4.3)	31.1 (3.7)	29.4 (5.2)	31.6 (3.7)	30.9 (3.1)	30.7 (4.0)	31.4 (3.8)	30.9 (3.2)

* = Differences across the three conditions are statistically significant, $p < 0.01$

Table 3. Results, PLS Parameter Estimates

Hypotheses (Predicted Valence)	***Parameters***	***Estimates***	
		Analysis A N=204	***Analysis B N=112***
H1 (-)	Social Presence → PSA	–. 04	–. 05
H2 (-)	Social Presence → JProfits	–.09	–.03
H3 (-)	Social Presence → Time	–.37*	–.47*
H4 (-)	Social Presence → JSatisfaction	–.24*	–.09
H5 (+)	PSA → JProfits	.34*	.41*
H6 (-)	PSA → Time	–.22*	–.24*
H7 (+)	PSA → JSatisfaction	.32*	.36*
H8 (+)	JProfits → JSatisfaction	.15	.10
H9 (-)	Time → JSatisfaction	–.30*	–.25*

RESULTS

Analyses

Partial Least Squares Regression (PLS) was chosen as the primary data analysis tool, *and* analysis of variance was used secondarily. ANOVA combined with a structural equations approach (as in Arunachalam & Dilla, 1995; and Cron, Gilly, Graham, & Slocum, 2009) is more rigorous than other multivariate approaches given the inherent complexity of relationships among human interaction variables. PLS is more appropriate for use with ordinal measures such as the exogenous variable and more forgiving with regard to non-normal distributions.

The theoretical model represented in Figure 1 was tested in two ways: (A) All 204 dyads (comprising Group I = 204) were included in a model using the perceptual measure of negotiation behavior, PSA. (B) The same model was tested a second time, but with the smaller sub-set of 112 dyads for which transcripts were available (this was as designated as Group II = 112).

Hypothesis 1 is not supported. Social presence appears to have had no influence on the broader perceptions measure of Problem-Solving Approach.

Hypothesis 2 is unsupported by our analyses. In no case does Social Presence affect Joint Profits.

Social Presence has a strong direct influence on Time across the two models analyzed confirming Hypothesis 3. Negotiations took longest in the EM condition and longer in the IM than the FTF condition. The Analysis C parameter estimate was strongest at -.67 ($p < 0.05$). The ANOVA results reported in Table 2 are also consistent with H3 – the differences between the times of negotiations across the three conditions for both participant groups are statistically significant (for Group I, $F = 14.9$, $p < 0.001$ and for Group II, $F = 12.9$, $p < 0.001$).

Hypothesis 4 is weakly supported – Social Presence reduced Joint Satisfaction. The parameter estimate is -.24 ($p < 0.05$) for the larger sample used in Analysis A.

Hypothesis 5 is strongly supported across the three models.

As predicted by Hypothesis 6, cooperative behaviors are shown to reduce the time to agreement across the three models with the strongest relationship demonstrating that the use of more Distributive Behaviors causes longer negotiations (.48 $p < 0.05$).

Hypothesis 7 is supported across the two analyses. Using a Problem-Solving Approach and using fewer Distributive Behaviors both enhance Joint Satisfaction for negotiators with an average parameter estimate exceeding .30 ($p < 0.05$).

Joint Profits were not found to influence Joint Satisfaction as predicted by Hypothesis 8.

Hypothesis 9 was supported across the two analyses with negotiators being more satisfied when negotiations take less time.

Discussion

Ancillary to our primary findings, we note that *face-to-face* conditions appear to hamper negotiation outcomes. In particular, joint profits and joint satisfaction were lower in the face-to-face condition than in either of the computer-mediated conditions. That is, when negotiation outcomes are pooled across IM and EM conditions and then compared to the outcomes from FTF negotiations we find the improvements garnered via computer mediation to be statistically significant for joint profits (means = \$4711 for CMC and \$4569 for FTF, ANOVA $F = 4.8$, $p < 0.05$) and joint satisfaction (means = 31.3 for CMC and 29.4 for FTF, $F = 8.8$, $p < .005$). Alternatively, as suggested earlier in, the time of negotiation was increased by computer mediation (means = 37.2 minutes for CMC and 28.1 minutes for FTF interactions, $F = 16.0$, $p < 0.001$). These more narrow findings are consistent with the earlier work.

The extra information afforded negotiators in the visual access mode (i.e., FTF) provided reasons for some negotiators to deviate from the default level of cooperation (e.g., Batson & Shaw 1991) evident in the computer-mediated modes of communication.

The primary contribution of this study is the elucidation of the probable causal mechanisms involved in the usually unpredicted, but often discovered negative relationship between social presence and negotiation processes and outcomes. Clearly, distributive behaviors act as a mediating variable between social presence and negotiation outcomes. Yes, greater social presence can yield stronger rapport and more cooperation between negotiators as is argued by Gelfand et al. (2006), Wilson et al. (2006), and others. But, it can also yield negative evaluations (as in Norton et al., 2007), damaged relationships, and more distributive behaviors. Indeed, it will be important to investigate in more detail what factors account for such discrepant findings.

In one sense those subscribing to the *cues-filtered theory* are correct – leaner media do produce more depersonalization. But, the depersonalized approach to negotiations, at least in the context of the simulation we have employed in this study, appears to lead to more cooperative negotiations. The hostile behaviors are reserved for negotiators that can be evaluated more comprehensively (even if unconsciously as described by Chartrand & Bargh (1999) and (Gump & Kulik (1997)) via the richer communication media. In another sense, those subscribing to the *media richness theory* appear to be correct as well when they argue that certain media are appropriate for certain negotiations tasks. That is, face-to-face meetings will be best to evaluate the trustworthiness of negotiation partners as predicted by Tinkle-Degnen & Rosenthal (1990), Adolphs (2009), and others; and if they are deemed trustworthy, then leaner media can be effectively and efficiently used (cf. Barry & Fulmer, 2004). Indeed, this last point is the key management implication or our findings.

Methodologically, this study is different from previous studies in this area in a number of ways. First, different levels of social presence are conceptualized as continuous and operationalized as an ordinal variable. Secondly, PLS is used to link all variables together, demonstrating an interconnectedness of how process measures interact with social presence to influence outcome measures.

Limitations

Any study is limited in its scope, precision, and generalizability. This study is no exception. The simulation used in this study has been applied in many other negotiation studies. Although it captured the essence of most business negotiations – opportunities for competition and cooperation – its realism has been often challenged. In particular, the game used here primarily allows the logrolling dimension of integrative tactics. The other dimension – bridging gaps in interests by inventing new options, the creative side of the integrative tactics – is not encouraged in this particular game. Future research should use more complex negotiations with both dimensions to determine the relative effectiveness of CMC.

E-mail is used here in a semi-synchronous manner by imposing a one-hour time limit. The level of social presence may be closer to IM than usual. Yet there is reason to believe that the two channels are conceptually different even with the same time limit. E-mail negotiators still used the channel the same way as it was used asynchronously. A pilot study showed that e-mail negotiators took time to compose, edit, and send the message, and then waited patiently for replies. IM negotiators were on a different level of social presence, the awareness of presence is constant, and the sending and receiving of messages were

at a much higher frequency than email. Thus email and IM were considered two communication channels with different levels of social presence.

Future Research

It will be important in future work to include a broader array of communications technologies to better represent the continuous nature of social presences. That is, one might construct a study that compares negotiation behaviors and outcomes across FTF, videoconferencing, telephone interactions, IM, and EM.

Indeed, Goleman's (2006) ideas and others suggest that the technical qualities of visual media may be important to consider. That is, the key microsecond timing of nonverbal behaviors and interactional synchrony may be disrupted in voice-over-internet-protocol (VoIP) communications, as the visual data are laggy, for example. Perhaps the most ambitious approach to research in the area would be to allow negotiators to choose among a variety of communications resources, including the ability to mix them as appropriate.

Finally, it will be important to consider the interaction of media choice and other factors that we know can affect the conduct and outcome of negotiations. For example, it is commonly understood that culture (e.g., Gelfand and Christakopoulou, 1999; Graham et al. 1994) and gender (e.g., Curhan et al., 2009; and et al., 2009) can be salient influences – might their impact be mediated or moderated by communication media choice?

References

Adolphs, R. (2009). The social brain: Neural basis of social knowledge. Annual Review of Psychology, 60, pp. 693-716.

Arunachalam, V., & Dilla, W. N. (1995). Judgment Accuracy and Outcomes in Negotiation - a Causal-Modeling Analysis of Decision-Aiding Effects. Organizational Behavior and Human Decision Processes, 61(3), pp. 289-304.

Barry, B., & Fulmer, I. S. (2004). The Medium and the message: the adaptive use of communication media in dyadic influence. Academy of Management. The Academy of Management Review, 29(2), pp. 272.

Barsness, Z., & Tenbrunsel, A. (1998, June). Technologically mediated communication and negotiation: Do relationships matter? Paper presented at the International association for Conflict Management conference, College Park, MD.

Carnevale, P. J. D., & Isen, A. M. (1986). The Influence of Positive Affect and Visual Access on the Discovery of Integrative Solutions in Bilateral Negotiation. Organizational Behavior and Human Decision Processes, 37(1), pp. 1-13.

Carnevale, P. J. D., Pruitt, D. G., & Seilheimer, S. D. (1981). Looking and Competing - Accountability and Visual Access in Integrative Bargaining. Journal of Personality and Social Psychology, 40(1), pp. 111-120.

Chartrand, T. L., & Bargh, J. A. (1999). The chameleon effect: The perception–behavior link and social interaction. Journal of personality and social psychology, 76(6), pp. 893.

Clopton, S. W. (1984). Seller and Buying Firm Factors Affecting Industrial Buyers' Negotiation Behavior and Outcomes. Journal of Marketing Research, 21(1), pp. 39-53.

Cron, W. L., Gilly, M. C., Graham, J. L., & Slocum Jr, J. W. (2009). Gender differences in the pricing of professional services: Implications for income and customer relationships. Organizational Behavior and Human Decision Processes, 109(1), pp. 93-105.

Croson, R. T. A. (1999). Look at Me When You Say That: An Electronic Negotiation Simulation. Simulation & Gaming, pp. 30, 23.

Curhan, J. R., Neale, M. A., Ross, L., & Rosencranz-Engelmann, J. (2008). Relational accommodation in negotiation: Effects of egalitarianism and gender on economic efficiency and relational capital. Organizational Behavior and Human Decision Processes, 107(2), pp. 192-205.

Gelfand, M. J., Major, V. S., Raver, J. L., Nishii, L. H., & O'Brien, K. (2006). Negotiating relationally: The dynamics of the relational self in negotiations. Academy of Management Review, 31(2), pp. 427-451.

Goleman, D. (2006). Emotional intelligence: ; why it can matter more than IQ. Bantam.

Graham, J. L. (1986). The Problem-Solving Approach to Negotiations in Industrial Marketing. Journal of Business Research, 14(6), pp. 549-566.

Gump, B. B., & Kulik, J. A. (1997). Stress, affiliation, and emotional contagion. Journal of Personality and Social Psychology; Journal of Personality and Social Psychology, 72(2), pp. 305.

Gupta, S. (1989). Modeling Integrative, Multiple Issue Bargaining. Management Science, 35(7), pp. 788-806.

Johnson, N. A., & Cooper, R. B. (2009). Media, affect, concession, and agreement in negotiation: IM versus telephone. Decision Support Systems, 46(3), pp. 673-684.

Kelley, H. H. (1966). A classroom study of the dillemas in interpersonal negotiations. In K. Archibald (Ed.), Strategic Interaction and Conflict. Berkeley, CA: Institute of Internatinal Studies, UC Berkeley.

Lee, J. Y. H., & Panteli, N. (2010). Business strategic conflict in computer-mediated communication. European Journal of Information Systems, 19(2), pp. 196-208.

Lewis, S. A., & Fry, W. R. (1977). Effects of Visual Access and Orientation on Discovery of Integrative Bargaining Alternatives. Organizational Behavior and Human Performance, 20(1), pp. 75-92.

Loewenstein, J., Morris, M. W., Chakravarti, A., Thompson, L., & Kopelman, S. (2005). At a loss for words: Dominating the conversation and the outcome in negotiation as a function of intricate arguments and communication media. Organizational Behavior and Human Decision Processes, 98(1), pp. 28-38.

Moore, D. A., Kurtzberg, T. R., Thompson, L. L., & Morris, M. W. (1999). Long and short routes to success in electronically mediated negotiations: Group affiliations and good vibrations. Organizational Behavior and Human Decision Processes, 77(1), pp. 22-43.

Neale, M. A., & Bazerman, M. H. (1991). Cognition and rationality in negotiation. New York Toronto: Free Press.

Neu, J., & Graham, J. L. (1994). A New Methodological Approach to the Study of Interpersonal Influence Tactics - a Test Drive of a Behavioral Scheme. Journal of Business Research, 29(2), pp. 131-144.

Norton, M. I., Frost, J. H., & Ariely, D. (2007). Less is more: the lure of ambiguity, or why familiarity breeds contempt. Journal of Personality and Social Psychology, 92(1), pp. 97.

Pruitt, D. G., & Lewis, S. A. (1975). Development of integrative solution in bilateral negotiation. Journal of Personality and Social Psychology, 31(4), pp. 612-633.

Pruitt, D. G., & Rubin, J. Z. (1986). Social conflict: escalation, stalemate, and settlement (1st ed.). New York: Random House.

Purdy, J. M., Nye, P., & Balakrishnan, P. V. (2000). The impact of communication media on negotiation outcomes. International Journal of Conflict Management, 11(2), pp. 162-187.

Putnam, L., & Roloff, M. E. (1992). Communication and negotiation. Newbury Park, Calif.: Sage.

Raiffa, H. (1982). The art and science of negotiation. Belknap Press.

Rangaswamy, A., & Shell, G. R. (1997). Using computers to realize joint gains in negotiations: Toward an "electronic bargaining table". Management Science, 43(8), pp. 1147-1163.

Reinsch, N. L., Turner, J. W., & Tinsley, C. H. (2008). Multicommunicating: A practice whose time has come?. Academy of Management Review, 33(2), pp. 391-403.

Sheffield, J. (1995). The Effect of Communication Medium on Negotiation Performance. Group Decision and Negotiation, 4(2), pp. 159-179.

Short, J., Williams, E., & Christie, B. (1976). The social psychology of telecommunications. London; New York: Wiley.

Tickle-Degnen, L., & Rosenthal, R. (1990). The nature of rapport and its nonverbal correlates. Psychological inquiry, 1(4), pp. 285-293.

Walton, R. E., & McKersie, R. B. (1965). A behavioral theory of labor negotiations : an analysis of a social interaction system. New York: McGraw-Hill.

Wilson, J.M., Straus, S.G., & McEvily, B. (2006). All in due time: The development of trust in computer-mediated and face-to-face teams. Organizational Behavior & Human Decision Processes, 99, pp. 16-33.