Electronic business negotiation : some experimental studies on the interaction between medium, innovation context and culture

Electronic Business Negotiation: Some experimental studies on the interaction between medium, innovation context and culture

PROEFSCHRIFT

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Section structure

List of figures

List of tables

List of abbreviations

ALYK - Andreas Lincke, Yunus Karakaya
B2B - Business to Business
B2C - Business to Customer
BATNA - Best Alternative to a Negotiated Agreement
CASE - Computer-Aided Software Engineering
CBR - Case-Based Reasoning
CC - Corporate Culture
CMC - Computer Mediated Communication
CNP - Contract Net Protocol
CNSS - Combined Negotiation Support System
COSA - Cooperative Software Agent
DC - Direct Current
DSS - Decision Support System
FAX - Facsimile
FTA - Face Threatening Act
FTF - Face-to-face
H - Hypothesis
HC - High Context
IFID - Illocutionary Force Indicating Device
IND - Individualism Index
INSA - Individual Negotiation Software Agent
IRC - Internet Relay Chat
IT - Information Technology
LC - Low Context
LTO - Long-Term Orientation Index
MAS - Masculinity Index
MP - Market Pull
NC - National Culture
NSS - Negotiation Support System
p - Page
PC - Professional Culture
PDI - Power Distance Index
pp - Pages
R&D - Research and Development
RF - Radio Frequency
RFQ - Request for Quote
SCM - Supply Chain Management
SSCI - Social Science Citation Index
TP - Technology Push
TUE - Eindhoven University of Technology
UAI - Uncertainty Avoidance Index
VRM - Verbal Response Mode
XLBC - Extensible Language for Business Communication

1. Introduction

Negotiating a deal with a new client, customer, or supplier has traditionally meant meeting in person, sometimes enduring long hours in transit. Today, business people find themselves with an ever-increasing array of technologies for communicating and initiating relationships, many of which do not involve leaving the office. But one wonders: when am I better served by a face-to-face (FTF) meeting, and when by an email exchange? With the globalization of the world economy, it is imperative that managers, both present and future, be sensitive to differences in business communication between cultures such as the Anglo, Nordic or Latin cultures or, more specifically, Dutch and German cultures. As the Internet becomes the common vehicle (95 % of the business have access today), this new force demands an adaptation from traditional commerce to electronic commerce, including all the tasks that were previously conducted in a traditional fashion. Internet technologies allow for communication across the cultural frontiers. While the communication is not as rich as in the case of FTF discussions, it allows subjects to negotiate in an asynchronous mode and at their own pace. This study explores the implications of electronic-based media such as email and negotiation support systems (NSSs) on cross-cultural business negotiations. It considers those implications from an innovation management (IM) perspective in two ways: First, it investigates how innovative new media such as email and NSSs are applied in an cross- and inter-cultural negotiation context (the difference between cross- and inter-cultural contexts will be explained in the following section) and second, it tries to find out how an innovative context triggers the use of those innovative media.

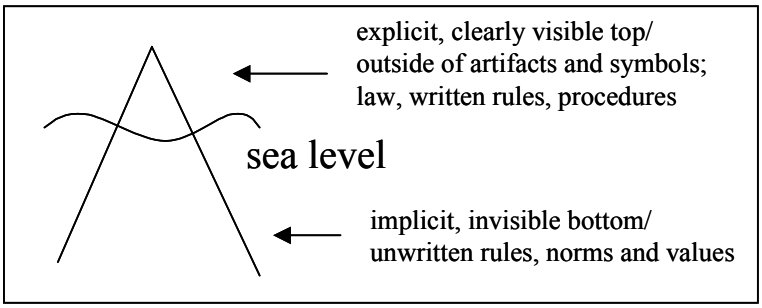

Figure 1.1: Iceberg model of culture (adapted from Selfridge and Sokolik, 1975)

In an effort to reduce several concepts to the bare minimum, a "classic" metaphor has been used: that of the iceberg (see Figure 1.1, adapated from Selfridge and Sokolik, 1975) with a visible top that represents the facts, technology, the price, the rationale behind things, the brain (and hands of an engineer?), the written contract of a

negotiation, etc. and an invisible bottom of emotions, the human relation, the unspoken and unconscious rules of behavior. This study comprises both a theoretical approach by investigating the current literature and an empirical approach by conducting several experiments with international student negotiators.

1.1. Problem definition

Cooperation may result from rather collective cultures such as some Latin cultures whereas competition may result from individualistic cultures such as the Anglo and Nordic culture (Hofstede, 1991), but how is this reflected if we compare FTF and computer-mediated communication (CMC)? Due to the lack of audio and visual channels in a CMC setting, CMC might prevent cooperative cultures with a strong tendency towards win-win to get involved. A definition of "cooperative cultures" is derived from Hofstede's (2001) 5 cultural dimensions which will be explained in the Chapter 3. Figure 1.2 visualizes this context: The principle that rather collective cultures behave in an empathetic way and individualistic cultures show more involvement may be true for the FTF setting, but not in the CMC situation. Detailed background information on the concepts of empathy and involvement can be found in Section 4.3.2. The fact that Anglo, Nordic and Latin culture differ in Hofstede's scores on collectivism may give other results if the medium varies: Latins may be more cooperative in the CMC setting due to the lack of audio-visual signals. This effect for the Latin negotiators may be different for Anglo and Nordic businesspeople with a lower score on collectivism.

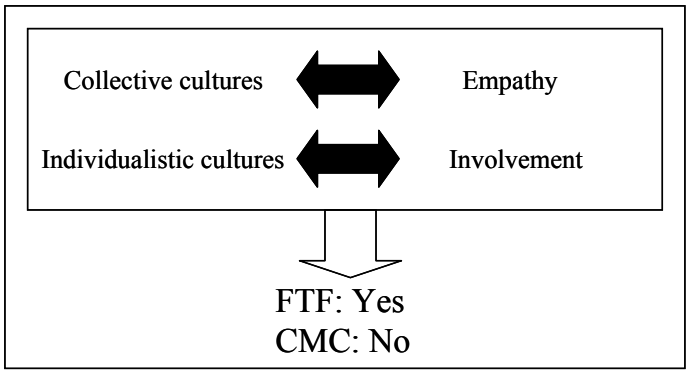

Figure 1.2: Relationship between cultures, negotiation strategy and medium

The cooperation and exploration strategy in negotiation requires a strong involvement in the other party's concerns (Ulijn and Lincke, 2004). Johnson et al. (1995) pinpoint that such involvement is important for communication of technical innovations between experts and to the community, but the effect of CMC media in attaining such involvement has not yet been verified. Linguistic indicators were used by Collot and

Belmore (1996) to rank order 25 genres (e.g., FTF, telephone, email, etc.) relative to involvement and informativeness. Those indicators include first- (e.g., *we*) and second-person (e.g., *you*) pronouns, contractions (e.g., *it's*), hedges (e.g., *could*), and amplifiers (e.g., *very*). Based on these indicators, FTF was rated higher in involvement than online chat, which was also rated less narrative and more abstract, but more persuasive than FTF. Effective negotiation would probably require persuasion and less narrative, but also more concrete and involved speech. Relationship building serves this involvement and appeared to be more difficult over email for the 78 American management students than via FTF since there were more offers and fewer questions (Collot and Belmore, 1996). Higher personal disclosure led to a higher joint outcome and fewer impasses than did avoiding and non-disclosure behavior (Nadler et al., 1999). The ideal rank order of personal pronoun use in negotiation might then be (1st) *you*, (2nd) *we*, (3rd) *I*.

Two studies provide evidence that context is what makes interaction concrete and involved. In the first study, researchers analyzed the use of email by secretarial and administrative staff of the University of Queensland in Australia over a 3 month-period (Nadler et al., 1999). This study investigated personal language style, such as politeness markers, reduced subject-matter representation (more abstract style) and absence of metalanguage. In the second study, Murray investigated speech acts in email dialogues (Murray, 1991). Both studies support the above empirical evidence that an email interaction requires more context (as measured via concrete, personalized style using politeness markers and metalanguage) to get the other party involved than FTF or even telephone interaction. Again, the effect of missing context in CMC negotiation is uncertain. However, Ulijn, Lincke and Karakaya (2001) surmise that non-FTF communication allows negotiators to employ a cooperative win-win strategy (as recommended by negotiation strategy training), but that the empathy or involvement building required in CMC interaction detracts from the win-win strategy by requiring an excessive and perhaps cumbersome use of general and metacommunicative acts to compensate for the lack of the context and nonverbal cues available.

As has been shown by the work by Hall (Hall, 1959; Hall, 1998) and Hofstede (2001), the degree of context required is culturally sensitive, ranging from low context cultures, such as Anglo and Nordic, to medium context cultures, such as Latin American, to high context cultures in Far East cultures. Possible consequences for communication behavior have been outlined by Ulijn and Kumar (2000). We do not, however, know the impact of context levels on CMC. A context-reflecting culture (high) would need less language to disambiguate context, whereas a context-creating

culture would require more. The use of the terms “inter-cultural” and “mono-cultural” and their synonyms is quite confusing in the literature. The author of this PhD thesis considers studies of linguistic behavior within one culture (the two or more speakers have the same culture) as mono- or intra-cultural (Ulijn and Li, 1995). In such cases the speakers mostly share the same language and use this in such encounters. If such studies are compared, they could be labeled as cross-cultural (Guilbro and Herbert, 1996). When two or more interlocutors do not share the same culture, and two or more cultures meet, such studies will be called inter-cultural.

CMC can equalize people (e.g., it is more difficult to express status using standard forms, as required in some Latin contexts, over email). Such equalization, however, may contradict Latin and Oriental cultural values which have higher Power-Distance values (Hofstede, 2001). Ma (1996) was able to confirm some of those elements in his interview with 18 US and 25 East Asian students about their experiences in using CMC with each other. East Asians judged that they were more direct and self-disclosing, but the US students thought that the Asians were polite, reserved, indirect, and did not talk about themselves over email. However, this inter-cultural perception seems to be subjective. Oriental students might see themselves and each other already more direct due to a CMC effect, whereas Americans still consider them as indirect. The definition of CMC given above covers several tools, such as email or internet-relay-chat (IRC) by which a negotiation can be conducted. This study comprises a comparison between FTF negotiations and those that are conducted via the internet using NSSs, see Figure 1.3.

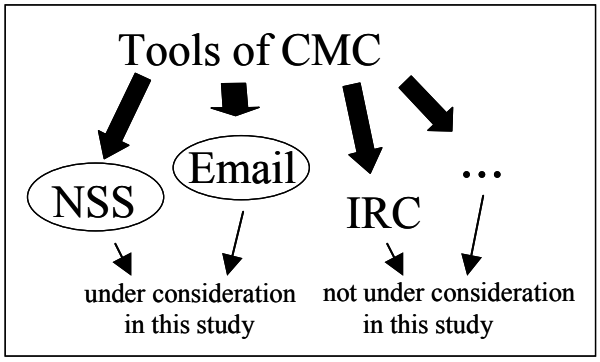

Figure 1.3: NSS and email under consideration as a tool of CMC

Those tools are most helpful to enable the various negotiation processes across time and space. Such systems are not created to replace human participation in negotiation, but to augment and mediate it (Robinson and Volkov, 1998). They can be defined as a composite of computer techniques that support the social or analytical aspects of the

negotiation life cycle (Robinson and Volkov, 1998). These tools improve the quality of negotiation outcomes, since ever more business is computer-mediated and the negotiation process itself also requires computer support. However, attention must be paid to the following issues:

- General purpose systems are too unconstrained, so NSS should focus on specific domains.
- In practice, most systems tend to be rarely used in real-life negotiations, so special care must be taken in adapting them to their context of use.
- There is a trend from quantitative (e.g. decision theoretic) systems to systems that support more qualitative negotiation processes.

MeMo (Mediating and Monitoring Electronic Commerce) is an ESPRIT project that started in 1999. The project leader is ABN-AMRO and one of the technical partners is Tilburg University. The Dutch construction industry is involved in the user group. MeMo aims at supporting business-to-business (B2B) e-commerce by focusing on the search and negotiation phase. Using the MeMo system, companies can publish product databases, search for suppliers, start negotiations, set up contracts and monitor the fulfilment of the contracts. The negotiation module is set up as a message-exchange system. A special language has been developed to describe the messages contents and protocols at a formal level. This language is called XLBC (Extensible Language for Business Communication) and it is based on speech act theory. The MeMo system aims at supporting a couple of different negotiation protocols that help structuring the negotiation in a way that facilitates the communication between two – possibly international – parties. In order to do so, the negotiation process has to be as much structured as possible. The structure used in this study is presented in Figure 1.4.

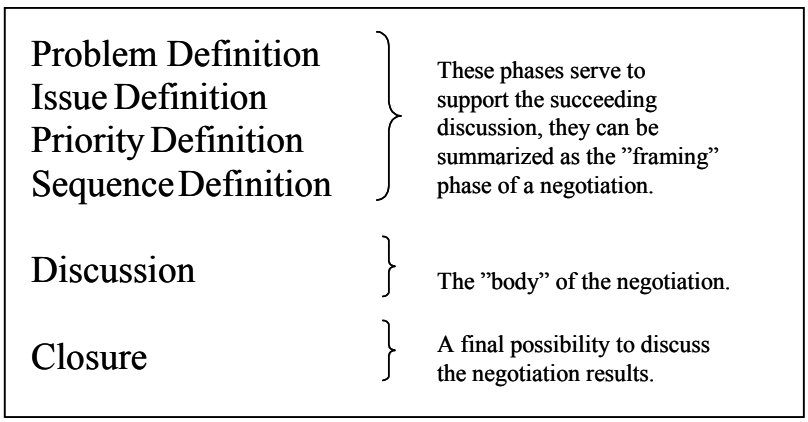

Figure 1.4: Structure of the NSS used in this study

For further information about the NSS in use, see the "Instructions for the Negotiation Manager" in Appendix B. Mutual perception is crucial in such encounters because correspondents cannot see each other (see Ulijn and St. Amant, 2000, for the effect of this in a Chinese-Dutch FTF business negotiation). If a Chinese student says: "*I can't stay on relay for too long during a relay chat to turn an invitation to a private channel"*, this statement would be perceived as explicit and rude by a Far Eastern student but as beating around the bush by a North American. But CMC also seems to be seen by East Asians as rare, worry free, and involving little risk. Therefore, it is uncertain whether new media would really contribute to a serious interpersonal relationship leading to business involvement in Asians' perception in the same way FTF interaction does.

The iceberg (see Figure 1.1, Selfridge and Sokolik, 1975, adapted to the below presented hypotheses related to Dutch-German differences) and onion (Hofstede, 1991) metaphors illustrate well what has been suggested by Schein (1999) and Hofstede for cultures as iceberg levels and onion layers from the explicit, clearly visible top/outside of artifacts and symbols, the law, written rules and procedures to the implicit, invisible, tacit inside layer, core or deeper level under the sea level of the iceberg of unwritten rules, norms and values. This latter approach ties back to the view of Hall (1959) on the impact of culture in communication. High Context is what takes place below the sea level. Low context would be visible as the top of explicit, formal communication. The iceberg model plays a pivotal role in this PhD study since this metaphor describes well the discrepancy between the visible top which amounts only 10% of the total iceberg whereas the invisible bottom amounts for roughly 90% of the iceberg. Personal pronoun analysis will be used to identify involvement and empathy, which will be referred to the mentioned iceberg model in Figure 4.3: facts (*it, he/she, they*) will be referred to the top of the iceberg, whereas empathy (*you* and inclusive *we*) and involvement (*I* and exclusive *we*) will be referred to the bottom of the iceberg, see Section 4.3.2. Figure 5.16 will deal with the results of the experiments as a culture-bound dead ends of strategic gamesmanship. It seems as if Fisher and Ury's (1991) advice to be *tough on the issues* (top of the iceberg) *and soft on the people* (bottom of the iceberg) is confirmed in this study (this context in relation to strategic gamesmanship will be explained in more detail in Section 5.5). The limitations of game theory as referred to its assumptions may be illustrated by the iceberg model as well, see Figure 6.1 in Chapter 6: Game theory's assumption of rationality belongs to the top of the iceberg, whereas social norms and culture underlying that rationality refers to the iceberg's bottom. In the context of the channel model of inter-cultural communication (see Figure 6.2), the iceberg model is used to

explain that explicit messages may belong to the top of the iceberg whereas the bottom of the iceberg may be a metaphor for implicit messages.

In Chapter 5, which refers to the experimental study, special focus will be on Anglo, Nordic and Latin cultures in general and Dutch and German cultures more specifically. If personnel is highly qualified and they respect their supervisors, there will be little guidance needed. Therefore in Germany the average proportion of staff personnel is less than 30% and this leads to a flat organization (Ulijn, Nagel and Tan, 2001). A flat organization has as an advantage that new technologies can be introduced easier (also because the personnel has a high level of education). Considering innovation, the German engineers are technology oriented. Marketing is seen as a distraction from the primary goal. To maintain knowledge for innovation German managers think there has to be invested in R&D instead of buying knowledge through acquisitions, joint ventures etc. German managers consider unions and work councils as stabilizing factors. This leads to less time spent on labour disputes. A German manager thinks and acts business like. He tries to reduce uncertainties. In the Netherlands, there is a consistent pattern of business-related practices built around a "consensus" principle. It is important that decisions are made after everyone has been listened to and if there are disagreements, then there will be searched for a solution that is agreed on by everyone. In connection with this, a Dutch manager also wants freedom to adopt his own approach to the job and for creating own ideas. A Dutch manager takes his tasks serious. "Business is business" and "Business before pleasure" are two Dutch expressions. The orientation of a Dutch manager is short term planning. He wants to see results quickly. On the other hand, when the results do not come fast, he has perseverance, you almost might call it stubbornness. The Dutch engineer is less specialized in a technical area than his German colleague. To get technical knowledge the Dutch engineer thinks this has to be bought rather than he would get it from internal education programs (however, this is discussed controversially in literature; for a detailed discussion see Kamps, 2002). Still a Dutch manager's authority is also based on knowledge. The Dutch are more impressed by actions than words. Another positive point mentioned by Kympers (1992) is the efficient and economic way of managing. The negative side of this way of managing is an urge towards perfection. This leads to rigidness.

1.2. Research objectives and hypotheses

The creation of virtual organizations brings specific consequences for communication (as outlined by El-Shinnawy, 1999). Specifically, CMC becomes more important as technology shrinks the world, bringing multiple national cultures (NCs) into virtual

relationships, and increases global communication and business opportunities. "Computer-Mediated Communication is a process of human communication via computers, involving people, situated in particular contexts, engaging in processes to shape media for a variety of purposes" (December, 2000, p. 12). In a literature survey of American studies comparing the use of media in negotiation (such as FTF, text, audio, video, decision support system, and electronic conference), Poole et al. (1992) report that out of 28 situations, FTF contact was considered superior to other media in only 2 instances. However, one may conclude that, while new media are perceived to be overwhelmingly beneficial, three of their characteristics may be harmful, especially in negotiation:

- They reduce time spent on listening,
- they are physically demanding and tiring, and
- they encourage rigid positions and non-involvement.

Culture is a term that is universal enough to serve the purposes of a vast number of communicators (Ulijn and Weggeman, 2000). A general description of culture was offered by O'Hair et al. (1997, p. 11) as a term referring to: "The shared beliefs, values, and practices of a group of people. A group's culture includes the language or languages used by group members as well as the norms and rules about how behavior can appropriately be displayed and how it should be understood" (for more information on the concept of culture see Chapter 3). A generic depiction of culture was chosen, given the multiple uses of the term by communication scholars. A review of the available literature in the area suggests that three different, but overlapping contexts of culture have been studied. NC studies are among the most intensely and widely examined and usually involve an investigation or speculation of how a country's NC influences the communication behavior of domestic and/or foreign members of multinational corporations (Hofstede, 2001). In education and business negotiation, new media such as email have become an important tool (for the role of email in business negotiations see Section 2.3). Both the studies by Zhiting (1996) and Vogel et al. (2001) show that educational software, if used in an international context, requires special cultural and communicative consideration because teaching and learning styles vary across cultural borders, especially between West and Far East. Patterns of communication, to say nothing of values, are deeply rooted in language-culture complexes (Ting-Toomey and Korzenny, 1989). Understanding these patterns can be facilitated by technology, as for example in the international business writing course involving Finns, Belgians, and Americans (Verckens et al., 1998). Because today's business or technical students are tomorrow's

business negotiators, we require more sophisticated knowledge of discourse conventions and NC in new media such as email in order to provide students with negotiation skills for the 21st century. Not surprisingly, readers of the "IEEE Transactions on Professional Communication" journal ranked the importance of specialized discourse media and types of communication as the third most important research topic in professional communication - after reading/writing and collaborative/organizational processes (Campbell, 1998). CMC was recognized as part of the required agenda for teachers and researchers by Lovitt and Goswami (1999) when they explored the rhetoric of international professional communication. Moreover, doctoral research in technical, scientific, and business communication between 1992 and 1997 included 13 PhD dissertations devoted to different aspects of CMC, including cultural and communicative issues (Rainey, 1999). Specht's interviews of 24 German software experts in nine business units of a company that operates in four countries ranks email, together with openness of communication, as second and third of the top ten overall success factors in international outsourcing of software development (Specht, 1998). But what is the potential of CMC media for negotiation strategy development? The basic strategic problem in negotiation seems to be empathy and involvement (for the relationship between the two concepts of empathy and involvement see Section 4.3.2). Most negotiation models and theories (Fisher and Ury, 1991; Mastenbroek, 1989; Donnellon, 1996; Ulijn and Strother, 1995) agree that the long term of cooperation in a win-win spirit with effective relationship building is the best option. This requires a high degree of involvement, as has been recognized, for instance, in the case of home mortgages and automobiles (Hobson, 1999).

Section 4.3.2 will explain that this PhD study uses personal pronoun analysis to identify empathy and involvement. This linguistic check is limited on CMC and FTF negotiations with respect to four hypothesis that explore major aspects of negotiation strategy that are dealt with in CMC and FTF settings (for detailed explanations on negotiation strategy and negotiation style see Chapter 2):

H1: *FTF contributes more to a win-win strategy in negotiation than CMC does.?*
H2: *FTF affects the participant's ability to empathize with each other more than CMC does.*
H3: *There are cultural differences in negotiation strategy.*
H4: *There are cultural differences in the negotiator's ability to empathize with each other.*

What impact would CMC have on a win-win strategy? Would it freeze positions of parties in high involvement situations, as Hobson (1999) seems to suggest? He uses Fisher and Ury's (1991) integrative (win-win), distributive (win-lose) and BATNA (best alternative to a negotiated agreement) concepts to examine the role of context and power in email negotiations, for instance in online auctions (further explanations of the theory on (online) auctions can be found in Section 2.3, for electronic auctions see also Ribbers, 1997). It is not clear if one really can negotiate in auctions, but using email in such context would be almost an application of game theory between the auctioneer and the bidders not between the bidders themselves, where the auctioneer has the last word according to the rule of the game. The attraction of persisting in "tit for tat" in such a CMC setting leads often to the easy BATNA where negotiators decide to walk away if they cannot get what they want in the short term. This is probably, because neither game theory or auctions imply a long-term perspective (for more information on game theory see Section 2.4 and Section 6.1). To date, there appear to be few studies that trace back such strategies of cooperation vs. competition via linguistic analysis. Donnellon (1996) presents an interesting outline of pressure of individual preferences on teams which can be used in international business negotiations as well and is relevant to both research questions. Individuals use linguistic forms to identify themselves in teams or as a team, to show independence or interdependence, low or high power, social distance, conflict management tactics and win-win/win-lose strategies of negotiations. This latter aspect is related closely to this PhD study's interest in cooperation versus competition: A win-win strategy is related to finding creative agreements that satisfy both groups whereas a win-lose strategy means pursuing the own group's outcomes while forcing the other group into submission (for a more detailed comparison of win-win and win-lose strategies see Table 2.1). Tjosvold (2002) has shown that the theory of cooperative (win-win) and competitive (win-lose) conflict can be applied through cultural tuning to help diverse people develop their relationship and use their disagreements to innovate. Negotiating in a win-win spirit is not simply a matter of getting an agreement. Conflicts appear and must be used to make high quality decisions to which members are committed to implement as well as to deal with disputes and frustrations (Brett, 2001).

Negotiators will try to exhibit cooperative behavior, but may consider the context to see to what extent this behavior is possible (see Figure 2.2). Generally, one could argue, this makes sense since cooperative negotiation produces the best results for long-term relationships; cooperation is appropriate among people sharing similar interests and goals. It is the obvious solution if the benefits for those involved depend directly on the extent to which they can pool their resources: i.e. in a situation of strong interdependence. A non-cooperative strategy is most likely when, in the case of

opposed interests, one party thinks it stands to gain more by fighting than by negotiating. Sometimes it is adopted as a strategy to gain recognition as a serious negotiating partner (Mastenbroek, 1989). Looking at Hofstede's score of uncertainty avoidance which is higher for Germans than for Dutch, Germans may interpret an operations management (OM) context as relatively certain - and are therefore willing to engage in cooperative behavior, whereas they perceive the IM context as too uncertain - and use less cooperative bargaining. Dutch, however, perceive the IM context as ideal (uncertainty returns to be maximized) for cooperative behavior, and see the OM context as more fitting for non-cooperative behavior.

As explained in Figure 3.2, the characteristics of the German culture tend to fit those that are necessary in an OM context whereas the characteristics of the Dutch culture tend towards IM. The following two hypotheses that explore two major aspects of cultural diversity in an OM and an IM context relate this finding to an ideal business negotiations strategy that indicates a flexible and cooperative position as the best way to reach a win-win situation:

H5: *German negotiators are more cooperative in the OM context than in the IM context.*

H6: *Dutch negotiators are more cooperative in the IM context than in the OM context.*

The methods for addressing these hypotheses are discussed in the following Section 1.3.

1.3. Research strategy

The selection of a research form depends on many factors like the feasibility and fulfillment of quality criteria such as validity and reliability (for a detailed discussion of validity and reliability as concepts to measure the quality in negotiation research see Section 4.4). The most important criterion is the empirical functionality (Schröder, 1986). This refers to both the ability to provide quantitatively and qualitatively sufficient data and the ability to formulate hypotheses. With an experiment, hypotheses in both a direct and a model-like constructed reality can be formulated. Thus, the effects of the experimental variable's manipulation can be observed and measured in order to analyse the maintained correlation between the different factors of influence (Picot, 1975). The empirical control of cause and effect correlations is seen as the special strength of experimental forms of research (Zmud et al., 1989). By conducting experiments, a controlled design of the experimental conditions and a

carefully directed variation of the original variables becomes possible, which is a necessary condition to test the cause and effect relationships expressed in the hypotheses. The experimental method is future-oriented because problems that have not occurred in reality yet can be anticipated (Stelzl, 1995). Thus, the experiment offers the best options for the above developed hypotheses due to its special characteristics concerning the control of influence-factors, the design of the experimental conditions, the validity of the results and the principal repeatability of the results, see Figure 1.5.

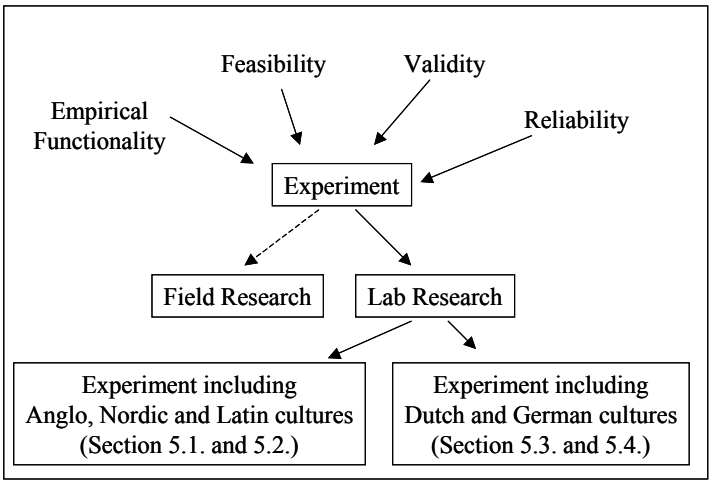

Figure 1.5: Research forms

Concerning the characteristics of the experimental environment, one distinguishes between field- and lab research (Picot, 1975). Hendriks (1991) distinguished between 4 approaches to study inter-cultural business negotiations: (1) the historical tradition (the focus is on archives, verbatim records of conferences, or memoirs), (2) the survey tradition (the focus is on interviews or questionnaires, (3) the experimental tradition (the focus is on simulated negotiation precesses), and (4) the 'real life' tradition (the focus is on the observation of actual negotiation processes. In a comparison between the various research forms, Bronner (1998) concludes that lab research has great advantages over field research concerning the controllability of influence-factors and the objectivity respectively neutrality of the method. Bronner (1998, p. 23) calls lab research the "classical method of basic research". Zmud et al. (1989) consider lab research as the most often used method of empirical research in the area of communication technology. Field research is criticized in the way that using CMC-systems, scientists are too much involved in the research area and are not able to keep the necessary objective distance (Stelzl, 1995). In addition, the natural groups to be found in the field often are not suitable for an experimental design, and it is often difficult to get access to natural groups in industrial companies. In general, lab

experiments are characterized by a high degree of internal validity. Internal validity means an unequivocal causal effect of a independent variable's variation on the dependent variables. However, lab research is criticized by stating that the external validity is weak, which means that the results of this kind of research may hardly be applied to reality. On the other side, internal validity is a necessary condition for external validity. In addition, external validity of lab experiments may be increased by repetitions of this study. In contrast to validity, reliability is the degree of accuracy, by which a certain characteristic is measured. The criterion of reliability is in general referred to the instruments that are used in order to gather the data. In this study's experiments, the criterion of reliability plays a role in the analysis of speech acts. The reliability is increased by using the Cohen's Kappa method in connection with the speech act analysis. The Cohen's Kappa method will be explained in Section 4.3.3 about the methodological approach of discourse analysis.

Theory building is a process which begins with the examination of the relationships in hypotheses and propositions, or what Kaplan refers to as the paradox of conceptualization. As Kaplan (1998, p. 53) noted, "the proper concepts are needed to formulate a good theory, but we need a good theory to arrive at the proper concepts". The scientific method used in this PhD study is an endeavour to construct an accurate (that is, reliable, consistent and non-arbitrary) representation of the world. Recognizing that personal and cultural beliefs influence both our perceptions and our interpretations of natural phenomena, this PhD study to minimize those influences when formulating hypotheses. The scientific method applied here attempts to minimize the influence of bias or prejudice in the experimenter when formulating a theory. It refers to the first three stages of the research cycle presented in Figure 1.6 (adapted from Kuhn, 1962):

1. Observation and description of a phenomenon or group of phenomena such as medium, innovation context and culture. Those three phenomena at hand in this study will be described in Chapters 2, 3 and 4.
2. Formulation of hypotheses to explain the group of phenomena. On the basis of the literature (Chapters 2, 3 and 4) and the experiments presented in Chapter 5, this Chapter 5 will present hypotheses that make an attempt to explain the link between medium, innovation context and culture.
3. Use of the hypotheses to predict the existence of other phenomena. Those implications to theory and practice will be given in Chapters 6 and 7.
4. Performance of experimental tests of the predictions by several independent experimenters and properly performed experiments. The results of this PhD study will be hypotheses to be tested in the years to come. The process of generating

hypotheses presented here is based on the believe that people who might use it would arrive at results that potentially may be judged as successful.

What is key in the description of the scientific method just given is the predictive power of the hypotheses to be formulated in Chapter 5. It is often said in science that theories can never be proved, only disproved (Popper, 1959). There is always the possibility that a new observation or a new experiment will conflict with a long-standing theory. As just stated, experimental tests (stage number 4 which is not the focus of this PhD study) may lead either to the confirmation of the hypothesis, or to the ruling out of the hypothesis. The scientific method requires that an hypothesis be ruled out or modified if its predictions are clearly and repeatedly incompatible with experimental tests. Further, no matter how elegant a theory is, its predictions must agree with experimental results if we are to believe that it is a valid description of nature. This PhD study deals with the formulation of hypotheses (stage number 2). Such hypotheses are limited statements regarding cause and effect in specific situations such as CMC versus FTF or IM versus OM. Chapters 6 and 7 will apply the results gathered from theory and the experiments of Chapter 5 to create models that put the three factors of medium, innovation context and culture in a certain relationship, showing their interdependencies. In this study, the word “model” is reserved for situations when it is known that the formulated hypotheses have at least limited validity. Generally speaking, the scientific method applied here is intricately associated with science, the process of human inquiry that pervades the modern era on many levels. While the method appears simple and logical in description, there is perhaps no more complex question than that of knowing how we come to know things.

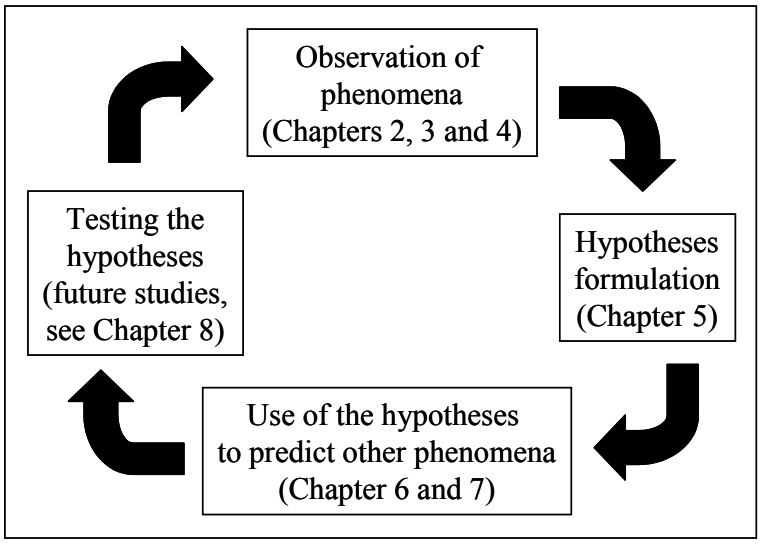

Figure 1.6: Research cycle (adapted from Kuhn, 1962)

The experiments in this PhD study deal with two case studies which form part of the qualitative approach to research (Strauss and Corbin, 1996) and have been defined as an empirical inquiry that investigates a contemporary phenomenon within its real-life context (Yin, 1994; for more detailed information about the research framework see Chapter 4, for a precise description of the experiments see Chapter 5). By employing what Yin describes as "multiple-case designs", two cases were chosen: The RadioTech case and the Data Printer case (for a summary of the RadioTech case see Section 5.1, for a summary of the Data Printer case see Section 5.3, the complete description of the two cases is to be found in Appendix K and L). Case studies are not selected to be representative of a population however, it is possible to make generalizations based on a cross-case analysis. Yin describes this as an attempt to build a general explanation that fits each of the individual cases, even though the cases will vary in their details. Generalizing from case studies is not a matter of statistical generalization (generalizing from a sample to a universe) but a matter of analytic generalization (using single or multiple cases to illustrate, represent, or generalize to a theory). Case study findings can be described as resonating with readers and thus facilitating a greater understanding of the phenomenon in question.

In total, four experiments have been conducted to formulate hypotheses in the context of J. Ulijn's "International Business Negotiation" courses. The first experiment at Darmstadt University of Technology took place in a mono-cultural setting including only German participants in 2001. The participants of the second experiment at Eindhoven University of Technology (2001) represent three different cultural backgrounds: Anglo (North American), Nordic, and Latin (European). The third experiment at Eindhoven University of Technology again (2002) took place in a

mono-cultural setting including only Dutch participants. That way, a comparison between a Dutch and a German group – each in a separate mono-cultural setting – becomes possible. Finally, the last experiment was conducted in the context of J. Ulijn's "International Business Negotiation" courses at Darmstadt University of Technology (2002). There were both Dutch and German student negotiators which made it possible to analyze their inter-cultural negotiation behavior (one Dutch person negotiates with one German person and vice versa). Figure 1.7 gives information about the experiment's business and scientific context: The cases take place in an IM combined with a supply chain management (SCM) context and in an OM context. There are inter-cultural participants who use innovative technologies such as email and NSSs. The transcripts are analysed by psycholinguistic means.

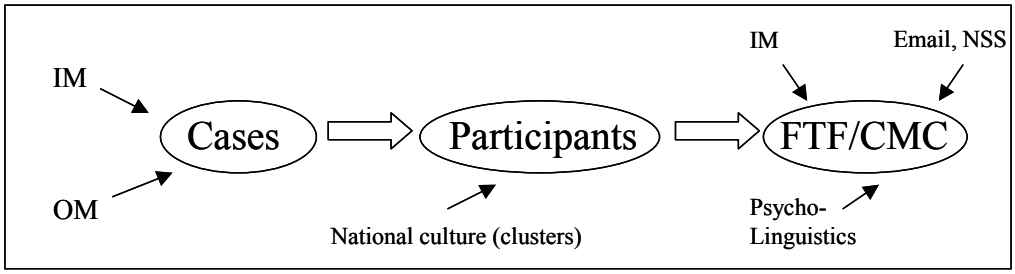

Figure 1.7: Business and scientific context of the experiments

Participants were given 20 minutes for each case to negotiate the terms of the deal. After the FTF negotiation had finished, the email/NSS negotiation took place, in which the participants changed roles: those, who played the RadioTech company in the FTF negotiation played the Ericsson company in the email/NSS negotiation and vice versa. This allowed to evaluate how the negotiators manage to put themselves into the shoes of their negotiation partner, another important aspect of effective negotiation. The fact that the negotiations were not only conducted FTF but also via computer mediation raises the important element of trust. In Section 2.3.1., the relevance of trust in email negotiation will be discussed. In sum, this discussion shows that, absent a relationship and with limited non-verbal cues, negotiators may simultaneously see both the opportunity and the risk for exploitations which is highly non-cooperative behavior.

Figure 1.8 shows all variables that play a role in this study. Independent variables are the medium (CMC or FTF), (IM or OM) context and culture (Anglo, Nordic, Latin, Dutch and German).

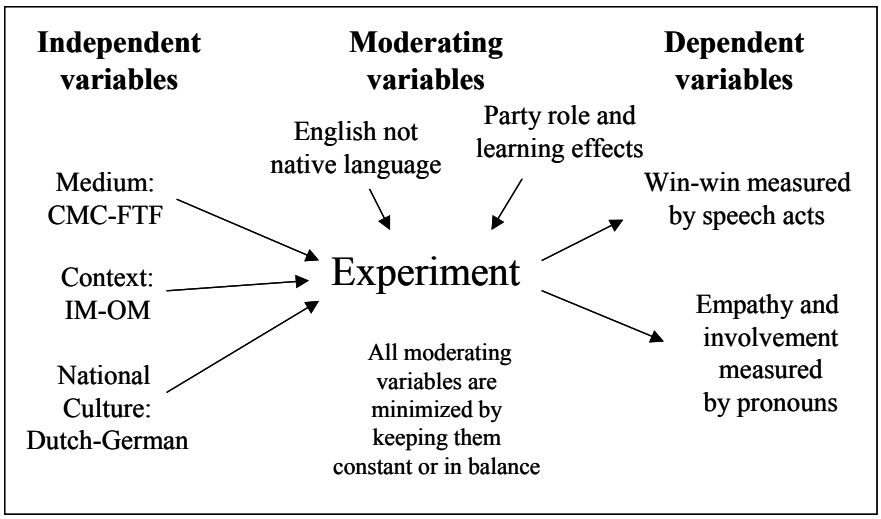

Figure 1.8: Variables of this study

It should be considered that English is not the native language of most participants and that learning effects may occur as the participants negotiate the same case twice: First, they negotiate FTF and then CMC. Between the FTF and the CMC setting, roles changed, which means that those negotiators who negotiated for instance for the RadioTech company in the FTF setting negotiated for the Ericsson company in the CMC setting. This procedure makes it possible to investigate how the participants are able to empathize with each other. However, as Figure 1.8 indicates, role play effects may occur. The effect of all these moderating variables is minimized by keeping them constant and in a balance to the extent possible. Keeping those variables in a balance refers to both culture and gender: Within the constraints of an international negotiation class, it was the aim to have an equal number of mono- and inter-cultural negotiation dyads and to have as many mono-gender interactions as inter-gender interactions (for more details on the experiment's design see Chapter 5). The applied negotiation strategy as measured by the use of speech acts and the negotiation style as measured by the pronoun use are considered as the dependent variables.

In order to give a clear understanding of the terms used in this study, Chapter 2 presents the necessary theoretical background on negotiation theory, computer-supported communication systems such as email and NSSs and OM versus IM. Culture will be defined in Chapter 3, including its role in real-life business negotiations. Those most important theoretical constructs are explained by reviewing the relevant literature. After having created the theoretical basis, the research framework is presented in Chapter 4. The research problem and the methodological approach will be elaborated before giving further insight into the empirical study. Chapter 5 is based on empirical studies and discusses the effect of CMC and FTF on

negotiation outcome between R&D and manufacturing partners in the supply chain by comparing Anglo, Nordic and Latin cultures. It will also empirically show the effect of Dutch and German cultures – both in a cross- and inter-cultural setting - on negotiation strategy comparing OM and IM in the supply chain. Chapter 6, 7 and 8 apply the results that could be gathered in the previous empirical studies: Chapter 6 focuses on negotiation theory and culture theory. Concerning negotiation theory, special emphasis will be laid on the fact that all too often, one can observe "rational" players facing one another in an "economic game" of business negotiation, each pursuing his interests as best he can, but failing to come even close to meeting those interests. Why do both parties to a negotiation often leave the table unsatisfied with the results, knowing they have left value on the table? Chapter 6 seeks to put forward a concept of communicative game theory, one that will serve as the basis for a prescriptive theory of business negotiations which seeks to address these questions in a coherent and helpful way. In that inquiry, it is intended to question the assumptions underlying negotiation strategy, especially as derived from game theory. In addition, Chapter 6 questions general models of communication that do not focus on problems arising from inter-cultural interactions, because those models do not address some practical needs of business persons. In order to fill this gap, a channel model of inter-cultural communication is presented. Chapter 7 deals with the application of the results gathered so far to NSSs, which is an important topic for both negotiation research and e-business research. Automation of negotiation is even more challenging due to the inherent complexity of business negotiations. Some research has been done in this area, but a comprehensive model for NSSs is still missing. Furthermore, existing work in this area does not consider the negotiation process from a full life cycle perspective; therefore valuable information from a previous negotiation is not properly used for the future negotiations. Chapter 7 discusses two important issues related to negotiation support as a tool to automate negotiations: model and life cycle. Finally, Chapter 8 gives some concluding remarks, puts some light on possible limitations of the PhD study and proffers questions for future studies and research projects.

2. Negotiation theory from different perspectives

Negotiation has been a popular topic, which has been investigated by people in various disciplines such as social sciences, game theory and NSSs. People negotiate about a large variety of subjects, such as diplomatic issues, international conflicts, family affairs, meeting schedules, production plans, purchase of goods, and the acquisition of services, etc. This work is interested in business negotiations in the e-business environment. In this section, some related work on negotiations is surveyed.

2.1. Negotiations from a behavioral perspective: Basic theories

According to Ulijn and Strother (1995, p. 250), "negotiation is a process in which two or more entities discuss common and (apparently) different interests and objectives in order to reach an agreement or a compromise (contract) in mutual dependence because they see benefits in doing so". This definition focuses on the strategies used in this process by looking at interests, objectives, agreement, dependence, benefits and considers the description of negotiation as a genre of discussion or contract as subordinate to this. It has been used successfully by Ulijn for fifteen years in negotiation training and is operationalizable in terms of success and efficiency. Negotiation is a communication process, which requires more than one person representing different entities, such as political parties, departments, organizations, or industrial firms. One crucial aspect of negotiation is that there are conflicting interests between parties. But since there is a mutual dependence between the entities, the conflicting interests have to be discussed and a solution reasonable for all parties has to be found. In this manner, business negotiation is a part of business communication.. Negotiation can even be called a top communicative act because communication, and hence language, will play a salient role in the investigation of the negotiation process. With a dialogistic, rather than monologistic, outlook which describes communication as a joint accomplishment between speaker and listener and with emphasis on the (IM and OM) context dependence of interaction, it will be possible to accept that parties' joint creation and acceptance of an outcome is the product of that total, cumulative process. The main difference is that in a negotiation situation the communicating parties have often got colliding interests on the one hand and on the other hand mutual dependence. So knowing the mutual dependence and accepting the colliding interests, both parties discuss the issues via interchange of arguments. Different or conflicting interests, however, can become shared or at lease compatible interests; for example, the buyer wants a high quality product which the seller wants to sell. If they cannot agree on the price, they might both lose. While some negotiators try to make the

opponent dependent and insist on a “win-lose” outcome, both supplier and client should recognize their mutual need for each other to have a successful deal. As Fisher and Ury (1981) point out, the “win-win” situation in a cooperative spirit is the best option for a long-term relationship. Or to put it in strategic terms: *cooperation, not competition!* In a win-win negotiation, the outcome is synergy, which means that both parties work together for the good of each. However, in a short-term relationship where both parties might know that they will not need each other any more after the deal is made, a “win-lose” outcome is normal.

In order to have a clear and precise definition of "business negotiation strategy," it is useful to first make reference to some definitions of "strategy" They are shown below (American Heritage Dictionary of the English Language, 1996):

- The science and art of using all the forces of a nation to execute approved plans as effectively as possible during peace or war.
- The science and art of military command as applied to the overall planning and conduct of large-scale combat operations.
- A plan of action resulting from strategy or intended to accomplish a specific goal.
- The art or skill of using stratagems in endeavors such as politics and business.

The third and fourth definitions of "strategy" are closer to what may be a definition of "business negotiation strategy". Thus, a business negotiation strategy can be defined as a plan of decisions or actions for accomplishing a business negotiation goal. Every good negotiation preparation is concluded with planning, i.e. the development of two related sets of guidelines to negotiation behavior: tactics (=short-run actions) and strategy (=long-run approach). The relationship between strategy and tactics can be characterized as follows: ‘The goals of the tactics = the means of the strategy’. In other words, strategy determines tactics. The selection of strategies should always be influenced by careful consideration of two issues:

1. **Cooperation or competition?** There are situations in which the Toughness Dilemma is easily dealt with: you have no alternative but to compete, or cooperate. Effective cooperation and effective competition require different types of actions. As a result, for some situations you have to consider only cooperative strategies, or competitive ones. Unfortunately, the Toughness Dilemma can hardly be solved in the majority of situations. As a result strategic choices are less straightforward. Nevertheless, when in doubt, one may think of the fact that cooperation almost always beats competition in terms of effectiveness.

2. **Sequence planning or issue planning?** The term 'planning' frequently refers to a process of sequencing: putting a number of events, actions, approaches or potential occurrences into a time sequence. However, in order to succeed, sequence planning requires the consent and cooperation of the other party. In many cases this will not be forthcoming. Unless a pre-set agenda is agreed, the sequence of issues to be discussed may itself be subject of negotiation.

As examples of competitive strategies, the following alternatives should be kept in mind:

1. **'fight'** = to push for a settlement close to the other's (yet) unknown walk-away level (BATNA), thereby getting the largest part of the negotiation space.
2. **'influence'** = to get the other to change his/her walk-away level by influencing his/her subjective utilities.
3. **'indoctrinate'** = to get the other to think that this settlement is the best possible one – not that it is all one can get, or that you are winning by getting more.
4. **'take it or leave it'** = to make a final offer to the other and wait.

As examples of cooperative strategies, the following alternatives are essential:

1. **'maximal cooperation'** = to look at negotiation as a joint problem solving situation, and go for a full exchange of information.
2. **'optimal cooperation'** = to consider the other as an important (potential) partner, and exchange selected bits of information for the best shared solution.
3. **'firm flexibility'** = to be firm with regard to the ends you want to achieve (i.e. objectives), but remain flexible on the means by which they are achieved.
4. **'framework/detail'** = to look for a general formula to solve both parties' needs, and leave the (problematic) details for later.

To react adequately to ones (foreign) negotiation partner, one must focus on the negotiation style used. House-Edmondson (1982) proposes the following typology which is based upon English-German encounters and which was adapted to business negotiations by Ulijn and Strother (1995):

- steering = trying to avoid conversational drift,
- grounding = explaining why they are doing things or why one should buy/sell,
- sweetening = trying to anticipate arguments or objections which the other party might raise,

- disarming = taking on a defensive attitude to prevent any complaints,
- expanding = trying to anticipate a 'tell me more' question.

The mutual perception is important here. Whereas one considers oneself to be a sweetener, one's partner might see you as a grounder or expander. The negotiation style can be part of your strategy or tactics, but your counterpart might attribute it also to your personality. The primary question is: do you recognize the negotiation style of your partner and how do you react to it? When dealing with a foreigner such as in inter-cultural negotiations, it is even more complicated (Samovar and Porter, 1988). Tactics and personality might easily be mixed up with cultural background. For example, steering is supposed to be Dutch or English, grounding French or German, sweetening and disarming have an oriental flavor and expanding can be again French or Latin. This is all hypothetical; negotiators should be aware of cultural stereotyping and prejudices. Negotiation strategy is determined by the relation between personality and negotiation style. The relationship between negotiation strategy and negotiation style may be explained by using the iceberg metaphor; the strategy refers to the visible top of the iceberg because it can consciously be selected by a negotiator, whereas a negotiator's style is part of a negotiator's personality or NC on which s/he almost has no influence. The style is below the sea level which means that it is invisible on the one hand but influencing the visible top (the strategy) on the other hand.

Two important variables in this relation are assertiveness and affiliation. Figure 2.1 shows how these variables are related to negotiation styles. A win-win strategy is usually compatible with cooperative behavior and leads to long term relationships. Win-lose strategy has a competitive character and often goes together with short-term relationships. As can be seen in Figure 2.1 negotiation strategy is determined by two variables, affiliation and assertiveness. Affiliation may be associated with style and femininity whereas assertiveness is rather to be associated with strategy and masculinity. Thus, Hofstede's dimension of masculinity (see Section 3.2) serves to explain negotiation styles such as affiliation and assertiveness. The measure of these variables determines to which strategy and what characteristic symbol the negotiator belongs. Figure 2.1 derives from the Thomas-Kilmann Conflict Mode Instrument (Thomas and Kilmann, 1974) which is designed to assess an individual's behavior in conflict situations. "Conflict situations" are situations in which the concerns of two people appear to be incompatible. In such situations, we can describe a person's behavior along two basic dimensions: (1) assertiveness, the extent to which the individual attempts to satisfy his/her own concerns, and (2) cooperativeness, the extent to which the individual attempts to satisfy the other person's concerns.

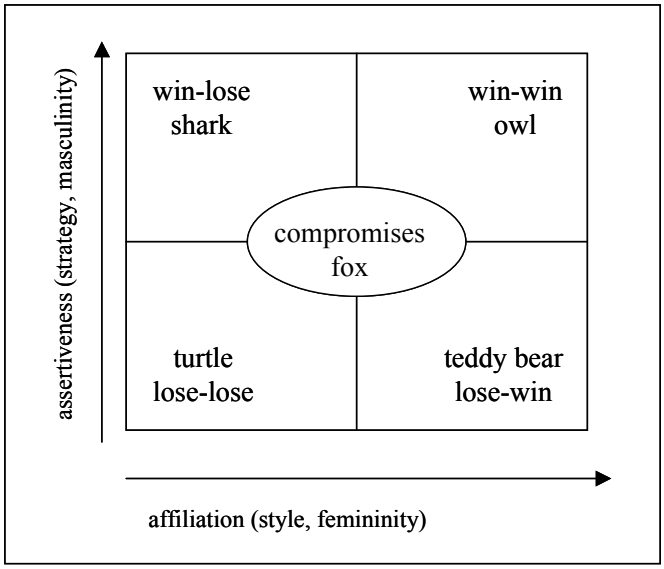

Figure 2.1: Relation between personality and negotiation style (adapted from Thomas and Kilmann, 1974)

Thus win-win strategy is represented by an owl, which stands for high affiliation and high assertiveness. A lose-lose strategy is represented by a turtle, which suggests low affiliation and low assertiveness. A negotiator that compromises between these two examples can be regarded as a fox, with average affiliation and assertiveness. Win-win strategy can be seen as the most successful strategy, since instead of working against each other, two parties work together. This way the mutual interest is served. The main differences between win-win and win-lose strategy are given in Table 2.1 (adapted from Johnson and Johnson, 1975).

Win-win strategy	Win-lose strategy
1. Define the conflict as a mutual problem.	1. Define the conflict as a win-lose situation.
2. Pursue joint outcomes.	2. Pursue own group's outcomes.
3. Find creative agreements that satisfy both groups.	3. Force the other group into submission.
4. Use open, honest, and accurate communication of the needs, goals and proposals.	4. Use deceitful, inaccurate and misleading communication of needs, goals and proposals.
5. Avoid threats.	5. Use threats.
6. Communicate flexibility of positions.	6. Communicate high commitment (rigidity) regarding one's position.

Table 2.1: Negotiation strategies: Win-win and win-lose (adapted from Johnson and Johnson, 1975)

Every business manager and engineer is involved in negotiations not only within the organization of a manufacturing company or a research and development laboratory, but also with the outside world. The marketing and sales manager has to bargain in a lot of outside transactions, such as joint ventures, strategic alliances, mergers and acquisitions which become more and more important in a globalized economy. The research and development scientist or engineer has to negotiate the details of research proposals with his corporate managers and negotiate long-term contracts with the management of client companies or with outside customers. Everybody is a negotiator, formally or informally, even those having no business experience, for instance if you are a customer in a shop, a family member who wants to take the shower first etc.

As explained above, the selection of strategies should always be influenced by the careful consideration of planning issues: Failing to prepare means preparing to fail. In order to analyze one's own negotiation process, the following checklist can be used to prepare the negotiation carefully (Ulijn and Strother, 1995):

1. What is your objective? What is your opponent's objective?
2. Do you and your opponent have conflicting interests? To what extent and on what issues do conflicts occur?
3. What are the common interests? Is there a mutual dependence?
4. What are the benefits of the relationship? Are they short-term or long-term?
5. What kind of relationships have existed between the parties? Have these relationships changed over time?

6. What kind of communications did you have in the past? How did you and your fellow negotiator seek an agreement? How did both of you reach a compromise or contract?
7. Do you strive for a win-win situation or a win-lose situation? Do you prefer to use a cooperative or a competitive strategy?

The negotiating process progresses through a series of distinct stages, as shown in Table 2.2. As you are analyzing your own situation, it is important to know which stage your negotiation is in, from initial contact to final contract.

Structure	Content
1. Opening – Making the initial contact	Identification of the negotiating parties The general economic situation Joint interest State of affairs
2. Discussing the needs of the buyer – what does your opponent want?	Situation now Desired situation
3. Offer made by the seller	Technical information Area of application of the product Types and numbers of products available
4. Matching the buyer's needs to the seller's offer – presentation of what you want for yourself	Situation now Desired situation
5. Bargaining about price and overcoming objections	Cost of materials and production Services Terms of payment
6. Closure - Finalizing the deal	Results Collaboration Further appointments

Table 2.2: Stages of the negotiation process (Ulijn and Strother, 1995)

Those stages of the negotiation process are an idealization of real-life FTF negotiations. In practice, FTF negotiations are in danger of mixing up those stages. For example, the seller might make an offer before thoroughly discussing the needs of the buyer. In CMC negotiation, the situation is different: NSSs are able to give a clear structure to negotiations so that a certain order of stages may always be maintained. Stalpers and Ulijn (1984) propose the structure and content of an average business negotiation on the basis of some interviews within the Philips company. The first stages are to make contact and then determine what your negotiating opponent needs. Before you present your product, service, or proposal, it is of utmost importance to explore extensively what the other side wants or needs. Then, the heart of the

negotiation process takes place as your offer is carefully connected to that buyer's needs. This is essential to an effective presentation. The process or creating a match between what your opponent wants and what you want can take on the form of overcoming objections. After bargaining about the price and overcoming any objections about the product or the price structure, closure is vital (see Section 3.1 and Section 4.1). As a final step, it is essential to ask for the contract, the order, or the next appointment. Inexperienced negotiators who forget this fall into an abyss after having climbed to the top of their agreement. Table 2.2 shows that negotiation is a complicated process with many aspects. A negotiation process consists of several distinct stages, each with its own characteristics. It is for example conventional to start the negotiation process with a small talk in order to set a pleasant atmosphere. During negotiation the time-outs can take place. It is not reasonable to expect that there is a formal mechanism that can describe the negotiation process with all these components. That is why the most theories concerning negotiations concentrate on the bargaining – the subset of the negotiation. While negotiation is the mutual act of coordinating areas of interest, bargaining is about the detail, the specifics, not about the big picture. Thus, negotiation is related to strategy (long-term approach) whereas bargaining is related to tactics (short-term approach). If we refer this to the staging of the negotiating process as presented in Table 2.2, we can claim that the whole structure of the process is what we know as negotiation whereas discussions in each of those stages is called bargaining. A typical example in Table 2.2 might be stage 5: The parties bargain about negotiating aspects like the price, cost of materials and production, services, terms of payment etc.

The business negotiation structure is especially relevant in situations which are confrontational or crisis-like. The basic rule here is that you do not have to be afraid of crises, deadlocks, or conflicts. Working through them may even lead to a clearer exploration of the needs of both parties. Fisher and Ury's (1981) message can be summarized as follows:

- Be tough on your business, but easy on the people who have to deal with it.
- Set yourself a clear objective, but be flexible in attaining it.
- Ask for the deal, the contract, the next meeting, if you want one.

For a successful negotiation, the following elements are essential: careful preparation, efficient exploration of the needs of both parties, a thorough discussion of the proposals, and an adequate closure. A certain balance of power is necessary for constructive negotiating. Fundamental changes in the balance of power will spark off

a fighting situation, but still there is a certain margin for shifts at the negotiating table. In order to strengthen one's own power position, the following strategies or tactics can be applied (Mastenbroek, 1989):

1. Fighting, which aims at subjugating the opponent, e.g. by ignoring the opponent's arguments (strategy: competition).
2. Manipulating the opponent or subjugating him without his realizing it (tactics: short-term approach). There is a high danger that undirected resentments will build up in the other.
3. Having facts and background-information at hand (strategy: preparation).
4. Exploring (strategy: cooperation).
5. Strengthen the relationship by developing acceptance and trust (both strategy and tactics: assertiveness and affiliation are important here, see Figure 2.1).
6. Using the power of persuasion (tactics: short-run actions).

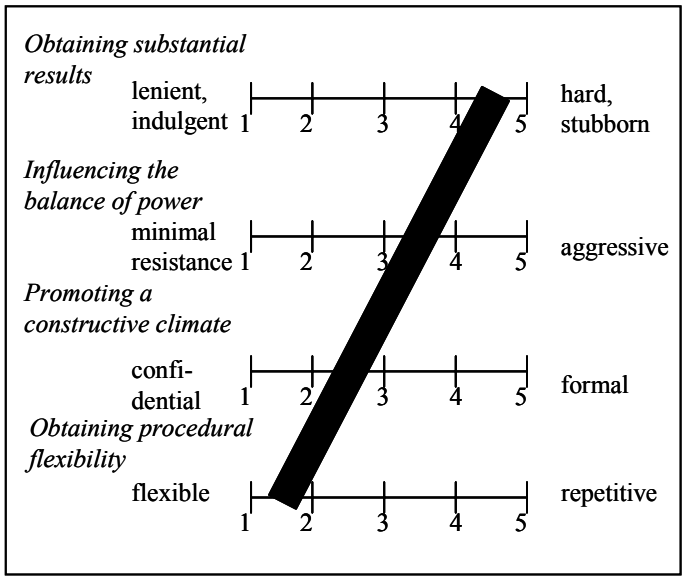

Figure 2.2: Profile of effective negotiating (Mastenbroek, 1989)

Figure 2.2 presents the profile of effective negotiating (Mastenbroek, 1989). The model is chosen because it helps to analyse the interaction between medium, innovation context and culture, which is this PhD study's aim. The model shows that good negotiators are those who are rather hard and stubborn in obtaining substantial results while keeping a high procedural flexibility by being cooperative and explorative. Cooperation in a long-term oriented win-win spirit is most relevant for negotiation success. Such cooperation is investigated by comparing several cultures using innovative media such as email or NSSs. As has already been explained in the context of Table 2.1, cooperation is an important negotiation strategy for a long-term

and win-win oriented relationship between the negotiating parties. Figure 2.2 shows that good negotiators are *tough on the issues and soft on the people* (Fisher and Ury, 1991). This general model by Mastenbroek (1989) can be applied universally; it does not refer to a specific context nor a specific medium or culture. This PhD study will take this general model as a basis to investigate how several cultures succeed in being such an ideal negotiator, using several media such as email or NSS. A negotiator must have consolidated his position before the beginning of the negotiations. Once seated at the negotiating table, opportunities to influence the balance of power are scarce. Good negotiators consider it important to promote a constructive climate and respectful personal relationships. Trust, acceptance and credibility should be developed, but trusting without reservation means running the risk of seriously weakening his own position and of overcompromising. Person and behavior are to be separated and unnecessary tension should be avoided.

In characterizing negotiating styles, Mastenbroek (1989) suggests to be working with two dimensions of negotiating behavior which are considered to be of central importance by practicing negotiators as well as by researchers:

1. **Negotiation strategy**: How does a negotiator deal with the tension between cooperation and fighting? The two poles are shown schematically in Figure 2.4.
2. **Negotiation style**: How explorative is a negotiator? As mentioned earlier, an active attitude aimed at procedural flexibility in the search for solutions is of central importance. The two poles (avoiding – exploring) are shown schematically in Figure 2.4. This Figure indicates the ideal combination of a cooperating negotiation strategy and an exploring negotiation style.

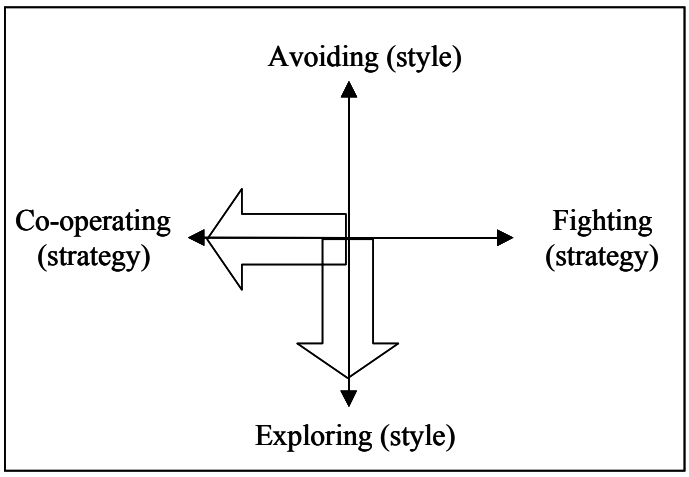

Figure 2.3: Negotiation strategies and styles (adapted from Mastenbroek, 1989)

When negotiating with an opponent who was born in a foreign country and culture, misunderstandings often occur because of cultural differences. It is important to understand the negotiation style or interaction strategy used by your opponent and to know how you can react to it in the best way, whether your opponent shares your cultural background or not.

Personal strategies are the result of interactions of a number of elements within a negotiator including personality and culture. During the negotiating process, the mutual perceptions of the negotiators are important. For example, you might consider yourself to be a sweetener whereas your opponent might see you as a grounder or expander. Your opponent may also make judgments about your probable negotiating strategy because of his knowledge of cultural stereotypes. For example, steering is supposed to be Dutch or English, grounding French or German, sweetening and disarming have an Oriental flavor, and expanding is often French or Latin. The primary question is: Do you recognize the negotiation style of your opponent and how do you react to it? What judgments do you make about your foreign born opponent? In a study comparing Spanish and Danish negotiation styles, Grinsted (1994) suggests that culture-specific factors are critical in understanding multicultural communication. Although the two groups in this study got identical training in negotiation styles, they retained key differences in terms of topic allocation, verbal immediacy, and topic progression; the Spanish were more people oriented, showing a higher degree of empathy and affiliation in Figure 2.1 whereas the Danish were substantially more task oriented, showing more involvement or assertiveness in Figure 2.1. These results suggest that the two groups of negotiators would view each other's negotiating styles critically because of the differences in their cultural styles. This results indicate that

one may predict a cultural effect on negotiation strategy (see also Ulijn and Verweij, 2000) which will be explored in more detail in the experimental studies of Chapter 5.

2.2. Negotiations from a communication perspective

Communication is at the heart of the negotiating process. Although planning, preparation, and strategizing are all key negotiation elements, communication is the central process by which these elements are enacted (Lewicki, 1999). Most analyses of communication begin with a discussion of a basic model of the communication process. The most commonly cited model, developed by Shannon and Weaver (1949), is presented in Figure 2.4.

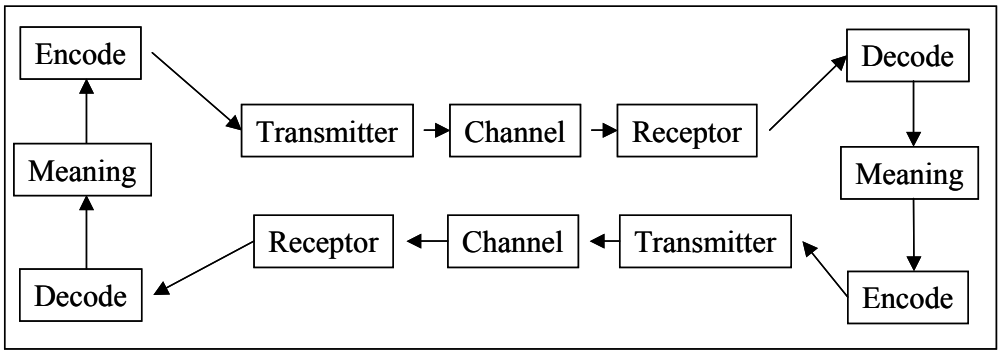

Figure 2.4: Shannon and Weaver model of the communication process (Shannon and Weaver, 1949)

Although all the complexities of human communication cannot be captured in a single model, this one provides a good beginning. Problems with this model and the development of a channel model which shows some possible improvements is discussed in detail in Section 6.2. Communication is conceptualized as an activity that occurs between two people: a *sender* and a *receiver.* A sender has a thought or meaning in his or her mind. The sender encodes this meaning into a message that is to be transmitted to a receiver. For instance, the thought could be about the sender's preference for a particular outcome in a negotiation. The message may be encoded into verbal language (e.g., words and sentences); nonverbal expression (e.g., facial gestures, hand waving, and finger pointing); or both (Köszegi et al., 2002). Once encoded, the message is then transmitted (e.g., via voice, facial expression, or written statement) through a channel (e.g., FTF interaction, telephone, e-mail, letter) to the receiver. The receiver's receptors - eyes and ears - receive the transmission and then the brain decodes it, giving meaning and understanding to the receiver.

In one-way communication, from sender to receiver, this process would constitute a complete transmission. A sender who writes a message, reads it over to check its clarity, and sends it by email to the receiver generally assumes that the message is received and understood (Köszegi et al., 2002). However, most communication, particularly in negotiation, involves dialogue and discussion. As a result, the receiver takes an active role in the communication process, first, by providing the sender information about how the message was received and, second, by becoming a sender and responding to, building on, or rebutting the message of the original sender. For the current discussion, the author will refer to both of these processes as *feedback.* In the feedback process, receivers decode the message and reach their own understanding of what the sender said. They may also ascribe meaning to the message by interpreting its information content as well as the motives that the sender may have had for transmitting that content. Receivers then become senders of communication back to the original sender. The encoded feedback message may take multiple forms: questions or other communications intended to obtain clarification of the original message, emotional reactions to the content or context of the message, or rebuttals to the statements in the message. All these forms of encoded feedback can be transmitted through various channels, received, and decoded by the original source. The entire sequence may range from something as simple as a question by one negotiator ("*Do you want to accept the offer?*") and an affirmative nod by another, to complex statements of fact and opinion, and equally complex responses as negotiators shape a multilevel, comprehensive agreement that will have to be accepted by several contentious parties. Communication works to the degree that a wide variety of information-facts, opinions, feelings, preferences, and experiences – is completely and thoroughly shared among the parties, and mutual understanding is reached (Lewicki, 1999). As most of us know from experience, human communication systems seldom perform to the highest possible degree. Rather, the elements of the model and the linkages among them are subject to external factors that distort messages and their meaning, preventing them from being understood completely.

How people communicate in negotiations

While it may seem obvious that how negotiators communicate is as important as what they have to say, research has examined different aspects of how people communicate in negotiation. Gibbons, Bradac, and Busch (1992) have proposed that "negotiation is essentially linguistic" in that it "represents the exchange of information through language that coordinates and manages meaning" (p. 156). In negotiations, language operates at two levels: the logical level (for proposals or offers) and the pragmatic level (semantics, syntax, and style). The meaning conveyed by a proposition or

statement is a combination of one logical, surface message and several pragmatic (i.e., hinted or inferred) messages. In other words, it is not only what is said and how it is said that matters but also what additional, veiled, or subsurface information is intended, conveyed, or perceived in reception. By way of illustration, consider threats. We often react not only to the substance of a threatening statement but also (and frequently more strongly) to its unspoken messages. Gibbons, Bradac, and Busch (1992) identify five linguistic dimensions of making threats:

1. The use of polarized language, in which negotiators use positive words when speaking of their own positions (e.g., *generous, reasonable, or even-handed*) and negative words when referring to the other party's position (e.g., *tight-fisted, unreasonable, or heavy-handed*).
2. The conveyance of verbal immediacy (a measure of intended immediacy, compellingness, or relative psychological distance), either high and intended to engage or compel the other party ("*Okay, here is the deal*" or "*I take great care to . . .*") or low and intended to create a sense of distance or aloofness ("*Well, there it is*" or "*One should take great care to ...*").
3. The degree of language intensity, in which high intensity conveys strong feelings to the recipient (as with statements of affirmation or the frequent use of profanity) and low intensity conveys weak feelings.
4. The degree of lexical diversity (i.e., the command of a broad, rich vocabulary), where high levels of lexical diversity denote comfort and competence with language, and low levels denote discomfort, anxiety, or inexperience.
5. The extent of high-power language style, with low power denoted by the use of verbal hedges, hesitations, or politeness to the point of deference and subordination, and high power denoted by verbal dominance, clarity and firmness of expression, and self-assurance.

Using these dimensions, Gibbons, Bradac, and Busch suggest that threats can be made more credible and more compelling by negatively polarized descriptions of the other and party and his or her position, high immediacy, high intensity, high lexical diversity, and a distinctively high-power style. Whether the intent is to command and compel, sell, persuade, or gain commitment, how parties communicate in negotiation would seem to depend on the ability of the speaker to encode thoughts properly, as well as on the ability of the listener to understand and decode the intended message(s) (see againFigure 2.4). In addition, negotiators' use of idioms or colloquialisms are often problematic, especially in cross-cultural negotiations (see Chapter 3). The meaning conveyed might be clear to the speaker but confusing to the listener (e.g., "*I'm willing to stay until the last dog is hung*" - a statement of positive commitment

on the part of some regional Americans, but confusing at best to those with different cultural backgrounds, even within the United States). Even if the meaning is clear, the choice of a word or metaphor may convey a lack of sensitivity or create a sense of exclusion, as is often done when men relate strategic business concerns by using sports metaphors ("*Well, it's fourth down and goal to go; this is no time to drop the ball*"). Intentional or not, the message received or inferred by women may be that they're excluded from the club. Deborah Tannen (1990), in her aptly named book *You Just Don't Understand,* states that "male-female miscommunication may be more dangerous [than cross-cultural miscommunication] because it is more pervasive in our lives, and we are less prepared for it" (p. 281). Because people generally aren't aware of the potential for such miscommunication with someone from their own culture, they are less well prepared to deal with such miscommunication than they would be if the person were from a different culture.

Finally, a negotiator's choice of words may not only signal a position but also shape and predict it. Using language and its relation to cognitive maps - that is, “concepts and relations [a party] uses to understand organizational situations" (Weick and Bougon, 1986, p. 106) - Simons (1993) examined the linguistic patterns of communication in negotiations and found two salient points: First, parties whose statements communicated interests in both the substance of the negotiation (i.e., things) and the relationship with the other party (i.e., people) achieved better, more integrative solutions than parties whose statements were concerned solely with either substance or relationship. Second, in support of Thompson and Hastie (1990), early discussion in negotiation may be critical in defining issues in a way that promotes or inhibits the discovery of integrative solutions. The "stage-setting" value of constructive communication is borne out by Simons's (1993) finding that "linguistic patterns from the first half of negotiation were better predictors of agreements than linguistic patterns from the second half of negotiation" (p. 139).

(Re-)Framing

Another key issue in perception and negotiation is *framing.* A frame is the subjective mechanism through which people evaluate and make sense out of situations, leading them to pursue or avoid subsequent actions (Goffman, 1974, the concept of (re-)framing in relation to discourse will be further elaborated in Section 4.3.1). Framing helps explain "how bargainers conceive of ongoing sets of events in light of past experiences"; framing and reframing, along with reevaluation of information and positions, "are tied to information processing, *message patterns,* linguistic *cues,* and socially constructed meanings" (Putnam and Holmer, 1992, p. 129). Negotiation researchers have given framing a great deal of attention, from three different perspectives:

frame categories, issue development, and cognitive heuristics (Putnam and Holmer, 1992):

- The frame category approach is similar to schemata in negotiations (Ulijn, Nagel, Tan, 2001; see Chapter 3 for the role of schemata in association with culture). Gray and Donnellon (1989) proposed six types of frames in relation to such schemata, based on their review of the bargaining literature: (1) *substantive* frames (what the negotiation is about for each party); (2) *loss-gain* frames (the risks or benefits of various negotiation outcomes); (3) *characterization* frames (the different expectations and evaluations of others' behaviors and outcomes); (4) *process* frames (how the negotiation will or should *proceed);* (5) *aspiration* frames (regarding the parties' underlying needs and interests); and (6) *outcome* frames (the parties' preferred positions or solutions).
- The *issue development* approach is related to how the meaning of different issues changes during a negotiation. Issue development is similar to the process of the transformation of disputes (Felstiner, Abel, and Sarat, 1980-81), in that the aim of a negotiation is to transform a disagreement, argument, or confrontation into a situation marked by peace, agreement, and joint success or gain. "Disputes are transformed by shifting frames," and "framing occurs through the *process of shaping issues"* by determining "the importance and relevance of available facts in a case" (Putnam and Holmer, 1992, pp. 138-39).
- The *cognitive heuristics* approach examines the ways in which negotiators make systematic errors in judgment when they process information.

The way a negotiation issue is framed appears to influence the ways in which negotiators perceive risk and behave in relation to it. Neale and Bazerman (1992) suggest two things regarding the effect of frames on risk aversion: (1) negotiators are not usually indifferent to risk, but (2) they should not necessarily trust their intuitions regarding it. In other words, negotiators may overreact to a perceived loss when they might react more positively to the same situation if it is framed as a perceived gain. Hence, as a negotiator you must “avoid the pitfalls of being framed while, simultaneously, understanding positively and negatively framing your opponent” (Neale and Bazerman, 1992, p. 50). When negotiators are risk averse, they are likely to accept any viable offer put on the table simply because they are afraid of losing. In contrast, when negotiators are risk seeking, they are likely to pass up an offer, choosing instead to wait for a better offer or for possible future concessions.

2.3. Negotiations from a computer-support perspective: Email and Negotiation Support Systems

Fixed pricing, auction, and reverse auction are different forms of business negotiations. Fixed pricing is the simplest form of negotiation. In a fixed pricing transaction, after a buyer or a seller posts its price, together with other business terms, either on the Internet or in printed catalogs, a seller or a buyer has only one option: "take-it-or-leave-it". Suppose a seller wants to sell thousands of identical and low-value items, it is obviously not feasible for the seller to bargain with thousands of customers. Therefore fixed pricing is a good choice and is widely used in business-to-customer (B2C) e-commerce. Regular retailers such as Wal-Mart and online retailers such as Amazon.com both use the fixed-pricing scheme to sell products. On the other hand, if a potential business deal involves a large quantity of high-value products, bargaining over the unit price is often a must because a small difference in the unit price can make a big difference in the total cost. According to McAfee and McMillan (McAfee, and McMillan, 1987), auction is a market institution with an explicit set of rules determining resource allocation and prices on the basis of bids from the market participants. The auctioneer usually starts the auction with an initial offer, then bidders submit their bids in response to the initial offer or bids from other bidders. The auction ends according to some established rules. There are different auction protocols for different situations. The auction can be divided into two types: sealed-bid auction and open auction. Two widely used open auctions are the open-cry English auction in which price goes up and the Dutch auction in which price goes down. "AuctionBot" (Wurman et al., 1998) from the University of Michigan is a configurable, flexible, and scalable auction server that supports both software and human agents in auctions. Auction theory is a branch of economics of which a detailed discussion is beyond the scope of this study. A good overview on auction theory can be found in (Milgrom and Weber, 1982, Milgrom, 1989). Reverse auction is similar to auction, but the auctioneer is a buyer instead of a seller. One typical form of reverse auction is that a buyer issues RFQs (Request for Quotes) to multiple sellers. The CNP (Contract Net Protocol; Smith, 1980), an early and popular negotiation protocol in distributed Artificial Intelligence and multi-agent systems, is essentially a reverse auction for task distribution. Given the growing popularity of auctions over the Internet, some people claim that auction can replace negotiation on the Internet (Segev and Beam, 1998). While Internet auction provides efficiencies by allowing people from different places to join the auction process, auction usually focuses on one issue: price. It usually involves the sale/purchase of a single item; however, in many business transactions, price is not always the only concern of a buyer - the quality of the product/service, the delivery date, the method of payment, the return

policy, the warranty, etc., are all important considerations. Auction systems usually do not allow negotiations over multiple issues. Bargaining is the most complicated form of negotiation. It is the focus of this work. Bargaining involves the search for a new acceptable alternative and the concession of negotiation parties. When there is a conflict between two negotiation parties, if it is possible to find a new alternative that satisfies both sides, the new alternative is taken. Otherwise, concessions of either one side or both sides are necessary to reach an agreement. One significant difference between bargaining and auction is that, in an auction, only one side (either buyer or seller) is doing the concession. The other major difference is that multiple issues can be involved in bargaining.

2.3.1. Email as a medium to conduct business negotiations

The term „email“ denotes “the electronical exchange of information between a sender and one or more receivers using computers in a network” (Pribilla et al., 1996, p.51). The development of email is strongly related to the history of the worldwide most important computer network: the internet. Beneath the many options of collecting and distributing resources over the world wide web, telephone- and videocommunication can be effected via the internet, just to mention the present development. However, email is a basic technology of all current groupware-products, having advantages over the traditional postal mail regarding the speed and the telephone regarding the availability of the communication partner (Rapaport, 1991). The need for communication, which arises at every employee within his working process, often stays unsatisfied at telephone communication due to the missing availability of his communication partner. In contrast, email enables an immediate information delivery, even if not all working processes are completed due to missing immediate feedback (Schwickert, 1994). In the near future, email will take a place in daily office communication like today telephone or fax does. However, the idea of an electronic transfer of information does not depend on the existence of a worldwide network: Email is a powerful communication medium on the level of local area networks (LAN) as well (Hoppe 1998). The communication over email developed some typical social and communicative manners. As examples, the so-called “emoticons” are mentioned. These are symbols being built of common text signs that are included in an email in order to explain the intention or the emotions of the author (Steiner, 1995). Using such emoticons would mean to score high on the affiliation axis. It would mean to increase one’s involvement, showing that the negotiator’s own emotions – defined as states whose properties can be approached only gradually by a series of successive approximations (Plutchik, 1962) - are important to be transmitted to the receiver of the message in a non-verbal way.

In addition, the salutation is often left out in order to create a "virtual nearness". (Radetzky, 1998, p. 46) Modern email programs are not any more restricted to the transfer of signs, i.e. textual information, but they can integrate graphics, video- and audiosequences in the electronic message. That way, the potentials are increased and a broad range of application possibilities is opened up (Hoffmann, 1988).

When email is compared to different types of communication, such as telephone, fax and postal mail services, it becomes obvious that email has some specific advantages. First of all there is the comparison between email and the telephone system. Telephone calls are fast, a call is established in a matter of seconds – an electronic message reaches its destination usually in a matter of seconds or minutes, depending of the message-load of the network – but only 25% of the telephone calls turn out to be successful because the callee is in a meeting, absent or otherwise unreachable (Mocker et al., 2000). This is a result of the fact that a telephone system is synchronous. One can overcome this disadvantage partially with an answering service: a secretary who answers the phone or an answering machine that registers the message. Nevertheless, it usually requires a lot of calls to reach the callee. Another disadvantage is the integration of phone calls and computers (office systems) due to the problems with the processing of voice data. This as opposed to email systems that can be integrated more easily with all kinds of systems and/or applications (Colecchia, 2000). Compared to facsimile, we notice that fax is also an asynchronous type of data exchange with the exception that the transmission of the message itself is synchronous because both faxes have to be available in order to transmit the message. After the fax has been received by the recipient's organization, it has to find its way through the organization. Email on the other hand, is transmitted automatically to the right person if the recipient has a mailbox.

	Synchronous		**Asynchronous**		
	FTF	**Phone**	**Email**	**Fax**	**Postal Mail**
Intermediaries	None	Secretary	Mostly none	Fax room	Secretary
Speed	< 1 second	< 1 second	Minutes	Minutes	Days
Possible integration	No	No	Yes	Partially	No

Table 2.3: Differences between email and other means of communication (adapted from Colecchia, 2000)

Finally, the comparison between email and postal mail. The latter is quite slow, it usually takes at least a few days before a letter can be delivered somewhere else in the world except in case of the more expensive (and faster) alternative: express delivery. Advantages over email are the security and reliability by means of registered mail. However, the secure and reliable transmission of electronic messages cannot be guaranteed yet (Mocker et al., 2000). The conclusion of this comparison is that email has a few advantages over other means of information exchange: speed and integration with other systems. If the secure and reliable transmission of electronic messages can be guaranteed it will be widely accepted as THE information exchange service (until somebody comes up with something better). For a summary of the comparison, see Table 2.4.

The presented explanations refer to email as an asynchronous communication medium that is used in the way that the contents of a mailbox are checked more or less periodically. Although the asynchronic utilization is the typical one, there also exists the utilization as a synchronic decision-tool, in which the participants exchange information in a direct process of communication activities. This form is called computer conference (Feldman, 1987). Emails can support decentral structures. Feldman assumed that especially the informal communication between the different groups in modern corporate structures is neglected due to the many spatial, temporal and organizational barriers. He investigated the way the medium of email is able to build a bridge between the separated groups. Hence Feldman asked the employees of R&D and production departments and evaluated their sent and received messages. He noted that, spatially or organizationally separated persons communicate additionally more than already existing, conventional communication is substituted. In addition, many messaged could be identified that would not have been exchanged on a conventional way without a mail-system. Finally, the research showed the high impact of email systems on the creation of a uniform corporate culture (CC, Feldman, 1987). Thus, the research showed the special ability of a new medium to overcome communication barriers and to integrate groups and persons in the entire corporate structure.

Trust is cited as a central component to promoting cooperation and goodwill in negotiation, and may be especially important where individuals perceive that they are at risk for exploitation or loss. Such uncertainty may be heightened for persons working in multi-national groups or teams, wherein social and cultural barriers may exist to building trust. Negotiators are thus routinely instructed to develop rapport and establish a trusting relationship in order to more effectively identify high quality agreements. Unfortunately, negotiators restricted to the email environment (e.g. due to

time or distance limitations) have been observed to exhibit lower levels of trust for their opponents, both before and after negotiations, than FTF negotiators. Differences here may be attributable to a number of areas. First, if non-verbal cues are central for conveying relational information, the use of a text-based medium may restrict the development of interpersonal connections. And working with an anonymous or "faceless" opponent may lead one to feel less guilty about exploiting or hurting the other individual. Second, the "lean" email environment removes those nonverbal cues persons report as being most central to the detection of deception. Indeed, negotiation scholars have found electronically mediated messages to be amenable to the use of deception and bluffing in negotiation. While this yields comport for those intending to deceive, it may also result in frustration for those trying to navigate effectively in a low-trust environment. In sum, absent a relationship, and with limited non-verbal cues, negotiators may simultaneously see both the opportunity and the risk for exploitation. Perceptions of risk may be compounded when working cross-culturally, as uncertainty related to interpersonal differences is added to the mix (Gesteland, 2000). Given these challenges, negotiators are well advised to spend significant time and energy assessing the trustworthiness of opponents in the email environment.

2.3.2. Negotiation Support Systems

Recently, people are trying to use computers and networks to support (aid), or even automate the negotiation process. A NSS (Kersten and Noronha, 1999, Rangaswamy and Shell, 1997) is a kind of computer system that assists human negotiators in carrying out a negotiation process. NSSs are usually based on a phase model of negotiation (Kersten and Noronha, 1999). In the phase model, a negotiation process is divided into three phases: preparation (or pre-negotiation) phase, bargaining phase, and post-settlement phase. In the preparation phase, the system solicits the preferences of the individual users and constructs utilities. The main purpose of the preparation stage is to let the users have a better understanding of his/her real preferences. In the bargaining phase, users exchange structured proposals and/or free style messages. NSSs usually provide an asynchronous communication channel so that both negotiators do not have to be online at the same time. When negotiators have reached an agreement in the bargaining phase, they have an option to enter the post-settlement phase. The post-settlement phase uses a third-party program to check whether the agreement is Pareto-optimal or not. If it is not, the program can suggest possible Pareto-optimal solutions that are more desirable than the agreement reached by both sides. If there is more than one Pareto-optimal suggestion, and the negotiators have different preferences about these suggestions, they can enter into another round of negotiation. Lim proposed a theoretical model of NSSs in (Lim and Benbasat,

1993). The paper divides a NSS into two major components: decision aid component (i.e., DSS: Decision Support System) and electronic communications component. Due to the information processing capability of the decision aid component, solutions with NSS is better than those without NSS in terms of the distance from the Nash solution, the distance from the efficient frontier, and the confidence over the final outcome. Compared with a verbal communication channel, an electronic communications channel is more "task-oriented" than "social-oriented". Therefore, the time to settlement is reduced and the satisfaction with the system is higher. Like decision support systems (DSSs), the focus of NSSs is still on "support". There is no facility for negotiators to specify their negotiation policies and strategies. The human negotiators are expected to apply their own negotiation policies and strategies when composing offers and counter offers. The focus on NSS is to support the negotiator in a negotiation process, not to make a decision by computer. Lo and Kersten proposed an integrated negotiation environment incorporating NSS with software agents in (Lo and Kersten, 1999).

There are two negotiation agents: individual negotiation software agent (INSA) and co-operative software agent (COSA). INSA provides assistance to the individual negotiator. It uses case-based reasoning (CBR) to inform the negotiator of related negotiation cases and possible actions to be taken. It also helps the negotiator to elicit preferences and construct utilities. Furthermore, INSA uses data mining and statistical methods to extract negotiation knowledge from historic negotiation data. COSA acts as a mediator in the environment and provides the user with information on the possible integrative moves. Benyoucef and Keller propose the concept of Combined Negotiation Support System (CNSS) in (Benyoucef and Keller, 2000). A user may be interested in many goods or services in a typical business deal. Consequently, the user may engage in many negotiations concurrently. Although negotiations seem to be independent of each other, the goods and services are usually interdependent. There is a need to coordinate and reconcile these negotiations. Different negotiations are modeled as different negotiation agents, and the monitoring and control of these agents are done by a workflow system.

To enable the various negotiation processes across time and space, NSSs are most helpful. Such systems are not to replace human participation in negotiation, but augment and mediate it (Robinson and Volkov, 1998). A NSS can be defined as a composite of computer techniques that support the social or analytical aspects of the negotiation life cycle (Robinson and Volkov, 1998). NSSs are useful because, first, they improve the quality of negotiation outcomes and, second, ever more business is computer-mediated, so the negotiation process itself also requires computer support.

However, attention must be paid to the following issues: (1) general purpose systems are too unconstrained, so NSSs should focus on specific domains (2) in practice, most systems tend to be rarely used in actual negotiations, so special care must be taken in adapting them to their context of use, and (3) there is a trend from quantitative (e.g. decision theoretic) systems to systems that support more qualitative negotiation processes.

NSSs evolved from the general class of DSS (Kersten and Cray, 1996). They consist of two parts: a decision support system (DSS) and some kind of group support system (GSS). The DSS is used for alternative generation and analysis, the GSS supports the communication process (Delaney et. al., 1997, Lim and Benbasat, 1991). Empirical evidence suggests that such comprehensive NSS lead to more successful negotiations than DSS without a GSS component (Delaney et al, 1997). This makes sense, if one considers general negotiation theory (Fisher and Ury, 1981; Mastenbroek, 1989; Ulijn and Strother, 1995) which states that almost any individual negotiator has a constituency or a group which he or she represents, so group support is welcome and helpful. It also shows that negotiation is a collaborative effort, which is important when it comes to creating a negotiation strategy. Developing such a strategy means to do some kind of long-term planning before the negotiation starts, and much of the behavior at the negotiating table in fact cannot be explained without reference to the constituency. Often there is even a sort of 'gentlemen's agreement' between the negotiators on such points as:

- one party does not make a fool of the other in front of his constituency;
- one party allows the other a substantial 'show' now and then;
- one party does not make concessions too quickly, in order not to arouse unrealistic expectations among the constituency of the other party.

Empirical studies have shown that the GSS part of a NSS increases satisfaction among negotiators compared with NSSs that do not use electronic means for communication (Delaney et al, 1997). On the other hand, some forms of electronic communication can also slow down and inhibit certain parts of the negotiation process, especially the bargaining process, thus resulting in lack of synchronization between the different parties. This synchronization is necessary, since bargaining phases alternate between differentiation and integration of opinions, positions, etc. Synchronization is improved by having a set procedure or agenda coordinating the moves, the media not being too slow, and not too hard to learn (Poole et al, 1992). The following literature review of media impacts on negotiation is rooted in a generic

model of bargaining that is distilled from processual models of conflict management (Gulliver 1979, Walton 1969). This model delineates the key aspects of the negotiation process which electronic media may affect positively or negatively. It also suggests functions for media design. No attempt is made to argue that this generic model is the definitive view of negotiation. The model serves as a conceptual framework for presenting research findings.

Social sciences as a basis for Negotiation Support Systems

Pruitt (1981) studied negotiations from the social-psychological point of view. The book deals with human psychology which is involved in a human-based negotiation. Much attention is paid to the motives, perceptions, and other micro-processes underlying the behavior of a negotiator and to the results of laboratory experiments on negotiation. The strategic choice model, which is related to the negotiation decision model in this study (as presented below), is presented in the book. The strategic choice model states that a bargainer must choose among three basic strategies to move toward an agreement. The first strategy is to concede unilaterally, the second strategy is to stand firm and ask the other party to concede, and the third strategy is to collaborate with the other party in search of a mutually acceptable solution. These are very general strategies. An automated negotiation system needs to have more specific strategies on how to concede, how much to concede, and how fast to concede (i.e., the rate of concession). These issues shall be addressed in this study.

The work reported in Raiffa's book (1982) divides negotiations into several categories according to the number of parties and the number of issues involved: two parties/one issue, two parties/many issues, or many parties/many issues. According to Raiffa, different categories of issues raise different problems. For example, coalition formation is not a problem when only two parties are involved. However, it is one of the most important topics in multiple party negotiation. Sandholm (1996) studied the coalition formation problem in the context of distributed artificial intelligence and multi-agent systems . Raiffa used case studies to illustrate the link between "negotiation as a science" and "negotiation as an art". Negotiation policy is not explicitly mentioned in the book, but parts of the book discuss negotiation strategies and tactics. For example, the book emphasizes the importance of the preparation for an initial (first) offer, which is one of the dimensions of negotiation strategy space to be discussed in this chapter. Several books (Lax and Sebenius, 1986; Karrass, 1993; Shell, 1999) address and offer practical negotiation policies and negotiation strategies. However, the distinction between "policy" and "strategy" is not clear. In fact, these terms are often used interchangeably in books. One general advice (or strategy) for a seller is to offer a high price, to make slow concessions during the bargaining stage,

and to concede at the end to make the deal. The general advice for a buyer is to offer a low price and to gradually increase the offer. However, the advice is not a panacea. It can backfire in some cases. Since it basically advises the negotiator to set a "high goal" that is difficult to achieve, the negotiator may not be satisfied with the outcome even though the outcome is favorable from an objective point of view. Furthermore, tension and dissatisfaction can build up between negotiation parties if the difference is large and it takes a long time to approach an agreement. The proper strategy to use can depend on several factors. For example, if one of the goals is to establish a long-term relationship with the counterpart, it would be better to make a relatively large concession in order to show goodwill. There is a related work on the application of negotiation principles in the domain of labor management disputes. Sycara and her colleagues at Carnegie Mellon University developed PERSUADER (Sycara, 1985, Sycara, 1990), which provides a framework for intelligent computer-supported conflict resolution through negotiation/mediation. The framework integrates AI and decision theoretic techniques to provide enhanced conflict resolution and negotiation support in a group problem-solving setting. PERSUADER, acting as a mediator, facilitates the disputants' problem-solving so that a mutually agreed settlement can be achieved. It embodies a general negotiation model that handles multi-party, multi-issue, single, or repeated encounters based on the integration of case-based reasoning and multi-attribute utility theory (Sycara, 1988).

2.3.3. Two processes: Differentiation and integration as an effect of the medium

Walton (1969) presents a two-phase model of effective conflict management. In the fist phase, known as *differentiation,* latent conflicts and issues emerge and are defined, the reasons for differences are stated, and parties recognize the severity of their differences. This phase is characterized by sharp exchanges and open conflict (Poole et al, 1992). The way negotiators are able to manage those issues may depend on the medium in use and the negotiator’s culture. As explained in Table 2.4, synchronous media such as phone or FTF might speed up the process of differentiation more than asynchronous media such as email, fax or postal mail. One could argue as well that negotiators from the same culture might have less problems with the phase of differentiation because they may have less problems in understanding implicit messages of their negotiation partner than negotiators from different cultures. If managed properly, however, the issues are clarified and the parties are motivated to pursue negotiation. The outcome of a properly conducted differentiation process is a clear understanding of differences between the parties, motivation to negotiate, and a sense of the other party as a legitimate agent whose position must be dealt with, even if the first party does not agree with it. The second

phase, *integration,* logically follows differentiation. It is a period in which "parties appreciate their similarities, acknowledge their common goals, own up to positive aspects of their ambivalences, express warmth and respect, and/or engage in other positive actions to manage their conflict" (Walton 1969, p.105). During the integration process, parties finalize the definition of issues, build a productive working climate, explore solutions, and attempt to generate a mutually acceptable solution and means of implementation. If either process is truncated or ineffectively managed, a less satisfactory result may ensue. Often parties go through several cycles of differentiation and integration to achieve an effective resolution. Thus, it is not simply a two-step process, but a progressive movement toward final integration. Indeed, it is possible to dispense with the notion of phases altogether and to regard differentiation and integration as processes which occur with varying degrees of emphasis throughout the negotiation (Berlo 1960). As Folger and Poole (1984) note, in attempting to move through the two processes, parties are walking a tightrope between two problematic interaction patterns. On the one hand, fear of intense conflict may lead parties to avoid or suppress issues and to maintain a false consensus in which some issues are never raised and some needs go unmet. On the other hand, parties may surface differences but be unable to resolve oppositions. Sometimes parties are caught in escalating spirals of ever-intensifying conflict. Alternatively, the conflict may be resolved by a superior force in which the side with the most power wins.

Movement between differentiation and integration as an effect of the medium

The movement between the two processes is affected by at least two factors. First, *conflict intensity* varies as parties move from differentiation into integration and vice versa (Gulliver 1979). An optimal range of intensity may exist such that if the conflict is too intense, the parties will have difficulty moving into integration; but if intensity is too low, differentiation is difficult. Second, as Walton (1969) notes, successful movement from differentiation to integration depends on the *synchronization* of the parties' tendencies to differentiate or to integrate. If parties are "out of synch", one bargainer's resistance may undermine the other negotiator's willingness to integrate. CMC can result in more expression of conflict than does FTF interaction. Researchers note that participants in text-only media, such as computer conferences, are more likely to express differences and make negative statements than FTF communicators (Siegel et al. 1986, Hiltz and Turoff 1978). This tendency may result from a disinhibition or an inability to see the other party and to pick up such cues as status or emotion that might cause bargainers to hold back (Siegel et al. 1986). However, Poole (1991) reports that NSS used in a FTF meeting surface more conflict than does a regular FTF meeting. NSSs combine communication, computer, and decision

technologies to support the decision making and related activities of work groups. The NSS facility for simultaneous and anonymous entry of ideas enables parties to see oppositions on a public screen. Williams (1998) summarizes several studies that show more competitiveness with audio negotiations than with FTF interactions. Basically, then, non-FTF media might be more effective at surfacing differences and preventing avoidance than FTF negotiating.

How do the various media influence conflict intensity? Both Siegel et al. (1986) and Poole (1991) provide evidence that conflicts enacted through text are more intense and harder to move into integration than those in FTF situations. Sambamurthy and Poole (1991) report that FTF groups with computer-based decision modelling support utilize integrative conflict management strategies (modelling) better than do FTF groups without that support. They suggest that the modeling capabilities aid the parties in arriving at satisfactory solutions. This finding parallels Nyhart and Samarasan's (1989) and Nyhart and Dauer's (1986) arguments that the process of building a model collaboratively is an inducement to further cooperation among parties. The tendency of higher conflict intensity with text media may be mitigated by communicating via an asynchronous computer conference, in which parties have a chance to consider the implications of their statements prior to entering them. In addition, some evidence suggests that video mediation may highlight separation between the parties. Williams (1977) observes that videoconferences create a "*we*" versus "*they*" dynamic in conferencing groups. Barefoot and Strickland (1982) note that video negotiations are less integrative than are FTF efforts. Similarly, Williams (1977) summarizes a study showing that audio negotiations are more likely to break down than are FTF negotiations. Morley and Stephenson (1977) report that video negotiations deadlock more often than do text, audio, or FTF ones. However, any conclusions about audio media must consider the fact that bargainers make a choice to use the telephone in actual negotiations (Rice, 1984). This choice may reflect an unexplored advantage of this medium.

Synchronization of movement through bargaining phases is much easier if parties have a set procedure or agenda that coordinates their moves (Poole 1991, Walton, 1969). Computer support embodies procedures that regulate the parties' activities. Poole (1991) notes that computer mediation of conflict has the advantage of overcoming people's resistance to the use of procedures because the computer system seems impartial and credible. In contrast, if procedures are too canned or restrictive, resistance may occur and computerization may backfire (Silver, 1988). The benefits of procedures are evident in studies by Morley and Stephenson (1977) that show that the side with the stronger case wins more settlements when procedures constrain

discussion than when parties have no constraints. Media that slow down the communication process and are less efficient may inhibit synchronization. Text and computer-based media are often slower than FTF, video, and audio (Jones and Jelassi 1988, Siegel et al. 1986). Computer-based media require users to learn the system. Parties who are unfamiliar with computers may be intimidated (Sproull et al. 1987), but this reaction presents only minimal problems (Hiltz and Turoff 1989, Watson et al., 1988) Also important for synchronization is the effort needed to use certain media. Users report that audio media, in particular, are very demanding and tiring (Johansen 1979). All of these difficulties may move negotiations out of synch.

2.3.4. Media impact on tasks

The remaining research summarizes media effects on five tasks that negotiators typically undertake: issue definition, search for solutions, self-presentation, building appropriate climates and managing power balances.

Issue definition

Issue definition centers on setting the agenda for negotiations during differentiation and early integration phases. Several properties of issue definition influence progress in negotiations. First, as Sambamurthy and Poole (1991) note, the framing of issues strongly influences progress in the negotiation (further explanations of the concept of framing can be found in Section 2.2). Generally, integration is easier when issues are framed in an impersonal rather than a personal manner (Fisher and Ury, 1991) and as common problems rather than as unique concerns (Folger and Poole, 1984). Second, the degree of issue linkage determines whether the negotiation is conductive to logrolling and other tradeoff strategies during integration. Third, the participants' bargaining range places constraints on the degree to which integration is possible. Fourth, parties' aspiration levels or the levels of outcome they hope for are important determinants of effective negotiation. Generally, the higher the aspiration level, the more favorable the result for bargainers (Pruitt, 1983). Effective issue definition requires parties to share information, to recognize differences, and to use these differences as a foundation for integrative work. Evidence suggests that video and FTF media are more appropriate than audio for issue definition in complex tasks such as negotiation (Johansen et al., 1979), perhaps because the additional visual channel promotes useful feedback. Although text does not provide immediate feedback, it is adequate for complex tasks because it provides a public artifact for common orientation and because composition requires reflective thinking. All levels of computer systems provide support for the generation and evaluation of ideas, problem formulation and modeling the negotiation situation (Dennis et al., 1988). Nyhart and

Samarasan (1989) argue that these models are useful for issue analysis because they provide a common database and reference point. Media shape the framing of issues by encouraging or discouraging shared viewpoints. Some media emphasize separating parties to promote framing issues in ways that do not take the other bargainer into account. Evidence suggests that video, text alone, and to a lesser extent audio, may create this effect. In contrast, FTF enables parties to define issues together and to develop common ground (Nyhart and Dauer, 1986; Sebenius, 1981).

Search for solutions

The search for solutions must be broad and thorough to promote effective resolution of the conflict (Fisher and Ury, 1991). One problem that influences solution search is movement toward *premature convergence* on a solution (Folger and Poole, 1984). Time pressures and fear that the conflict will flow out of control exacerbate this problem. A second process that presents a problem is commitment dynamics, whereby parties feel they have "too much invested to quit" and continue to hold inflexible positions while raising conflict intensity (Pruitt and Rubin, 1986). Rigid adherence to demands furthered by fear of backing down from commitments are major barriers to integration. Several studies show differences in the impacts of media on negotiated outcomes. Sheffield (1989) reports that audio negotiations lead to better solutions than do text-based negotiations, although there he finds no difference between audio and computer conditions. Morley and Stephenson (1977) observe that the side with the stronger case is more successful in telephone than in FTF negotiations. Some features of computer support also enhance negotiated outcomes. For example, groups with NSS support generate more and better ideas than do non-NSS groups (Gallupe et al. 1988). Perhaps anonymous entry of ideas in NSSs results in more solutions than does nonanonymous entry (Jessup et al. 1988). Using a NSS also results in greater commitment to solutions than does non-supported groups (Gallupe et al. 1988). Further, Smith and Vanacek (1988) note that asynchronous computer conferencing has detrimental effects on solution analysis because it makes coordination harder. Negotiation modeling support may provide such coordination and increases synthetic thinking that results in key breakthroughs (Nyhart and Dauer 1986, Nyhart and Samarasan 1989) Pressure for premature convergence may be reduced through using media that slow down the pace of negotiations. Hiltz and Turoff (1989) observe that text-based computer conferencing allows time for reflection on ideas, which might prevent the formation of bandwagons. Certainly, text-based negotiations are slower than those conducted FTF (Johansen et al. 1979). However, Fanning and Raphael (1986) note that "typed text is not adequate for rich discussions" (p. 305), such as those required in negotiations. In text-based negotiations, critical discussion is greatly enhanced through the anonymous input of

ideas (Jessup et al. 1988). This anonymity and slow input may preclude premature convergence, especially in multiparty negotiations.

To the extent that media either promote the hardening of positions or encourage parties to compromise and move, they influence whether a solution emerges. Putting things in writing and crystalizing a public commitment may make positions rigid. Johansen et al. (1979) review studies that show how text-based negotiations take more time and are more susceptible to problems of rigidity than are those conducted through other media. But FTF negotiations are not immune to these problems. Studies show that opinion changes with video and audio messages are greater than they are with FTF; hence, direct personal contact may enhance rigidity (Johansen et al. 1979). Poole (1991), however, reports no evidence of rigitity using NSS in FTF meetings. Ideas and votes are displayed publicly, but without identifying who expressed them. Nyhart's reviews of modeling indicate how to prevent rigid commitment by providing an external objective model with which the parties can work (Nyhart and Dauer 1986, Nyhart and Samarasan 1989).

Self-presentation

Negotiation also entails self-presentation and assertiveness, see Figure 2.1. Parties act toward others on the basis of their perceptions of the other person's power, determination, legitimacy, trustworthiness and fairness (Rubin and Brown 1975). Hence, parties are faced with the task of presenting themselves in the best possible light, a task usually accomplished through interaction. A second influence on self-presentation is the attribution process (Thomas and Pondy 1999). Negotiators typically attribute more competitive motives to others than to themselves, which promotes escalation and makes integration difficult. If such a situation occurs in a combination with a low degree of affiliation, a lose-lose situation (turtle) would be the result, see Figure 2.1. Third, face-saving processes, as Folger (Folger and Poole 1984) describes, often make differentiation difficult and block efforts to reach integration. Media change the nature of self-presentation. Namely, text, audio, and, in some cases, computer support prevent parties from using non-verbal means of presenting self. Morley and Stephenson (1977) conjecture that formal media, such as text and computer support, discourage personal expression. However, Fanning (1986) claims that text-based computer enables self-presentation through the use of graphics and emotional subtleties in writing. Other research suggests that there are no differences in self-disclosure between audio and FTF conditions (Smith and Vanacek 1988), even though people may disclose more in CMC than they do in FTF meetings.

Siegel et al. (1986) suggest that text-based computer conferencing depersonalizes or deindividualizes communication, which results in two possible effects on self-presentation. First, because the personhood of the other is de-emphasized, parties are less likely to use personality as an explanation for the conflict than they are in FTF meetings. Hence, they will be less likely than in FTF negotiations to attribute competitive motives to the other party. This impact may promote an integrative orientation if parties invest less of themselves in the conflict and reduce the salience of self-presentation and face-saving (Hiltz and Turoff 1978). Depersonalization, however, may result in exchanging minimal information because the parties do not think the information is important to communicate. In intense conflicts or competitive climates, failure to exchange information may result in attributing extreme motives to the other party, especially in the absence of corrective feedback. These effects apply primarily to text-based media. Williams (1977) reports no differences in the accuracy of impressions between audio, video, and FTF communication.

Climate

A fourth task is to build an appropriate climate for negotiation. While in the integration phase a cooperative climate is more useful, a competitive climate is sometimes helpful during the differentiation phase (Folger and Poole 1984). Of the two climates, the cooperative one is harder to create and maintain in the face of differences. One process that builds a cooperative climate is discovery of similarities in attitudes, values, and goals by the two parties (Folger and Poole 1984). Another process that contributes to cooperative climates is supportive communication. Media-related factors may influence the general climate for negotiation. First, media may affect the expression of emotion. Siegel et al. (1986) note that there are more incidents of flaming (uninhibited behavior and name calling) in text-mediated computer conferences than in FTF discussions. Other studies, however, find no evidence of flaming in either FTF or text-only conferences (Fanning and Raphael 1986, Poole, 1991; Hiltz and Turoff, 1989). This inconsistency may stem from a lack of norm formation in groups. Negative expressions may also result from frustration among new users who, with experience, reduce the tendency to flame (Poole, 1991). Second, media may affect the development of a sense of commonality among parties. Jessup et al. (1988) report that a shared textual display provides a common focus and benefits agreement in FTF groups. This result also occurs in studies of decision modeling (Watson et al., 1988. In a summary of several studies, Nyhart (Nyhart and Samarasan, 1989) concludes that asynchronous text-based computer conferencing increases affective ties and personal interaction between individuals that allows some parties to bypass the typical social protocols (Fanning and Raphael, 1986). However,

on the down side, the need to type while using computer support in FTF situations may reduce listening (Jessup et al., 1988) and diminish the parties' abilities to discover similarities. However, this limitation may be offset by the tendency to increase self-disclosure with computer support. Video media improve listening since the parties that are communicating over video spend more time on either sending or listening as opposed to doing both at once (Williams, 1998). Generally, Morley and Stephenson (1977) argue that formal media (text, video, computer support) lead to more attentive listening than do other media.

Media impacts depend on the existing climate. Generally, media with indirect rather than direct contact result in better negotiated outcomes in competitive than in cooperative climates. Text, audio, and media with reduced eye-contact lead to better negotiated outcomes than FTF in competitive or individualistic climates, but not in cooperative ones (Barefoot and Strickland, 1982). With FTF plus NSS support for negotiations, parties with low levels of conflict report high degrees of suspicion of the other bargainer while those with high levels of conflict report positive impressions (Jones and Jelassi, 1988). They also note that computer support helps in situations with a competitive climate and hurts in circumstances with a cooperative climate. The way how the medium influences the negotiation strategy in a cross- and inter-cultural context will be investigated in Chapter 4 and Chapter 5, where some further investigations into the interaction between medium, culture and negotiations in a (non-)cooperative climate will be analyzed.

Balance of Power

The final task in a negotiation is to manage the balance of power between the two parties. It is not necessary that the two negotiators be equal in power; however, it is necessary that power kept balanced. Otherwise, the incentive for the powerful party to negotiate is minimal. The low-power party is also likely to resist negotiation if he or she is subjected to the control of the other. Folger and Poole (1984) summarize dilemmas that power imbalances create for both the strong and the weak parties. One factor that influences the balance of power is the amount of participation by the two parties. Influence in a discussion is strongly related with speaking time. Any mechanism that can balance participation will promote a balance of power. A second factor that affects balance of power is the degree to which the negotiation places checks on the resources that parties can use. Ideally, participants should have access to the same or equivalent sets of resources. In this case, reason and discussion are more likely than material resources to determine the outcome of the negotiation (Folger and Poole, 1984). To exert influence, parties must participate in the

discussion. Imbalances in participation often lead to power asymmetries. A noteworthy feature of FTF communication is the tendency for one or a few discussants to dominate the floor, which enhances their ability to control the discussion (Sebenius 1981). Other media may alter participation opportunities and hence shift power. Barefoot and Strickland (1982) observe that video, compared to FTF, weakens the forces of emergent leadership. Three studies of text-based computer conferences, however, report no differences between group members in relative participation or influence (Siegel et al., 1986). This same finding appears in five studies of FTF plus NSSs (Gallupe et al., 1988; Pruitt and Rubin, 1986). In these studies, the balance of influence results from the procedural constraints that the media place on participation (for example, video media employ rules for controling the floor) and from technical features that enable simultaneous idea entry and expression. Specifically, a NSS may support electronic brainstorming in which all members enter ideas simultaneously. These features may not prevent imbalances, as Poole (1991) shows. A skillful or powerful member may use the technology to maintain his or her dominance, as Ho et al. (1989) indicate.

Media other than FTF also offer different resources to use for influence attempts. Nyhart and Dauer (1986) refer to “the battle of the printout”, in which computers and computer models are used to convince or to confuse the opposition. Sambamurthy and Poole (1991) suggest that text-based computer conferencing discriminates in favor of the literate and educated. As previously mentioned, negotiators who are comfortable with computers may have an advantage, at least in the early stages of a negotiation. Johansen et al. (1979) note that in videoconferences, parties with television skills, such as knowledge about the use of camera angles, may be more effective than negotiators who lack these skills. This result shows that the medium on the one side and the negotiator’s skills on the other side may influence the negotiation outcome. In this context, it would be interesting to see how the context and/or the negotiator’s culture influences the negotiation strategy and the outcome. Moreover, the question how these three dimension of medium, (innovation-)context and culture interact. This paper tries to answer those questions in the framework of experimental studies which are presented in Chapter 5.

2.4. Negotiations from an economic perspective: Organization and game theory

Organization theory is a relevant topic of this PhD study: Chapter 4 builds up a bridge between organization theory and discourse while presenting this study’s research framework. Chapter 6 views organization and game theory from a critical perspective

by showing ist limitations and suggesting possibilities for effective negotiation behavior. After presenting classical organization theory, the following Section 2.4 will explain the basics of game theory as an extension to classical organization theory.

2.4.1. Classical organization theory and its limitations

When F. Taylor (1907) investigated the effective use of human beings in industrial organizations, he set himself substantially the general task of organization theory: to analyze the interaction between the characteristics of humans and the social and task environments created by organizations (March and Simon, 1993). The actual area of behavior that was considered by Taylor and his successors in the scientific management movement was much narrower, however. Taylor's focus of attention was plant management. He argued that labor problems (waste, low productivity, high turnover, soldiering, and the adversarial relationship between labor and management) arose from defective organization and improper methods of production in the workplace. Production, he contended, was governed by universal and natural laws that were independent of human judgment. The object of scientific management was to discover these laws and apply the "one best way" to basic managerial functions such as selection, promotion, compensation, training, and production. Taylor advocated using time and motion studies to determine the most efficient method for performing each work task, a piece-rate system of compensation to maximize employee work effort, and the selection and training of employees based on a thorough investigation of their personalities and skills. Business negotiations - a focus of this PhD study - were not considered in his theory since an omnipotent foreman gave detailed orders in the form of work descriptions that had to be followed by his subordinates. Taylor also promoted changes in the organizational structure of the firm, such as replacing the single omnipotent foreman in charge of all aspects of production and personnel management in a given department with several foremen, each of whom would be trained in the knowledge and skills of a specific functional activity (e.g., productivity, machine repair, quality assurance). Similar to Taylor, Fayol was a key figure in the turn-of-the-century Classical School of management theory. He saw a manager's job as:

- planning
- organizing
- commanding
- coordinating activities
- controlling performance

Most of these activities are very task-oriented, rather than people-oriented. This is very like Taylor's theory on scientific management. Fayol's (1916) theorising about administration was built on personal observation and experience of what worked well in terms of organization. Max Weber, who published roughly in the same period as Taylor and Fayol, was the father of modern bureaucracy. Weber (1921) argues from a purely technical point of view that a bureaucracy is capable of attaining the highest degree of efficiency, and is in this sense formally the most rational known means of exercising authority over human beings. According to Weber, it is superior to any other form in precision, in stability, in the stringency of its discipline, and in its reliability. It thus makes possible a particularly high degree of calculability of results for the heads of the organization and for those acting in relation to it. He stresses that it is finally superior both in intensive efficiency and in the scope of its operations and is formally capable of application to all kinds of administrative tasks.

In the case of classical administrative science, the problems of making operational the definitions of key variables and of providing empirical verification for those propositions that can be made operational seem particularly pressing. As for the limitations, five basic ones can be mentioned (March and Simon, 1993): (1) The motivational assumptions underlying the theories are incomplete and consequently inaccurate. (2) There is little appreciation of the role of intraorganizational conflict of interests in defining limits of organizational behavior. (3) The constraints placed on the human being by his limitations as a complex information-processing system are given little consideration. (4) Little attention is given to the role of cognition in task identification and classification as well as in decision. (5) The phenomenon of program elaboration receives little emphasis.

Paired with each of these limitations in the classical approach to scientific management is a body of research and theory that has developed in recent years. Classical organization theory is considered to represent only a quite small part of the total theory relevant to organizational behavior as it regards the employee as an “instrument”. However, the organization member might also be considered to have a different set of qualities: His characteristics as a rational man. How does this "rational man" compare with that of the classical "economic man"? The rational man of economics and statistical decision theory makes "optimal" choices in a highly specified and clearly defined environment (March and Simon, 1993):

1. When we first encounter him in the decision-making situation, he already has laid out before him the whole set of alternatives from which he will choose his action. This set of alternatives is simply "given"; the theory does not tell how it is obtained.

2. To each alternative is attached a set of consequences - the events that *will* ensue if that particular alternative is chosen. Here the existing theories fall into three categories:
   - *Certainty:* theories that assume the decision maker has complete and accurate knowledge of the consequences that will follow on each alternative.
   - *Risk:* theories that assume accurate knowledge of a probability distribution of the consequences of each alternative.
   - *Uncertainty:* theories that assume that the consequences of each alternative belong to some subset of all possible consequences, but that the decision maker cannot assign definite probabilities to the occurrence of particular consequences.

   Those categories may be a matter of a gradual scale (Ulijn and Verweij, 2000): Uncertainty reduces to certainty when communicators have confidence in their abilities to predict other people's behavior in interactions, and are able to explain what is occurring in the interaction.
3. At the outset, the decision maker has a "utility function" or a "preference ordering" that ranks all sets of consequences from the most preferred to the least preferred.
4. The decision maker selects the alternative leading to the preferred set of consequences.

In the case of *certainty,* the choice is unambiguous (see also Ulijn and Verweij, 2000). In the case of *risk,* rationality is usually defined as the choice of that alternative for which the expected utility is greatest. Expected utility is defined here as the average, weighted by the probabilities of occurrence, of the utilities attached to all possible consequences. In the case of *uncertainty,* the definition of rationality becomes problematic. One proposal that has had wide currency is the rule of "minimax risk": consider the worst set of consequences that may follow from each alternative, then select the alternative whose "worst set of consequences" is preferred to the worst sets attached to other alternatives. There are other proposals (e.g., the rule of "minimax regret"), but they shall not be discussed here.

There are difficulties with this model of rational man. In the first place, only in the case of certainty does it agree well with commonsense notions of rationality. In the case of uncertainty, especially, there is little agreement, even among exponents of statistical decision theory, as to the "correct" definition, or whether, indeed, the term "correct" has any meaning here (Marschak, 1950). A second difficulty with existing models of rational man is that it makes three exceedingly important demands upon the choice-making mechanism. It assumes (1) that all the alternatives of choice are "given"; (2) that all the consequences attached to each alternative are known (in one

of the three senses corresponding to certainty, risk, and uncertainty respectively); (3) that the rational man has a complete utility-ordering (or cardinal function) for all possible sets of consequences. One can hardly take exception to these requirements in a normative model - a model that tells people how they *ought* to choose. For if the rational man lacked information, he might have chosen differently "if only he had known." At best, he is "subjectively" rational, not "objectively" rational. But the notion of objective rationality assumes there is some objective reality in which the "real" alternatives, the "real" consequences, and the "real" utilities exist. If this is so, it is not even clear why the cases of choice under risk and under uncertainty are admitted as rational. If it is not so, it is not clear why only limitations upon knowledge of consequences are considered, and why limitations upon knowledge of alternatives and utilities are ignored in the model of rationality.

From a phenomenological viewpoint we can only speak of rationality relative to a frame of reference; and this frame of reference will be determined by the limitations on the rational man's knowledge. We can introduce the notion of a person observing the choices of a subject, and can speak of the rationality of the subject relative to the frame of reference of the observer. However, the classical organization theory described in the previous section, like classical economic theory, failed to make explicit this subjective and relative character of rationality, and in so doing, failed to examine some of its own crucial premises. The organizational and social environment in which the decision maker finds himself determine$_s$ what consequences he will anticipate, what ones he will not; what alternatives he will consider, what ones he will ignore. In a theory of organization these variables cannot be treated as unexplained independent factors, but must themselves be determined and predicted by the theory.

Satisfactory versus optimal standards

What kinds of search and other problem-solving activity are needed to discover an adequate range of alternatives and consequences for choice depends on the criterion applied to the choice. In particular, finding the optimal alternative is a radically different problem from finding a satisfactory alternative (see Figure 2.6 for aspiration and satisficing levels in negotiations). An alternative is *optimal if:*

1. there exists a set of criteria that describes minimally satisfactory alternatives, and
2. the alternative in question meets or exceeds all these criteria.

An alternative is satisfactory if:

1. there exists a set of criteria that describes minimally satisfactory alternatives, and

2. the alternative in question meets or exceeds all these criteria (March and Simon, 1993).

Most human decision-making, whether individual or organizational, is concerned with the discovery and selection of satisfactory alternatives; only in exceptional cases is it concerned with the discovery and selection of optimal alternatives. To optimize requires processes several orders of magnitude more complex than those required to satisfice. In making choices that meet satisfactory standards, the standards themselves are part of the definition of the situation. Hence, we need not regard these as given, but may include in the theory the processes through which these standards are set and modified. The standard-setting process may itself meet standards of rationality: for example, an "optimizing" rule would be to set the standard at the level where the marginal improvement in alternatives obtainable by raising it would be just balanced by the marginal cost of searching for alternatives meeting the higher standard. In practice, the "marginal improvement" and the "marginal cost" are seldom measured in comparable units, or with much accuracy. Nevertheless, a similar result would be automatically attained if the standards were raised whenever alternatives proved easy to discover, and lowered whenever they were difficult to discover. Under these circumstances, the alternatives chosen would not be far from the optima, if the cost of search were taken into consideration. Since human standards tend to have this characteristic under many conditions, some theorists have sought to maintain the optimizing model by introducing cost-of-search considerations. Although it might be doubtful whether this will be a fruitful alternative to the model proposed by March and Simon (1993), neither model has been used for predictive purposes often enough to allow a final judgment.

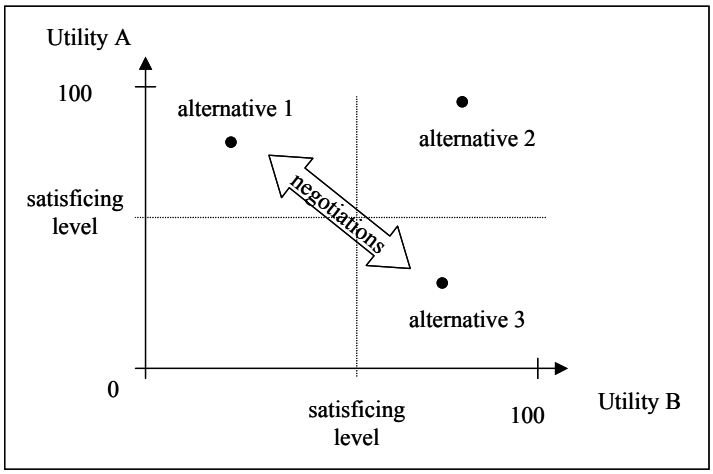

Figure 2.5: March and Simon's concept of satisficing as related to negotiations (adapted from March and Simon, 1993)

Figure 2.5 visualizes March and Simon's (1993) concept of satisficing as opposed to optimizing: According to classical theory, both person A and B would try to reach their highest utility according to their utility function. However, satisficing means that they will go for a satisficing level, as indicated inFigure 2.5. If we consider an action-set of 3 alternatives (alternative 1, 2 and 3), we can claim that alternative 2 will be immediately accepted by both A and B because this alternative is above both person's satisficing level. However, alternative 1 and/or alternative 3 are below the satisficing level of one person and above the one of the other person. Thus, the person who experiences the alternative to be below his or her satisfactory level will try to start a negotiation with his/her opponent in order to reach an agreement that is above his/her satisfactory level. In such a negotiation, a deal is only possible if the satisficing level (indicating his BATNA) of one negotiator is below the aspiration level (indicating his maximal utility) of his counterpart, see Figure 2.6. As Figure 2.6 highlights, this is not the case if there is no overlapping of those two levels.

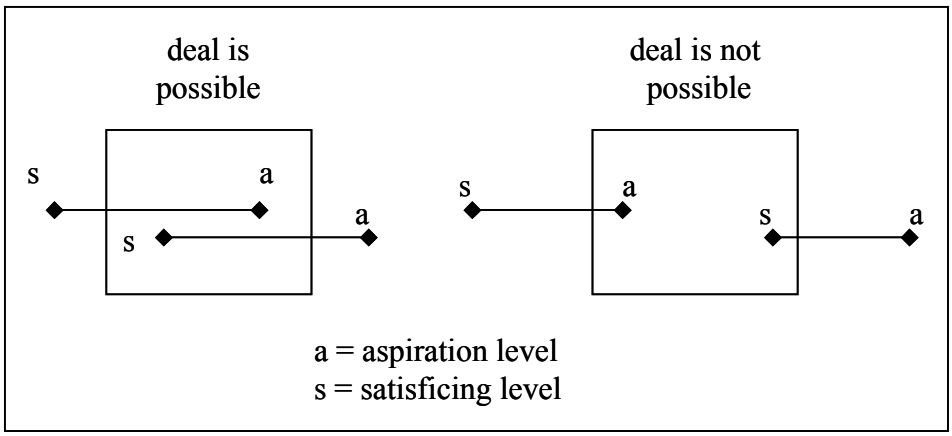

Figure 2.6: Aspiration and satisficing levels in negotiations

In recent years, the theory of negotiating has been of particular interest to game theorists. Attempts have been made to apply game theory to conflict among firms in an oligopolistic industry, among political parties in a democratic nation state, and among nations. Without attempting to review the entire literature that has grown aroung game theory since it was first presented by von Neumann (1937) and subsequently von Neumann and Morgenstern (1944), the next section on game theory indicates what kinds of problems it has attacked.

2.4.2. Game theory

The problem at hand is opportunity lost. Why is it that in so many business negotiations value still remains unclaimed on the table? Why do negotiators leave so many bargaining sessions with their objectives not even articulated, let alone met? Why do "tough compromise" negotiated deals so often turn out to be suboptimal and unsatisfying to all concerned? Surely this cannot be rational behavior. The problem becomes even more perplexing when we realize that the negotiators in question are often not unskilled. To the contrary, it can be contended that they reach these results precisely *because they are* skilled. Consciously or unconsciously, they are following a philosophy of business negotiations which is based on a *received theory of economic rationality***.** And that theory is captive to its assumptions about the way in which rational human beings deliberate about what to do. This received theory of economic rationality finds its most powerful form of expression in the calculations of *decision and game theory.* Here, rationality assumptions can not only be articulated, but also quantified and put to work to find practical answers to negotiation challenges. By modeling decisions as decision trees and strategic interactions as games, economists have been able to offer quantitative solutions to a wide variety of difficult qualitative

problems, especially those involving conflict between parties. Properly applied, their work has thus produced a number of *prescriptive guides to negotiations.*

Such a prescriptive guide takes its strength first of all from its descriptive accuracy; it puts forward an idealized model which abstracts from but is faithful to the fundamental thinking of an economically rational actor in the real world. And because it understands the thinking of that actor, it can accurately *predict* what she will do in a situation or conflict. This knowledge, in turns, provides the legitimacy for the theory to advise her opponent on what she *should do* to win in a negotiation against her, given that information. It directs the negotiators to act on these assumptions, confident that opponents can be counted on to do the same. Thus, the theory's descriptive and predictive powers give it normative strength as well. It is unfortunate that, despite their formidable analytic power and observed widespread sense, such guides to negotiations are often in the end both insufficient and self-defeating. They are insufficient because the empirical evidence shows that their predictions and prescriptions about rational economic behavior often fail to accurately depict the ends or goals which negotiators are in fact seeking to achieve. And they are self-defeating because, even when striving to reach the ends which are reflected in the theory, negotiators find that they are often directed to suboptimal results. The observed failures in negotiation results are not due to inadequacies in the mathematical formulae of decision and game theory but are rather the fault of inadequate assumptions about rational human behavior on which these rely. These are inadequate in that they fail to accurately describe how agents really behave in situations of conflict. More importantly, it will be contended that they are also an insufficient foundation for a prescriptive guide to how negotiators *should behave.* Because the model falls short as a *descriptive* and *predictive* tool, it also loses its *prescriptive* validity. The evidence for this is not only anecdotal, but can also be drawn from s substantial and growing body of literature in game theory and in experimental economics. And so, to make progress, on this front, these assumptions need to be questioned. We must rethink the whole concept of economic rationality.

Theoretical foundations: a primer on game theory

Any attempt to adequately present and analyze the fundamental tenets of game theory would require a breadth and depth of analysis that go well beyond the scope of this book. Thus, in these few words, it is impossible to do justice to even its most basic insights into conflict and cooperative behavior. The selected approach, therefore, will be to focus on the scientific *underpinnings.* What are the assumptions about economic rationality that drive the numbers? The specific "numbers" of applied game theory that are of particular interest are those which determine the *game solution* (which will

be called *optimality)* and their divergence with *equilibrum*. Understanding how this divergence comes about necessarily involves a distinction between individual and collective rationality. And it is illustrated by some of the more accessible depictions of the theory such as the *prisoner's dilemma*, the *centipede* and the *coalitional core*. These pictures will be useful as the negotiating dilemmas will be reexamined. The primary focus in this analysis will be on non-cooperative game theory, i.e. that branch of the discipline which deals with strategic partners with at least partially divergent interests. Once equilibria for such games have been located, then the focus will be on the difficult question of bargaining: through what specific negotiation moves can players get to and, if necessary, improve on these equilibria?

Solving negotiation as games

The purpose of game theory, certainly as it is applied to business negotiation problems, is to solve conflict situations: to locate the best solution set towards which rational players will naturally move, ceteris paribus. As such, it is a result-oriented discipline: it seeks to provide practical help to those involved in such situations by telling them what they *should* do. Game theory can elucidate virtually any human social interaction involving conflict and/or cooperation, and applications are wide, ranging from international politics to macro- and microeconomic questions to even trivial everyday disputes. The focus in this study is only on business negotiations: across-the-table FTF encounters by businesspeople ("rational economic agents") with some converging but also widely diverging interests. If game theory is to serve as the foundation for a prescriptive guide to business negotiations, it cannot focus only on helping one side of the table to win. Instead, as a first step, game theory must help the players first find the overall best solution set to a negotiation, i.e. one that will provide the highest satisfaction available to both parties. Only through such collectively rational behavior can negotiators hope to jointly produce the largest possible "cake" of benefits for their later distribution and enjoyment. At the same time, they want to know how they, as rational negotiators, can ensure that they get to that solution. And they will then each seek to acquire as large a share of the available benefits of the deal - the "cake" - as possible for themselves. They aim to be not only collectively but also individually rational as well. They seek to win. Seen from an impartial perspective, therefore, game theory must answer two questions as it is applied to business negotiation problems. First, what is the overall best answer to the dilemma of the divergent interests between the parties (the question of optimality? Second, what is the result that rational negotiators will naturally choose (the question of equilibrum) if they are allowed to negotiate unimpeded?

The search for optimality

The overall "best " solution to a negotiation is the one that is collectively rational. Its objective (and the standard by which it should be judged) is to capture as much negotiating benefit "from the table" as possible. It seeks above all to create the largest possible "cake" to be divided between the negotiators. It does not directly concern itself with how the cake is divided, i.e. with the relative size of the two pieces, but only with the size of the whole. It seeks to maximize overall returns to the players in the game. The author will contend that a game-theoretic definition of optimality in negotiations must be some derivative of the familiar economic notion of Pareto-efficiency. As in virtually all other branches of the economic and social sciences, and as exemplified in the First Welfare Theorem, this tool gives the best "bird's eye" answer to the general question of maximizing overall returns within the constraints of a system. Under my definition, optimality in negotiations is therefore that result which allows for no other feasible allocation of returns which would make all parties to the *negotiation* at least as well off, and which would improve the return to one party without *reducing* the return to the other. Note that this definition has as yet nothing to say about equity of distribution: it deals only with *efficiency.* It has no opinion on what is fair, still less how much each negotiator should take away from the table, and therefore no prescription for individual success in negotiations. It merely postulates that between them, the negotiating parties should capture the maximum amount of return available, given the constraints of the negotiating situation. The solution also does not postulate a particular point, but rather a curve or line; it therefore does not produce the "best" outcome, but only the set *of* best outcomes. In most negotiations, there are many "optimal results" depending on how the return is distributed between the players. Individual players may indeed have incentives to move along the line to a point which confers a greater portion of the created benefits to them. But they will have no reason to shift away from the line: moving outwards is impossible due to constraints, and moving inwards sacrifices joint benefits and worsens the deal. All that Pareto-efficiency dictates is that the solution to the negotiation lie somewhere on what might be called the *"negotiation* possibility frontier", see Figure 2.7.

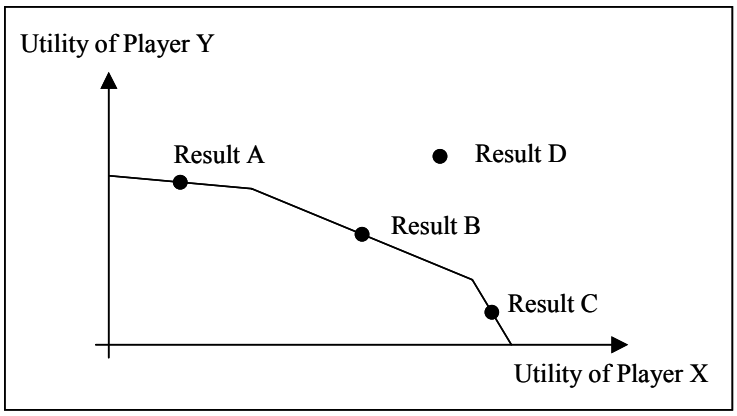

Figure 2.7: Pareto-efficiency prescribes a negotiation result on the "negotiation possibility frontier"

On this map, any point on the curved line would be a Pareto-efficient outcome. This is so because this line also represents the contract curve, i.e. the best tangency point of the indifference curves of the two players as they face each other with opposing interests. In game-theoretic parlance, it represents the area where both maximize available utility. Note that any of the negotiation results A, B or C would qualify as Pareto-efficient, i.e. "optimal" outcomes, although Player Y will certainly prefer A and Player X will prefer C. Which results depends on the relative negotiating power of the two players as they discuss distribution of benefits, but Pareto-efficiency is neutral between them. Result D, on the other hand, is not a feasible outcome: it lies beyond the area of available utility for the players and thus violates the game's constraints. Note further that the concept of Pareto-efficiency is ordinal *and* compares vectors of utilities; it does not depend on cardinal utilities or interpersonal comparisons of utility. between players for its predictive power. It judges the actions of each player by the subjective value of an outcome to him. As in economics in general, it seeks to depict, through indifference curves, the maximum amount of utility to be had, and thus defines the outer limits of the negotiation. It requires only that negotiators reach a solution at that limit, and leaves the dividing (and comparison) of the utility between players up to them. Finally, the picture provided by the model of Pareto-efficiency is a static one. In keeping with the overall approach of game theory, the author has limited his standard to one which can describe fixed results to a negotiation in advance of the bargaining session. This assumption is also open to question; the negotiation possibility frontier is, as can be argued, a moving target, and can be shifted even further out in the course of the strategic interaction as emergent objectives on both sides of the table redefine the interaction. For the time being, however, let us judge game theory on its own terms and allow Paretoefficiency to measure the overall success of a negotiation. If this is so, than ideally rational individual negotiators will also be collectively successful, so that the natural solution

to the negotiation problem for each side will lie on the negotiation possibility frontier prescribed by the concept of optimality. This is, however, unfortunately not always the case.

Game theory with respect to computer-mediated negotiation
Game theory may be seen as the mathematical study of conflicts (Binmore and Vulkan, 1999, Jones, 1980). Since negotiation is used for resolving conflicts, game theory has been applied to analyze negotiation processes. It focuses on the prediction of whether or not an agreement can be reached and if so, the nature of that agreement. Another focus of game theory is the negotiation mechanism design: the definition of protocols that limit the possible strategies used by players and the mechanism to achieve Pareto optimal outcome for all the negotiation participants (Zlotkin et al., 1996). This is useful since, in game theory, it is assumed that the negotiation participants are rational and have complete information about the other players. If game theory were able to derive several (preferably only one) strategies that are suitable for the negotiation, the negotiator would mechanically follow the strategies and get the optimal outcome. Unfortunately, in the case of real world negotiations, rationality and complete information assumptions are usually not valid. The lack of any of the assumptions may lead to a wrong predication in the game theory paradigm. (Myerson and Satterthwaite, 1983) has shown that, in the situation of incomplete information, a rational game player (negotiator) may fail to reach an agreement despite the existence of an agreement zone. Moreover, since game theory is mainly used to predict the outcome of the negotiation process, it can not determine how to obtain the outcome through interactions between players or how to select an optimal negotiation strategy in a negotiation process.

2.5. Negotiating in Innovation Management and Operations Management settings

This paper deals with the interaction between medium, innovation context and culture. In general, one can imagine several variables that might influence negotiation strategies: Medium, context and culture. After a literature survey about the medium and its interrelation with business negotiations was presented in the previous sections, this section about OM and IM will present the general ideas of those two concepts in order to give a clear basis for the experiments (Chapter 4 and Chapter 5) which take place in an OM and IM context.

Innovation Management

The English word innovation literally means newness or difference. To innovate means to make changes, to introduce new things (Oxford Advanced Learner's dictionary, 1993) or to bring in new methods and ideas (Concise Oxford dictionary, 1995). So, the word innovation can be interpreted in business as creating newness or difference in the way an organization doing business (Ulijn and Weggeman, 2000). This newness or difference can be introduced in the way they design the product, the way they produce the product, the way they market the product, or in the design of the product itself. According to Nagel (1998) innovation is a broad concept, that includes both technological (product and process on strategic and operational levels) and non-technological aspects. It is a successful market introduction of a knowledge-intensive renewed or improved product, process or service. This implies that knowledge and IM are related concepts. Since knowledge is more than data and information (see Davenport and Prusak, 1998) and is both tacit and explicit (see Nonaka and Takeuchi, 1995), fostering an innovative climate in a firm would include that aspect of the human resources (or better capital) available as well. Hence, management of technical innovation could be defined as *the planning, administration and evaluation of all activities directed to the successful introduction of that innovation into the market place*, as defined above, *including its knowledge aspects*. A simple definition of IM could be: Bringing new products or processes to the market successfully, hence it is more than just creating or inventing new things. This type of management should be clearly differentiated from operations or logistic (supply chain) management, being also an indispensable element in the actual final innovation performance result.

Companies have a special problem in breaking away from bureaucracy and idea killing procedures and most of them have to be innovative in order to survive. This necessity, dictated by the environment in Western high-income countries, creates at least two major headaches for the management of these organizations:

1. The minimization of the costs of product life-cycles that are becoming increasingly shorter and
2. the reduction in the time-to-market. This with the aim of having a product with the longest possible life- cycle and being able to profit from the attractive margins of standard-setting and *me-first* products.

Both of these management concerns provide strong arguments for the case for developing an organization that is pre-eminently suitable for the realization of rapid innovation. As regards ‘the past’ and compared to companies that practice a *me-too*

strategy, such an organization must distinguish itself by, among other things (Ulijn and Weggeman, 2000):

- a higher R&D budget
- more knowledge-intensive product-creation processes
- further concentration on core competencies
- fuller and broader participation in networking
- increasing flexibility in the number of employees and more contracting out
- consciously introduced redundancy in organization structures as is the case in fuzzy and hypertext structures
- more efficient internal and external communication systems
- speedier decision-making concerning strategic investment decisions
- a more synergy-oriented teamwork culture.

This brings Twiss (1986) to argue that the critical factor of survival and growth of such firms should lead to an effective IM, which plans and controls for processes to reach the intended innovation performance, to make an appropriate use of the available resources and to learn from the failures in order to be successful by improved decision making processes. A key in this seems to be how to measure innovation performance and how to identify the effective strategies to attain the goals set. Kleinknecht (1993 and 1996) has not only outlined some indicators, but also tested their validity and reliability. It became clear that the very popular patents counting is only one factor to measure the innovation performance of KTIO's. Moreover, Kleinknecht and also Miles (1994) demonstrated that the innovation performance of the growing service sector could not use such indicator. Other indicators, such as profit margins, market share, complying with project budgets, on time launch, R&D hit rate (i.e. all R&D projects that have a lead a successful introduction of a new product on the market) and percent of revenues from new products or service would make the output of Figure 2.8. very concrete. This same figure might depict how an ideal management process might work. Wheelwright and Clark (1992) did a very meticulous analysis of product development in different cases, such as at Northern Electronics, Hewlett Packard, and Honda to conceptualize a development strategy including pre-project and aggregate project planning, cross-functional integration between marketing, engineering and manufacturing, organizing and leading project teams and tools and methods to test prototypes in cycles. They used the metaphor of the funnel to learn from projects how to build a development capability of a firm.

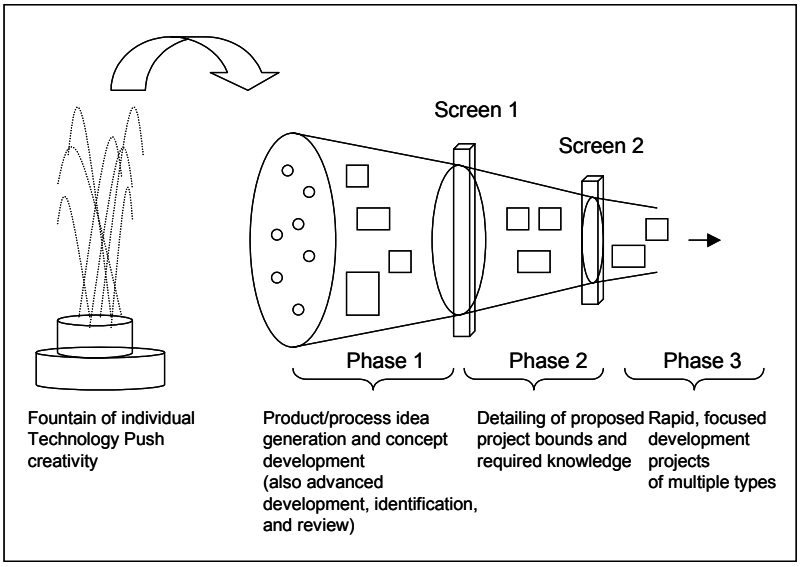

Figure 2.8: The ideal innovation management process with its three phases how toachieve innovation (Ulijn and Weggeman, 2000)

In the initial stage, there is the fountain of creative ideas from individuals anywhere in the firm (see Neuijen, 1992) on the basis of their tacit or explicit Technology Push (TP) knowledge. Neuijen brings this already to the level of a type of CC, the one that could be distinguished from an echoing well (internalizing type) or a sluice (conforming type) both being more followers of an innovation of somebody else than the trendsetters or initiators of that innovation. The right organizational climate for the fountain should encourage the curiosity of individuals to cherish their creativity. In this stage there is a risk of divergence of too many unrealistic drops of ideas, so a funnel of teambuilding makes sure that best ideas are identified, accepted and developed or designed until a first screening in a first phase. The water that sprays in all directions flows back into a funnel. The second phase proposes more detailed project bounds made ready for a go/no-go decision leading to a phase 3 where approved projects are staffed and moved toward rapid introduction through a focused effort until the actual shipment of the products. This ideal IM process might not be always that linear, but even or more strongly in feedback loops an interaction with other parties such as suppliers and manufacturers who co-design products (see van Luxemburg and Ulijn, 2002), negotiation is required at all times to make important decisions such as at Screen 1 and at Screen 2, see Figure 2.8. The experimental studies in Chapter 5 deal with such a situation in which a manufacturer called RadioTech developed a new type of radio frequency (RF) power transistor and executives of RadioTech were faced with a problem of timing the introduction of this new product. The development of the new RF power transistor had been undertaken by RadioTech in response to a request from Ericsson, a manufacturer of radio base stations for mobile telecommunication and an important customer of RadioTech.The

ideal IM process of Figure 2.8 corresponds more or less with the model of Mathews and Van Houten (1990) which asks simple questions such as:

1. What is possible after a stage of uncertainty as the conception of idea with focus, locus, objectives and methodologies in a first phase?
2. How do we organize ourselves to meet the objectives (phase of creation)? 3. How do we bring it to the market (dissemination and adaption)? In this case there are 2 moments of go/no go between the different phases. Both approaches seem to be on a linear time line, but might not exclude some (partial) parallel actions such as between engineering (TP), marketing (Market Pull, MP) and production.

Operations Management
OM is concerned with the design and the operation of systems for manufacture, transport, supply or service. Since the nature of certain of the problems which face OM is influenced by system structure, the nature or role of OM is in part influenced by the structure of the operating system. Additionally the role of OM is influenced by the objectives which are adopted by or prescribed for OM, since these, together with the problem characteristics of the system, necessitate the use of particular OM strategies, i.e. the general approaches adopted for tackling problems (Wildemann, 1998). Here the two factors which influence the nature of OM will be considered, i.e. objectives and problems (Ulijn, Lincke and Wynstra, 2004).

The objective of operating systems is the conversion of inputs for the satisfaction of customer wants. Customer satisfaction is therefore a key objective of OM. Figure 2.9 identifies the main aspects of customer satisfaction for each function. Customers will want the outputs of the operating system - this is the primary condition for their being customers. Secondary considerations will, however, exist and for simplicity these can be considered in terms of costs and timing. Thus, using the classic `catch phrase', one objective of OM is to provide customer satisfaction by providing the `right thing at the right price and at the right time'. We shall refer to this as the objective of customer service. Given infinite resources, any system, however badly managed, might provide satisfactory customer service. Many organizations have gone bankrupt despite having loyal and satisfied customers. The problems and indeed the need for OM arise from the fact that operating systems must satisfy multiple objectives. Customer service must be provided simultaneously with the achievement of effective or efficient operation, i.e. effective or efficient utilization of resources. Either inefficient use of resources or inadequate customer service is sufficient to give rise to the `commercial' failure of the operating system. Using conventional definitions, i.e. `the ratio of useful output to input', efficiency would take a value between zero and unity. Although this

measure might be of relevance in essentially physical activities, it is inappropriate for organizations as a whole, since in many cases the objective will be to output more than is input, i.e. the concept of profit or ‚value-added'. For this reason, the term effectiveness might be preferred since it suggests perhaps the extent or degree of success in the achievement of given ends. OM is concerned essentially with the utilization of resources, i.e. obtaining maximum effect from resources or minimizing their loss, under-utilization or waste. The extent of the utilization of the potential of resources might be expressed in terms of the proportion of available time used or occupied, space utilization, levels of activity, etc. Each measure indicates the extent to which the potential or capacity of such resources is utilized. This shall be referred to as the objective of resource productivity. OM is concerned with the achievement of both satisfactory customer service and resource productivity. Operations managers must attempt to balance these two basic objectives. However, an improvement in one will often give rise to a deterioration in the other. Often both cannot be maximized, hence a satisfactory performance must be achieved for both, and sub-optimization must be avoided (Kaluza and Blecker, 2000). All of the activities of OM must be tackled with these twin objectives in mind.

The scope of OM is adequately indicated by the type of `headings' normally employed in most texts. These are the traditional problem areas or fields of activity of OM. They are listed, in life-cycle or chronological order, in Figure 2.9 (Wild, 1977).

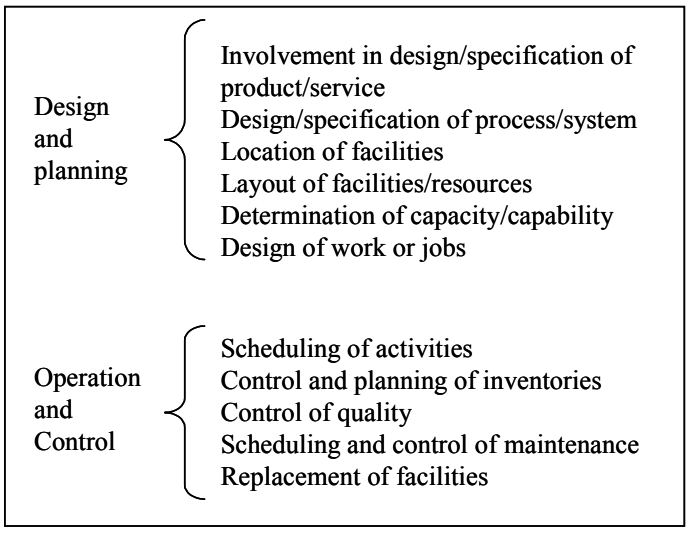

Figure 2.9: The scope of operations management (Wild, 1977)

OM will normally be responsible for the management of inventories; quality; the maintenance and replacement of facilities, and the scheduling of activities (Silver et al., 1998). Such responsibilities will be discharged in respect of an operating system

whose nature, location, layout, capacity and manning will have been largely determined by OM. Managers working in this function will also normally have some influence on the design or specification of the product or services, processes, manning policies and performance measurement. Whilst each of these problem areas are of importance in the effective planning and operation of the system, we can identify three areas which have a special significance for OM. Three problem areas in particular will influence the nature of OM. The type of problem faced by OM in each of these three principal problem areas will be influenced by system structure. These are the distinguishing or characteristic problem areas- unlike others in which the nature of the problems faced by OM is largely unaffected by system structure. Each basic system structure will have distinguishing characteristics because of the nature of the problems which occur in these three principal problem areas. Furthermore, decisions in each of these areas may affect system structure.

The relationship between IM and OM

In a negotiation situation, it is important to develop a positive climate, equal power distribution, and flexible procedure. In general, one could argue that OM settings are relatively less exposed to uncertainty and have less 'dimensions' on which such uncertainties may exist than IM settings. For example, a typical (simplified) OM issue relates to demand forecasting, where the variables usually are limited to quantity ('will we sell as much as in the previous period?'), product type ('will we sell more blue or more red widgets?') and time ('how will the sales be distributed in time?'). Similarly, a typical IM issue may involve a much wider spectrum of variables; when and where to introduce a new product, at what price, for which customer segments, at which quality level and with what kind of marketing, etcetera.

Such differences between IM and OM settings and conflicts may not only be evident regarding negotations *within* a single firm, but also *between* firms that are connected to each other in a buyer-supplier relationship. IM conflicts between buyers and sellers in a supply chain may be much more diffuse and ambiguous than OM conflicts. The question then is whether IM and OM settings require – or at least, induce - different negotiation strategies. To formulate some ideas around this, it may be useful to start from the more general literature on buyer-supplier relations, in which a broad distinction is made between transaction-oriented and relation-oriented purchasing (Axelsson and Wynstra, 2002, pp. 213-236). Transaction-oriented purchasing is geared towards creating competition between suppliers, which are kept at arm's-length, in order to get the most advantageous offerings, whereas the relation-oriented approach is more focused on creating advantageous exchanges with suppliers through intensive, close collaboration with a limited number of partners (Axelsson and

Wynstra, 2002; Gadde and Håkansson 2001; Dyer 2000; Araujo et al. 1999). Some of the most notable differences are listed in Figure 2.10.

Transactional approach	Relational approach
Many alternatives	One or few alternatives
Every deal is a new business, no-one should benefit from past performances	A deal is part of a relationship and the relationship is part of a network context
Exploit the potential of competition	Exploit the potential of co-operation
Short-term; arm's length distance, avoid coming too close	Long-term with tough demands and joint development
Renewal and effectiveness by change of partner, choose the most efficient supplier at any time	Renewal and effectiveness by collaboration and "team effects", combine resources and knowledge
Buying "products"	Buying "capabilities"
→ Price-orientation, strong in achieving favourable prices in well-specified products	→ Cost- and value-orientation, strong in achieving low total costs of supply and developing new value

Related to Operations Management Related to Innovation Management

Figure 2.10: Transactional vs. relational purchasing approach (adapted from Axelsson and Wynstra, 2002)

An important element in this 'collaborative' approach is joint product development; customers that adopt a relational-oriented approach towards their suppliers are much more focused on product development collaboration than transactional-oriented buyers (Araujo et al., 1999). One could even argue that a collaborative approach is necessary for joint product development to take place, since ".. the use of collaborative arrangements allowing for mutual access to internal processes will facilitate both the development and the transfer of tacit knowledge" (Sobrero and Roberts, 2002; see also Gulati, 1998). Equally, for those suppliers that are facing such 'collaborative' customers it makes much more sense to engage in joint product development activities since it is much more likely that such activities will be rewarded economically in the future; collaboration extends 'the shadow of the future' (Heide and Miner, 1992). In other words, it seems that especially in IM settings, a 'cooperative' buying and negotiating behavior is more likely to occur. As the transactional approach is more general with the rules in place and a short-term orientation, one can argue that it is related to OM, whereas the relational approach comprises less rules how to proceed and thus rather refers to IM.

To achieve one's negotiation goals, either a win-win negotiation strategy or a win-lose strategy can be chosen (see Table 2.1), and negotiation performance requires a fine-tuning of such goals. In particular in an IM setting this might be less obvious than in an OM setting, such the case of the customer satisfaction with the printer. In a setting where two different firms meet: one on the R&D side RadioTech and one on the manufacturing side Ericsson goals may be far apart. Nauta and Sanders (2001) could ascertain in 11 manufacturing firms with 120 employees that this was the case between planning and marketing on one side and manufacturing on the other. The more the firms had an integrative strategy to bring different interests together, the smaller were the perceived goal differences. Efficient negotiation needs a transformation of divergent interests into common interests and compatible goals. In another study with the same 11 firms the same authors could evidence that a desirable problem solving negotiation approach would be used between the above departments. However, a precondition for this was that individuals had an extra-verted and agreeable personality and would perceive a high interdepartmental interdependence with low power distance when the firm was avoiding a low cost strategy. An efficient negotiation strategy between people of the different stages of the supply chain needs the right investment of the personality potential of employees and their interdepartmental relation and perception. When analyzing this in an OM and IM context, it is important to choose the right method. In this respect, a powerful instrument is a linguistic approach which will be presented in the following Chapter 3.

3. The role of an innovation context and culture in business negotiations

Negotiation, culture and innovative media reciprocally influence each other. The culture from which individuals come affects the way they negotiate via computers or FTF, and the way individuals negotiate can change the culture they share. Most analyses of international negotiation, however, virtually ignore this relationship and study negotiation in a cultural vacuum, not taking into account any media effects. The goal in this study is to emphasize one side of the reciprocal relationship between negotiation and culture by examining the influence of culture on international negotiation that is conducted via computers. This Chapter 3 will explain the role of an innovation context and culture in business negotiations

3.1. Culture in business negotiations

The term of culture in the framework of international business negotiations as presented in this PhD study merits explanation. The fact that Kroeber and Kluckhohn (1952) list more than a hundred definitions of culture only accentuates the debate surrounding the concept of culture. The conceptualization of culture has concerned social scientists for decades (e.g., Kroeber and Kluckhohn, 1952; Shweder and LeVine, 1984). Numerous definitions exist, but to date no consensus has emerged within or across the disciplines relevant to this PhD study, such as negotiation (Section 2.1), media (Section 2.3) and innovation (Section 2.5). Culture can be seen as consisting of everything that is human made (Herskovits, 1955), or as involving shared meanings (Geertz, 1973), to name only two possible conceptualizations. It also is equated with communication (for the concept of communication in relation to negotiation see Section 2.2). Hall (1959), for example, believes that "culture is communication and communication is culture" (p. 169). Birdwhistell (1970) takes a slightly different position, suggesting that "culture and communication are terms which represent two different viewpoints of methods of representation of patterned and structured interconnectedness. As `culture' the focus is on structure; as `communication' it is on process" (p. 318). Keesing (1974) reviewed theories of culture, concluding that the focus in anthropology is on two themes: culture as an adaptive system and culture as an ideational system. Those who see culture as an adaptive system tend to agree on several assumptions (Keesing, 1974). Theorists tend to assume that cultures link individuals to the ecological setting in which they live. Harris (1968), for example, contends that culture "comes down to behavior patterns associated with particular groups of people, that is, to `customs' or to a people's `way

of life"' (p. 16). There also appears to be agreement that the adaptation process is similar to natural selection. Cultures tend to evolve toward equilibrium. Further, those aspects of the culture are viewed as the most central and adaptive part of cultural systems, but ideational components also have adaptive consequences. Ideational theories of culture tend to view culture as a cognitive system, a structural system, or a symbolic system. Goodenough (1961) is one of the major proponents of culture as a cognitive system. He argues that culture "consists of standards for deciding what is ... for deciding what can be ... for deciding what one feels about it ... for deciding what to do about it, and ... for deciding how to go about doing it" (p. 522). Such a view makes culture unobservable and very similar to the cognitive systems of language. In this PhD study, Hofstede's (2001) definition of culture as the "software of the mind" or the "mental programming" will be chosen. The reason for this is twofold: It relates to the definition of negotiation that was presented in Section 2.1 because both definitions refer to the concept of schemata. In negotiations, those schemata are more explicit in the way the negotiation process is structured. As explained in Section 2.3, NSSs play a major role in giving negotiations an even more explicit structure. As Ulijn and Strother (1995) note, this is especially relevant when it comes to the closure phase of a negotiation: Such a final step is essential to ask for the contract, the order, or the next appointment. Stalpers and Ulijn (1984) propose the structure and content of an average business negotiation on the basis of some interviews within the Philips company (see Table 2.2). Inexperienced negotiators who forget this final step fall into an abyss after having climbed to the top of their agreement. By giving negotiations a more explicit structure, NSSs may support the negotiators to successfully close their deal. In contrast to FTF situations in which one can easily walk away without closure, NSSs guide the negotiators through each stage of the negotiation. The second reason for choosing Hofstede's definition of culture is related to the methodology of this PhD study. Hofstede notes that we cannot directly observe mental programs and all we can observe is behavior in the form of words and actions. While observing behavior, we can infer from it the presence of stable mental software. Similarly, this PhD study deals with language behavior. As will be explained in Chapter 5, the interaction of medium and culture on negotiation strategy between R&D and manufacturing partners in the supply chain will be analyzed using a psycholinguistic approach. By analyzing the negotiator's language behavior, hypotheses will be formulated and conclusions will be drawn on how negotiators from different cultures (and culture clusters) manage to behave cooperatively in settings with different media (such as FTF and CMC). Hofstede's definition, which was chosen as being most relevant for this PhD study, slightly differs from a view of culture being unobservable and similar to the cognitive systems of language. As has been argued, language behavior can help

to reveal negotiation strategies that are culture-bound. Thus, seeing culture as the programming of the mind makes culture observable by analysing language behavior.

The empirical study in Chapter 5 will prove that culture can be observed by language behavior. Levi-Strauss (1971) suggests that cultures are "shared symbolic systems" that are "creations of the mind." He argues that the structuring of components of culture (e.g., myths) should be the focus of analysis. Geertz (1966, 1973) is the major advocate of the culture-as-symbolic-system school of thought. He uses the octopus as a metaphor for culture: “The problem of cultural analysis is as much a matter of determining independencies as interconnection, gulfs as well as bridges. The appropriate image, if one must have images, of cultural organization, is neither the spider web nor the pile of sand. It is rather more the octopus, whose tentacles are in large part separately integrated, neurally quite poorly connected with one another and with what in the octopus passes for a brain, and yet who nonetheless manages to get around and to preserve himself/herself, for a while anyway, as a viable, if somewhat ungainly entity” (1966, pp. 66-67). Schneider (1972) takes a slightly different position differentiating cultural and normative systems: “Where the normative system . . . is Ego centered and particularly appropriate to decision-making or interaction models of analysis, culture is system-centered.... Culture takes *a* man's [or woman's] position vis-à-vis the world rather than a man's [or woman's] position on how to get along in this world as it is given.... Culture concerns the stage, the stage setting, and the cast of characters; the normative system consists of the stage directions for the actors and how the actors should play their parts on the stage that is so set” (p. 38). Taken individually, there are problems with each approach if it is used in linguistic analyses, as explained in the following Chapter 4 and applied in Chapter 5 about this PhD study’s experiments. Keesing (1974) argues, for example, that viewing culture as an adaptive system can lead to cognitive reductionism, while the view of culture as a symbolic system can lead to seeing the world of cultural symbols as spuriously uniform. To overcome the dilemmas in both definitions, he borrows the distinction between "competence" and "performance" from linguistics to explain culture (for a more detailed analysis of native and foreign language reading and writing see Ulijn and Strother, 1995): Culture, conceived as a system of competence shared in its broad design and deeper principles, and varying between individuals in its specificities, is then not all of what an individual knows and thinks and feels about his/her world. It is his/her theory of what his/her fellows know, believe, and mean, his/her theory of the code being followed, the game being played, in the society into which s/he was born. It is this theory to which a native actor refers in interpreting the unfamiliar or the ambiguous, in interacting with strangers, and in other settings peripheral to the familiarity of mundane everyday life space; and with which s/he creates the stage on

which the games of life are played. Note that the actor's 'theory' of his/her culture, like the theory of his/her language may be in large measure unconscious. Actors follow rules of which they are not consciously aware, and assume a world to be 'out there' that they have in fact created with culturally shaped and shaded patterns of mind. We can recognize that not every individual shares precisely the same theory of the cultural code, that not every individual knows all the sectors of the culture, even though no one native actor knows all the culture, and each has a variant version of the code. Culture in this view is ordered not simply as a collection of symbols fitted together by the analyst but as a system of knowledge, shaped and constrained by the way the human brain acquires, organizes, and processes information and creates internal models of reality

According to Keesing, culture must be studied within the social and ecological setting in which humans communicate, that is, sociocultural "performance" also must be studied. In the context of the experiments presented in Chapter 5, such a performance might be important if we look at this paper's topic which is to examine the interrelation of the medium, innovation context and culture in business negotiations: In this perspective, sociocultural performance might mean to see how effective negotiators with either the same or different cultural backgrounds behave in international business negotiations, using different media such as email and NSS as opposed to FTF. Ulijn and Strother (1995) see such implications of culture on communication by stating that misunderstandings in international trade and technology are often due to the misinterpretation of lexical and cultural meanings between the foreign languages being used. They argue that business managers and engineers should be able to deal with universals and variants in both the native and the foreign language at lexical, syntactic, and discourse levels.

Following Swidler (1986), the author contends that culture independently influences behavior in "settled" cultural periods. In "unsettled" cultural periods, when a culture is undergoing massive change, actions are guided by explicit ideologies. Since this PhD study focuses on "settled" periods, considering culture as a constant, independent variable (see Figure 1.8), this distinction is not critical for the analysis. For those interested in the influence of culture in periods in which a culture is "unsettled" (e.g., national development), the distinction is critical (see Swidler, 1986, for specifics of this argument). Since culture cannot be studied in isolation from its social and ecological environment, it must be distinguished from the social system (the behavior of people who share a common culture, including networks of social relations and patterns of social interaction, Geertz, 1973; Parsons, 1951) and society (the population of humans who share a common culture and social system; Parsons, 1951). Rohner

(1984) argues that "an individual is a *member* of society . . . individuals *participate* in social systems ... and *share* cultures" (p. 132). Since society, social system, and culture are all interrelated and have an impact upon communication, the focus of this study is on the sociocultural system, which is conceived as including all three. Given the conceptualization presented and Hofstede's definition of culture which is linked to programming schemata, culture is a script or a schema shared by a large group of people. The "group" on which is the focus throughout this study is the nation or society (see Chapter 1). More specifically, the influence of national sociocultural systems on interpersonal communication will be examined. However, the term "culture" will be used because it is the shared culture that influences international negotiation, not membership in a society. The argument could be extended to "smaller" groups that share a specific culture (e.g., ethnic groups), but given the conceptualization of cultural variability presented below, the analysis will be limited to NCs. For the sake of completeness, it should be mentioned that Ulijn and Weggeman (2000) point out that people are affected by professional culture (PC) and CC as well. According to the definition of culture given above, corporate or organizational culture can be defined as "the collective programming of the mind that distinguishes the members of one organization from another" (Hofstede, 2001, p. 391). Thus, if NCs describe the collective mental programming of similar persons from different nations, organizational cultures describe the collective mental programming of similar persons from different organizations. Professional or occupational cultures suggest that in some organizational units employees derive their identity largely from the organization, whereas in other units they identify primarily with their type of job or occupation. As this PhD study does not specifically deal with PC or CC, some efforts will be spent in this Chapter on the variability of NC, which is theoretically described in the following paragraphs. The reason for doing so is the fact that this study deals with the comparison of different culture clusters such as the Anglo, Nordic and Latin culture cluster and, more specifically, Dutch and German cultures. As will be shown in Figure 3.2 on Hofstede's dimensions for Germany and the Netherlands, cultural differences for those two cultures are on some dimensions larger and on other dimensions smaller. In order to get a deeper understanding of those differences, they will be explained in more detail in the following paragraphs. Cultural variability has been discussed from many different vantage points. Dimensions of syntality (comparable to personality at the cultural level; e.g., Cattell and Brennan, 1984), dimensions of nations (e.g., Rummel, 1972), and national character (e.g., Inkeles and Levinson, 1969), for example, have been isolated. Variation also has been investigated from an evolutionary perspective. To illustrate, Naroll (1970) reviewed over 150 comparative studies identifying characteristics of cultural systems that tend to coevolve, including: (1) command of the environment

(weak to strong); (2) organizational structure (simple to complex, may be related to the above mentioned CC); (3) population patterns (rural to urban); (4) occupational specialization (general to specific, may be related to the above explained PC); (5) leadership patterns (consensual to authoritative); (6) distribution of goods (wealth-sharing to wealth-hoarding); (7) behavior of elites (responsible to exploitative); and (8) function of war (vengeful to political). These schemas are useful, but their relationship to negotiation processes has not been articulated to date. Several schemas of cultural variability that influence negotiation more directly are reviewed in this chapter, beginning with the broadest and most widely used conceptualizations.

3.2. Cultural dimensions

Hofstede derived four dimensions of cultural variability empirically from a study of multinational corporations in 50 countries and three regions (in the initial report, 1980, he analyzed data for 40 countries, while in the later, 2001, the number of countries has increased from 40 to 50 plus three regions representing another 14 countries). The scores for each dimension were calculated from items on the questionnaires used in Hofstede's research. The specific method of calculation for each score is not of interest here, but it is important to note that the author is assuming that Hofstede's scores are reliable and valid. Hofstede's theory of cultural differentiation has been criticized on several grounds. First, it was generated from data collected in a multinational corporation and personnel of the multinational may not be representative of other members of the culture. Hofstede argues, and the author agrees, that using personnel from the multinational corporation allows for the control of other variables that may confound the results (e.g., occupation, class, age) and, therefore, what actually is examined is culture. Second, the validity of the items used to construct one or two of the indices might be questioned. The author contends that this is an empirical question and, if predictions derived from the dimensions are supported, the dimensions are valid. Finally, it might be argued that since the theory was developed on organizational communication, it is not applicable to interpersonal communication. Again, the author believes this is an empirical question. Hofstede's dimensions have been used to explain the use of the equity and equality norms across cultures (Bond et al., 1982), perceptions of interaction episodes (Forgas and Bond, 1985), perception of communication associated with relationship terms and cultural differences in affective communication (Gudykunst and Nishida, 1986)-all interpersonal phenomena. In general, the author finds Hofstede's dimensions useful in explaining previously observed cross-cultural differences in interpersonal communication.

Power distance

Hofstede (2001) refers to Mulder (1977) who defines power distance as “the degree of inequality in power between a less powerful Individual (I) and a more powerful Other (O), in which I and O belong to the same (loosely or tightly knit) social system”. Individuals from high power distance cultures accept power as part of society. As such, superiors consider their subordinates to be different from themselves and vice versa. High power distance cultures see power as a basic fact in society, and stress coercive or referent power, while low power distance cultures believe power should be used only when it is legitimate and prefer expert or legitimate power. In comparing power distance scores with results of other cross-cultural studies, Hofstede found that parents in high power distance cultures value obedience in their children, and students value conformity and display authoritarian attitudes more than those in low power distance cultures. In organizations, close supervision, fear of disagreement with supervisor, lack of trust among coworkers, and directed supervision are all manifested more in high power distance cultures than in low power distance cultures. Further, in comparing this dimension with Triandis' (1972) data, Hofstede found that members of low power distance cultures see respect for the individual and equality as antecedents to "freedom," while members of high power distance cultures view tact, servitude, and money as antecedents to "freedom." Antecedents to "wealth" in low power distance cultures include happiness, knowledge, and love. Inheritance, ancestral property, stinginess, deceit, and theft, in contrast, are viewed as antecedents to "wealth" in high power distance cultures.

Uncertainty avoidance

In comparison to cultures low in uncertainty avoidance, cultures high in uncertainty avoidance have a lower tolerance for uncertainty and ambiguity, which expresses itself in higher levels of anxiety ,a greater need for formal rules and absolute truth, and less tolerance for people or groups with deviant ideas or behavior (Hofstede, 2001). The Uncertainty Reduction theory framework tries to explain cultural variations in inter-cultural communication (Gudykunst, 1988). Uncertainty reduces when communicators have confidence in their abilities to predict other people's behaviour in interactions and are able to explain what is occurring in the interaction. In high uncertainty avoidance cultures, aggressive behavior of self and others is acceptable, however, individuals prefer to contain aggression by avoiding conflict and competition. There is a strong tendency for consensus in cultures high in uncertainty avoidance, therefore, deviant behavior is not acceptable. High uncertainty avoidance cultures also tend to display emotions more than low uncertainty avoidance cultures. Low uncertainty avoidance cultures have lower stress levels and weaker superegos and accept dissent and taking risks

more than high uncertainty avoidance cultures. Hofstede compared scores on uncertainty avoidance with data from other large-scale cross-cultural studies. This comparison revealed that in comparison to members of low uncertainty avoidance cultures, members of high uncertainty avoidance cultures resist change more, have higher levels of anxiety, have higher levels of intolerance for ambiguity, worry about the future more, see loyalty to their employer as more of a virtue, have a lower motivation for achievement, and take fewer risks. In organizations, workers in high uncertainty avoidance cultures prefer a specialist career, prefer clear instructions, avoid conflict, and disapprove of competition between employees more than workers in low uncertainty avoidance cultures.

Masculinity-femininity

High masculinity, according to Hofstede, involves a high value placed on things, power, and assertiveness, while systems in which people, quality of life, and nurturance prevail are low on masculinity or high on femininity. Cultural systems high on the masculinity index emphasize differentiated sex roles, performance, ambition, and independence. Conversely, systems low on masculinity value fluid sex roles, quality of life, service, and interdependence. Hofstede also compared masculinity-femininity scores with results of other cross-cultural studies. He found that, in comparison to people in feminine cultures, people in masculine cultures have stronger motivation for achievement, view work as more central to their lives, accept their company's "interference" in their private lives, have higher job stress, have greater value differences between men and women in the same position, and view recognition, advancement, or challenge as more important to their satisfaction with their work. He illustrates communication in a feminine culture by quoting Hall's (1959) description of emotion in Iran: “In Iran ... men are expected to show their emotions. Iranian men read poetry; they are sensitive and have well-developed intuition and in many cases are not expected to be too logical. They are often seen embracing and holding hands. Women, on the other hand, are considered to be coldly practical. They exhibit many of the characteristics we associate with men in the United States" (p. 50). To fully appreciate this illustration, it must be remembered that women are expected to be submissive in Iran (Hall, 1959).

Individualism - collectivism

Individualism-collectivism is the major dimension of cultural variability isolated by theorists across disciplines (e.g., Bellah et al., 1985; Hofstede, 2001; Hui and Triandis, 1986; Kluckhohn and Strodtbeck, 1961). Emphasis is placed on individuals' goals in individualistic cultures, while group goals have precedence over individuals' goals in collectivistic cultures. Waterman (1984), for example,

argues that individualistic cultures promote "self realization" for their members: “Chief among the virtues claimed by individualist philosophers is selfrealization. Each person is viewed as having a unique set of talents and potentials. The translation of these potentials into actuality is considered the highest purpose to which one can devote one's life. The striving for self-realization is accompanied by a subjective sense of rightness and personal well-being” (pp. 4-5). In individualistic cultures, "people are supposed to look after themselves and their immediate family only," while in collectivistic cultures, "people belong to ingroups or collectivities which are supposed to look after them in exchange for loyalty" (Hofstede and Bond, 1984, p. 419). The "*I*" identity has precedence in individualistic cultures over the "*we*" identity, which takes precedence in collectivistic cultures. The emphasis in individualistic societies is on individuals' initiative and achievement, while emphasis is placed on belonging to groups in collectivistic societies. People in individualistic cultures tend to be universalistic and apply the same value standards to all. People in collectivistic cultures, in contrast, tend to be particularistic and, therefore, apply different value standards for members of their ingroups and outgroups (Tajfel discusses the dichotomization of ingroups and outgroups in the context of intergroup relations, for more information about the dichotomization of ingroups and outgroups see Tajfel, 1982). Members of individualistic cultures form specific friendships, whereas members from collectivistic cultures form friendships that are predetermined by stable relationships formed early in life.

Triandis (1986) argues that collectivistic cultures focus on the ingroup and individualistic cultures do not. Collectivistic cultures emphasize goals, needs, and views of the ingroup over those of the individual; the social norms of the ingroup, rather than individual pleasure; shared ingroup beliefs, rather than unique individual beliefs; and a value on cooperation with ingroup members, rather than maximizing individual outcomes. Triandis goes on to argue that the number of ingroups, the extent of influence for each ingroup, and the depth of the influence must be taken into consideration in the analysis of individualism-collectivism. He contends that the larger the number of ingroups, the narrower the influence and the less the depth of influence. Since individualistic cultures have many specific ingroups, they exert less influence on individuals than ingroups do in collectivistic cultures, in which there are few general ingroups. Triandis also points out that ingroups have different rank-orders of importance in collectivistic cultures; some, for example, put family ahead of all other ingroups, while others put their companies ahead of other ingroups. Triandis's (1986) conceptualization further suggests that members of collectivistic cultures draw sharper distinctions between members of ingroups (e.g., those with whom they go to school or work) and outgroups and perceive ingroup relationships to be more intimate than

members of individualistic cultures. Ingroup relationships include brother/ sister (family ingroup), coworker and colleague (company ingroup), and classmate (university ingroup), to name only a few, while outgroup relationships include, but are not limited to, interactions with strangers and/or members of different ethnic groups.

Long-versus short-term orientation

Hofstede adds a fifth dimension of NC that is independent of the four identified in Hofstede's IBM studies as presented above. The new dimension, long-versus short-term orientation (LTO), deals with family, work, social life and ways of thinking. The latter includes religious and philosophical themes; the dimension expresses to what extent virtuous living is a goal, independent of any religious justification. The dimension is also related to the ability to solve well-defined problems, as evidenced by secondary school performance levels in basic mathematics. Businesses in long-term-oriented cultures are accustomed to working toward building up strong positions in their markets; they do not expect immediate results. Managers (often family members) are allowed time and resources to make their own contributions. In short-term-oriented cultures the "bottom-line" – the results of the past month, quarter, or year) is a major concern; control systems are focused on it and managers are constantly judged by it. This state of affairs is supported by arguments that are assumed to be rational, but the cultural distinction reminds one of the fact that this entire rationality rests on cultural choices. The cost of short-term decisions is evident; managers are rewarded or victimized by today's bottom line even where it is clearly the outcome of decisions made by their predecessors. Low LTO is characterized by the expectation of quick results, the status not being a major issue in relationships, leisure time being important and a small share of an additional income being saved. High LTO is related to persistence, perseverance, relationships ordered by status, leisure time being not so important and face considerations being common but considered a weakness. Eastern countries such as China, Korea and Japan score high on the LTO dimension, whereas western countries such as Canada, the United States or Great Britain score low on this dimension.

Low- and high-context negotiation

Hall (1976) differentiates cultures on the basis of the communication that predominates in the culture. A high-context negotiation or message is one in which "most of the information is either in the physical context or internalized in the person, while very little is in the coded, explicit, transmitted part of the message (Hall, 1976, p. 79). A low context negotiation or message, in contrast, is one in which "the mass of the information is vested in the explicit code" (p. 79). While no culture exists at either end of the low-high-context continuum, the culture of the United States is placed toward the lower end,

slightly above the German, Scandinavian, and Swiss cultures. Most Asian cultures, such as the Japanese, Chinese, and Korean, in contrast, fall toward the high-context end of the continuum. Hall (1976) points out that the level of context influences all other aspects of communication: “High-context cultures make greater distinction between insiders and outsiders than low-context cultures do. People raised in high-context systems expect more of others than do the participants in low-context systems. When talking about something that they have on their minds, a high-context individual will expect his [or her] interlocutor to know what's bothering him [or her], so that he [or she] doesn't have to be specific. The result is that he [or she] will talk around and around the point, in effect putting all the pieces in place except the crucial one. Placing it properly-this keystone-is the role of his/her interlocutor” (p. 98).

3.3. Culture and innovation context

The research discussed so far allows us to come to Figure 3.1 (adapted from Ulijn and Weggeman, 2001), which positions Germany and the Netherlands according to Hofstede’s dimensions of PDI and UAI. Dutch people belong more to the village market of the first stage of the IM process (see Figure 2.8) with a higher tolerance for uncertainty in the top of the iceberg of culture. Germans, on the other hand, prefer the well-oiled machine to implement the innovation and turn into a high quality product or service (not necessarily adapted to the market needs, another weakness of German innovation). Ulijn, Nagel and Tan (2001) explain the femininity issue as a source of difference between the two countries. The Dutch are the Chinese of Europe: long term oriented and pragmatic, because of an eye for trade all the time. Femininity shows the priest in the Dutch culture.

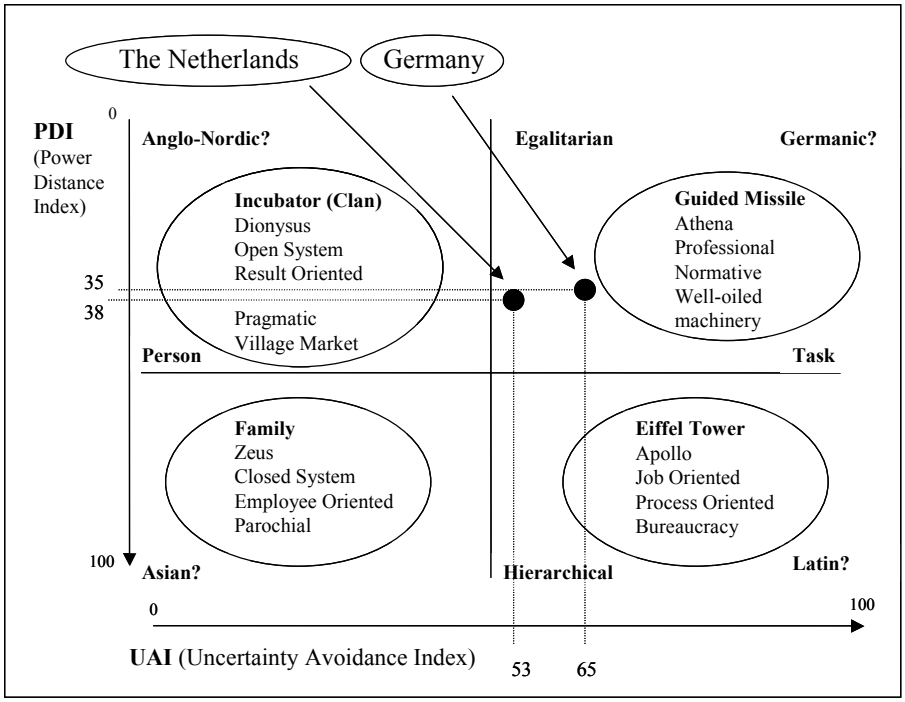

Figure 3.1: Positions of the Dutch and German culture concerning PDI and UAI (adapted from Ulijn and Weggeman, 2001)

Ulijn, Nagel and Tan (2001) tested the following two hypotheses to answer the general research question whether engineers use different culture-bound ways to reach innovation:

- *Dutch engineers are more market-oriented than their German colleagues in 12 comparable firms for each country.*
- *The transition from technology orientation towards market orientation occurred earlier for engineers in 12 Dutch than in 12 comparable German firms.*

There seems to be some engineering universal between German and Dutch technology-based firms in their technological orientation towards the market. However, this transition took place earlier in the 12 Dutch firms than in the 12 German firms, comparable in size and branch culture. A plausible reason for this is that the strong feminine values of Dutch national and corporate culture (NC and CC, Hofstede, 1991 and 2001) might lead more easily to a customer orientation (Market Pull) than the more masculine German values keeping a highly technological base which show that Germany has a strong engineering culture. In Dutch firms there seems to be some natural harmony between the PC of the engineers and the market-oriented CC, top managers have to impose the latter CC to make it compatible with that strong engineering culture. The results of this exploratory study might be valid

across industry sectors, such as automotive, chemical and information technology (IT).

In a study on uncertainty reduction behavior of experienced Spanish and Dutch negotiators, Ulijn and Verweij (2000) verify a major communication strategy via the identification and classification of 480 questions in linguistic transcripts of negotiations: asking questions of all kinds appeared to be a critical success factor in both mono-cultural and inter-cultural situations, which holds true for both the beginning and the end of the supply chain. As will be explained in more detail in Figure 5.7, the beginning of the supply chain (for instance R&D) relates more to an IM context whereas the end of the supply chain relates more to an OM context. It is not known how well this strategy of asking questions might work for a communication that takes place in an IM and an OM context. A generic depiction of culture was chosen, given the multiple uses of the term by communication scholars. A review of the available literature in the area suggests that three different, but overlapping contexts of culture have been studied. NC studies are among the most intensely and widely examined and usually involve an investigation or speculation of how a country's NC influences the communication behavior of domestic and/or foreign members of multinational corporations. A second prominent area of study has focused on CC, or how members and perceive the culture of their affiliate organization. Studies of this nature are interested in how the organization regulates, controls, and influences the behavior of it members through its values, language (jargon), rituals, and customs. The third cultural dimension, and one less studied by business communication scholars, is PC. Issues associated with cultural studies of this type revolve around the extent to which professionals (scientists, engineers, managers, etc.) identify less or more closely with their professional discipline than with the culture of their organization. As has been shown by the work by Hall (Hall, 1959; Hall, 1998) and Hofstede (2001), the degree of context required is culturally sensitive, ranging from low context cultures, such as Anglo and Nordic, to medium context cultures, such as Latin American, to high context cultures in Far East cultures. Possible consequences for communication behavior have been outlined by Ulijn and Kumar (2000). One does not, however, know the impact of context levels on OM or IM. As said above, culture is defined as the collective mental programming which distinguishes one group of people from another.

As mentioned above, Hofstede has introduced five dimensions that clearly separate NCs. Figure 3.2 compares the German and the Dutch culture according to those dimensions and it gives scores on a scale from 1 (lowest possible level) to 100 (highest possible level). According to Figure 3.2, there are differences between the

Dutch and the German culture. The largest difference belongs to MAS: Germans are very masculine (Hofstede's score of MAS: 66), whereas the Dutch, unlike many other countries, are very feminine (Hofstede's score of MAS: 14). This implies that the Dutch value a good working relationship and cooperate well with each other; masculinity (Germany) may be better for implementation issues as needed in an OM setting whereas femininity (the Netherlands) may be better for idea initiation issues as required in IM settings. The Netherlands score 13 points higher on IDV and LTO. Those two factors may have an influence on the Dutch negotiation behavior in an IM setting: Individualism indicates a loose bonding between individuals which may make it easier to develop new ideas and express their creativity independently of other individual's criticism. The higher score on LTO for the Netherlands shows a future-oriented perspective rather than a short-term point of view, which strongly relates to a cooperative attitude in negotiations. Another difference is related to the UAI. Germany is above the middle of the scale and is said to have strong UAI. It can be interpreted that Germans have a higher need to avoid failure and have more laws and rules. The smallest difference is expressed in the PDI dimension: The Netherlands scores 3 points higher than Germany, showing a slightly bigger extent to which people accept that power is unequally distributed.

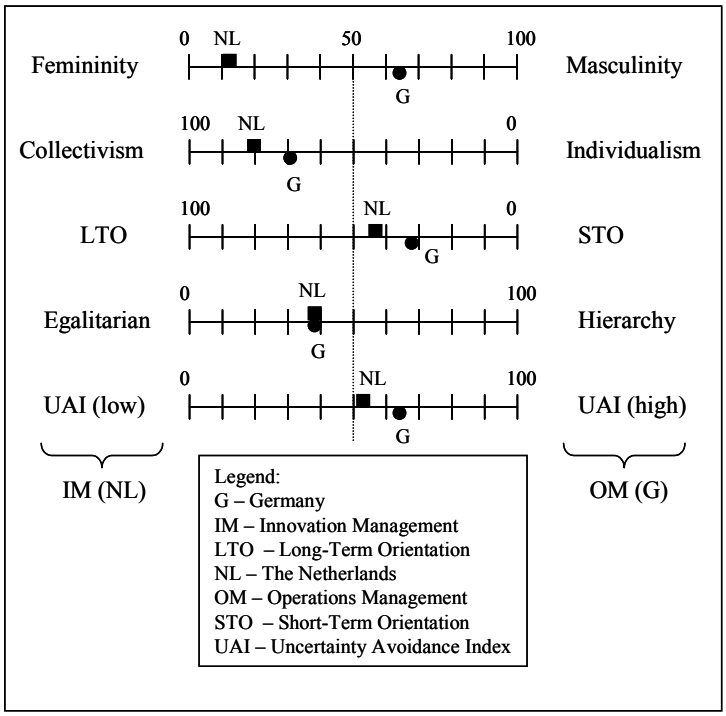

Figure 3.2: Hofstede's dimensions for Germany and the Netherlands

The right-hand side in Figure 3.2 present extremes of Hofstede's dimensions which at the same time build characteristics for efficient negotiations in an OM setting whereas

the left-hand side represents those extremes which are ideal for IM negotiations. One can see that the Dutch scores are more oriented to the left-hand side (IM) whereas the German scores are oriented to the right hand side (OM). In Figure 3.2 one can see that for the two dimensions which were evidenced by Ulijn and Weggeman (2001) as essential for IM and OM both PDI and UAI should be low for IM and high for OM. Hofstede would predict for the Dutch-German comparison the right difference according to our hypotheses for UAI, but less so for PDI: The Netherlands has a lower UAI than Germany, which makes it more appropriate for IM (clan or incubator of ideas) and Germany more for OM (well oiled machine or guided missile). Ulijn, Nagel and Tan (2001) found out that Dutch engineers are more market-oriented than their German colleagues in 12 comparable firms for each country and the transition from technology orientation towards market orientation occurred earlier for engineers in 12 Dutch than in 12 comparable German companies. Both could be confirmed on the basis of answers to a questionnaire. The culture-bound strategy used by German and Dutch seems to be more a matter of the right mix of professional and corporate than national culture. In Germany, there is a consistent pattern of business-related practices built around “competence first” (Ulijn, Nagel and Tan, 2001). The PC of the German engineer is based on this principle. The German apprentice system leads to an exceptionally well-trained work force. About two thirds of German supervisors hold a Master certificate. German managers are chosen for their positions on the basis of their expert knowledge and they consider this knowledge to be the most important basis of their authority. The people on the shop floor respect their managers and this respect leads to a satisfying working relationship. The German engineer finds it self evident that he teaches his knowledge and experience to his subordinates. When a supervisor leaves the firm or makes a promotion, it is usual that a subordinate who has been instructed by him, takes over his job.

4. Discourse and organization as factors in negotiation – a research framework

After having introduced the subject of electronic business negotiation in Chapter 1 and after having presented negotiation theory from different perspectives (Chapter 2), including the importance of cultural factors (Chapter 3), this chapter tries to see the research objective from a more general level of discourse and organization. When studying electronic business negotiation with special regard to the interaction between the medium, the innovation context and culture, it is important to note that such business negotiations do not take place in a vacuum, but they are conducted by human beings using words in business organizations. In Chapter 2, negotiations were viewed from several perspectives relevant to the study of the interaction between the medium, the innovation context and culture. The present Chapter 4 goes one step further by delineating the relationship between discourse and organization and by making this a basis to introduce the research framework used in this PhD study. The central question to the present section is as follows: How can negotiations that take place in organizations and by discursive means be researched? Therefore, Section 4.1. tries to answer the question why discourse and talk are central to organization and organizing. Section 4.2 elaborates the research problem just before presenting the methodological approach of discourse analysis used in this study (Section 4.3). The concepts of validity and reliability play a special role in negotiation research and are dealt with in Section 4.4.

4.1. Discourse in organizations

A discursive approach to study organization theory is central to the present section. As Laclau and Mouffe (1987) argue, not everything is discursive but most of what we know is through discursive means. For example, many of the effects of natural disasters fall clearly outside of the realm of discourse, but most of us do not experience them directly, but discursively, through television or newspapers. Similarly, our experience of an organization's strategies and mandates is as much through written and oral 'stories' as by directly observing decisions and actions. At the same time, however, we do not believe that meeting and talking are the only potential effects of organization; buildings are built, products are manufactured, services are rendered beyond (and because of) all this organizational talk. Thus, discourse and talk are central to organization and organizing (as an important aspect of this PhD study, see Section 2.4; Watson, 1995), but so is non-discursive action.

To assume that all discourse – all talk – translates into action in organizations underestimates the impact of existing practices (Fairclough, 1992): existing patterns of talk and action constitute social structures in the form of rules, which enable and constrain courses of action. By defining obligatory passage points through which discourse is forced to pass (Callon and Latour, 1981), dominant groups can achieve some closure on meaning and institutionalize it in organizational practices that reduce the scope of possible action. At the same time, closure is never fully achieved, as rules are always subject to resistance, contest and reinterpretation. As Ulijn and Strother (1995) argue, negotiators "forget" to close the negotiation, although this final step of a negotiation is essential to ask for the contract, the order, or the next appointment. In contrast, NSSs (as empirically explored in the following Chapter 5) give structure to a negotiation which might help negotiators to finalize the deal. While discourses embody power, they also embody resources on which "social actors draw on in different ways at different times to achieve their particular purposes" (Watson, 1995). In other words, not all talk may translate into action, but within talk lies considerable scope for action.

The context within which this study considers the relationship between talk and action is that of interorganizational collaboration. These (non-)cooperative relationships between organizations have been suggested as a solution to a wide range of managerial and organizational problems – from entering new markets to dealing with environmental crises (Grant et al., 1998). Although management academics have examined interorganizational collaboration in a wide range of forms and from a variety of perspectives, its discursive aspects remain relatively unexplored. This situation is ironic considering that a central issue for many participants in collaborative initiatives is the ability of the collaboration to move from simply providing occasions for talk to generating sustained collaborative action. Micro-sociologists such as Collins (1981) contend that the only truly empirical grounding for social processes lies in micro-events. From this perspective, concepts such as 'culture', 'state', 'economy' or 'collaboration' are only real to the extent that they are enacted in the micro-contexts of individuals interacting. Thus the social world exists neither as an objective entity nor as a set of meanings that people carry in their heads, but in repeated actions of communicating usually around limited, routine matters in a few physical places and with the particular people usually encountered there. Collins conceives of these communicating actions, or conversations, as rituals that create beliefs in common realities, or myths, which, in turn, become symbols of group solidarity. Individual chains of conversational experiences over time re-create people's cognitive beliefs about social structure and, in turn, promote collective action based on these tacit understandings and meanings. If, however, no such myth or

shared meaning arises, the conversations will not be sustained and collective action will not ensue. Thus conversations generate collective action through both non-verbal modes and verbal content – through the activity of talking and the chain of conversations in which the individual takes part (or from which he or she is excluded) – as well as its content.

Social order is inevitably physical and local. Social structure is simply people's repeated behavior in particular places, using particular physical objects, and communicating by using many of the same symbolic expressions repeatedly with certain other people. It is the activity of conversational interactions, which includes an irreducible physical component in the form of space, time and numbers that shapes the micro-behaviors of individuals. Coupled with the *where* and *when* of conversations is the question of *who* is participating in the conversation. Westley (1990) has drawn attention to the empowering effects of not only being included in conversations, but also being able to contribute to them; both represent a source of power. Similarly, narrative theory (O'Connor, 1995) asks: who is the narrator, who is the narratee, and what are their motives? In other words, part of what we know to be social structure, or think of as reality, is the result of who takes part in conversations, and when and where they do so.

In Collins' model of social interaction, the importance of conversational content is largely ignored: social structure lies in the repeated actions of communicating, not in the contents of what is said; those contents are frequently ambiguous or erroneous, not always mutually understood or fully explained. Certainly, part of what we know about 'an organization' is what we experience directly in the form of interactions with particular people in particular settings. However, we also 'know' things about organizations outside our immediate physical experience. We 'know' things from the narrratives that emerge from conversations, which tell us stories about an organization or part of an organization that we may never directly experience; and we may hold many, different, contradictory stories in our heads (Boje, 1995), suggesting that the cognitive limits are not so great as Collins (1981) implies.Such stories may constrain action be "defining characters, sequencing plots, and scripting actions" (Boje, 1995). But stories can also enable action: as the story-teller and story listener co-construct the story, multiple, contradictory and ambiguous meanings emerge which are, according to Boje (1995), empowering in the space that they create for resistance and transformation. For example, Brown and Duguid (1991) provide an example of how story-telling about a broken machine enabled the individuals concerned to repair it. They constructed a coherent account of the malfunction in a long story-telling procedure which was, effectively, a diagnosis that resulted in a communal

understanding of the machine: collaboration in narration provided a shared understanding of the problem that helped individuals to act. The key element in Brown and Duguid's (1991) analysis is that the production of understanding – of meaning – was achieved through a narrative process, which allowed the various facts of the situation to be integrated through their verbal consideration using a primary criterion of coherence. In other words, the mere activity of conversing would not have been enough to repair the machine – people might simply have stood around conversing about the fact that they did not know how to repair it. Rather, the solution – the action of repairing the machine – lay in the co-constructed content, or narrative, of the conversation.

Although the importance of the content of symbolic communication may be downplayed, this theorizing does leave a space for narrative. For example, one may argue that a conversation is a ritual, which invokes a common reality of myth, which may or may not be true; this is what stories and narratives do. Moreover, some conversational resources, such as individuals' reputations, may *transcend* individual conversations. The only way for this to happen is when the contents of conversations (that is, stories about an individual) circulate and aggregate to create a reputation. But many such events are not personally experienced – our knowledge of them is derived only from stories and narratives. Understanding groupings that exist in society, such as religious, educational and political affiliations, must inevitable involve stories and narratives that describe them (see also Austin, 1976, for further information on communication and action). So, it would appear that the content, story or narrative of a conversation is as important to the social construction of reality as are the numbers of individuals acting in relation to physical objects over time and space. To summarize, collective action is generated by conversational activity *and* content that produce shared meaning. Some conversations, because they occur between certain people, at certain places, at certain times, mean something and lead to something. In contrast, conversations that occur between the 'wrong' people, in the 'wrong' places, at the 'wrong' time, mean 'nothing' and will lead nowhere. To start the process of understanding the link between talk and action, then, we might ask *who* is talking, *where* and *how*, and *what* they are talking about.

Negotiations are everywhere in organizations, as members take for granted communication, information and decisions that are all based in interaction and language use. As elaborated in Section 2.1, every business manager and engineer is involved in negotiations not only within the organization of a manufacturing company or a research and development laboratory but also with the outside world. Negotiation also shapes and constitutes worklife as members make sense of past events or

anticipate future actions. Such negotiation becomes fundamental data for organizational research: ethnographic studies quote language-in-use to demonstrate particular meanings, survey researchers present statements assuming similar understanding by researcher and respondents, while critical scholars re-examine meanings within texts already 'written'. Negotiation may be part of conversation as well as it is part of communication (for a definition of negotiation as part of communication see Section 2.1). Conversation, implying two people talking directly to each other to share information, ideas and feelings, is the most taken-for-granted process of social talking. Conversation appears as fragmented managerial interactions, or during meetings forming the backbone of organizational work, or labeled as gossip essential to a network of office relationships. Through conversation, relationships between individuals are established, shared meanings are developed, and contested meanings are made visible. But, before using such conversations for academic purposes, we need to first ask: What should we take into account to study organizing from the raw data of conversing? How can business negotiations be represented as text to be analyzed by researchers and then presented to others? At the same time, what may be excluded from such a perspective?

Typically for organizational theorists, the actual process of conversing is less important than the outcomes of the exchange. Talk and negotiation as the outcome of conversation has instrumental value for coordinating actions, establishing control or motivating others. Indeed, some say talk *is* the work of managers (Mintzberg, 1973). However, authors such as Mintzberg unfortunately do not mention passive communication acts such as listening/reading which are often forgotten, whereas in negotiations, passive communication acts such as listening or reading count for 75% of a successful outcome (Ulijn and Strother, 1995; for a more detailed analysis of speaking and listening processes see Figure 4.1). Only infrequently do organizational researchers dwell on ways in which conversation is initiated, maintained, closed and maybe subsequently reopened. Ways in which personal and occupational identities are constituted and revealed through this process are seldom explored. Similarly, while we may be aware of different 'languages' in use in organizational settings (Daft and Wiginton, 1979), ways in which individuals use or misuse linguistic cues to overcome or sustain misunderstandings are rarely the basis for theorizing. Employing a multi-disciplinary approach, however, allows our taken-for-granted understandings or conversations to be replaced by a theory and method applicable to organizational contexts. Three informing fields contribute to theorizing 'workplace conversation' (see Appendix J; this term is introduced by Woodilla (1998) to focus attention on language-based interactions of individuals within organizations. As stated above, business negotiation – which is the topic of this PhD research – is part of such a

workplace conversation). There are conversation analysis (as a sub-discipline of ethnomethodological sociology), pragmatic linguistics (as a sub-discipline of linguistics) and critical language/literacy theory. Each discipline considers meanings as socially constructed through language use, yet each takes a different perspective on ways in which these meanings emerge. Each contributes in part, and they also work together to position workplace conversation as fundamental to ways in which organizational actors construct meanings. The major theoretical contributions to a description of workplace conversations can be represented diagrammatically (see Appendix J). The informing fields, schools of thought and major theorists are presented in Appendix J. In practice, many disciplines are related, as the work of major theorists influences others.

Focusing on conversations, as the more general framework in which negotiations may take place, draws attention to the dynamic linguistic interactions necessary for organizing and accomplishing tasks in a cooperative or collusional manner. Actors constitute organization through their socially based actions, which include talking with each other. Taken-for-granted structuring aspects of conversational practices constrain actors to enact different organizational arrangements of 'interactional orders' (Goffman, 1983), for purposes of information sharing, decision-making, or task-accomplishment. These include dyadic (one-to-one), 'platform' (one-to-many/many-to-one) or small-group (many-to-many) arrangement. In general workplace experience, these three types of connections may be understood as interviews, lectures or leadership situations, and meetings. In both leadership situations and meetings, negotiations may take place. In production-based organizations, these structures are realized through appraisals, briefings and work-groups, while in universities they involve advising students or consulting with peers, teaching and committees. In every workplace conversation, actors are constructing their occupational selves and the roles that they enact, which socially constructs 'their organization'. At the same time, conversation itself is socially determined, since actual conversations can happen only within institutional practices of pre-existing organization (Fairclough, 1992). Within conversational structuring, everyday language is used to attain shared and contested meanings – all the understandings, misunderstandings, ambiguities and ideologies that enable and hinder everyday actions among cooperative and conflicting actors with unique human experiences. Arguably, the most common talk-based institutional practice of (Western) organizing is 'the meeting'. Such meetings often appear to be the typical place for business negotiations. Many studies focus on meetings as tools for accomplishing administrative tasks, providing various definitions and typologies (Volkema and Niederman, 1995). Distinctive features of meeting-talk, such as beginnings and

endings, placing items on the agenda, and accepting the 'proper' control of talk, are maintained through the collaborative work. Within this framework, specific agenda items, or segments within the agenda, may be in one-to-one format as two members negotiate particular understanding, while others present are privy to this conversation; one-to-many/many-to-many as a report is presented for informational purposes; or many-to-many as decisions are made. Linguistic strategies indicate how those present go about negotiating differences among themselves in order to integrate their various skills, knowledge and experience as needed to complete the group-task (Donnellon, 1996), while determining their own role within the work expected of this meeting (Schwartzman, 1989). Conversational work during meetings shows how the apparently fragmented processes of information gathering, transmission and very local assimilation are transformed into the goals, agendas and decisions or organizations (Boden, 1994). As mentioned above and in Section 2.1, business negotiations are part of communication and conversations that may take place in an organizational context. However, communication in organizations is only one aspect of business negotiation. As mentioned in Chapter 1, it is the aim of this PhD study to see business negotiations in the light of an interaction between the medium, an innovation context and culture. Thus, this study may be seen as a reaction to the literature that has just been presented and in which talk is considered to be the main aspect of communication. This study contends that negotiations do not comprise communicative aspects such as talking only, but both the medium, the (innovation) context and the negotiator's culture seem to be of importance as well. As a consequence, this study does not only explore negotiation from a communication perspective, but tries to fill a research gap by empirically investigating how those three dimensions of the medium, the innovation context and culture interact (see also Figure 1.7). The question remains what is the scientific importance of such an interaction? How can this interaction be researched in order to enhance the research in business negotiations? The following Section 4.2 will try to answer those questions.

4.2. Elaboration of the research problem

How does one develop such important factors in business negotiation as part of organizational communication (see the previous Section 4.1) as a positive climate, equal power distribution, and flexible procedure using non-FTF media like email? This basic research question will be explored by means of speech act analysis. So far, no research has been done on how an innovation context triggers the effective use of innovative communication media. Table 4.1 summarizes the scientific contribution of the research project.

Given		New
Theory	**Author**	**Research Andreas Lincke**
Negotiation	Mastenbroek (1989) Fisher/Ury (1991) Lewicki (1999)	Application to new media.
Psycho-linguistic, speech act analysis	Searle (1976) Renkema (1993) Ulijn/Strother (1995)	Application to email negotiations.
National Culture	Hall (1976) Hofstede (1980, 1991) Ulijn/Weggeman (2001)	Application to negotiations.
Computer-supported communication	Hiltz and Turoff (1978) Poole (1991) Yates (1996)	How does an innovation context trigger an effective use of innovative communication media?

Table 4.1: Scientific contribution of the research project

This study aims at contributing to the development of a theory of negotiation in which communication media (in particular NSS vs. FTF) as well as linguistic and cultural aspects are taken into account. Most of negotiation theory does not consider these aspects, or when it does, it takes one dimension (media, language or culture). This research considers the question how these dimensions interact. The above mentioned conflict management tactics also refer to the "iceberg" and "onion" metaphors as discussed by Ulijn and Kumar (2000) and indicated by negotiation theory (Fisher and Ury, 1991; Mastenbroek, 1989): Be soft on the people (bottom of the iceberg) and hard on the issues (top of the iceberg, for the iceberg model of culture see Figure 1.1).

In this study, several hypotheses are developed that explore major aspects of negotiation strategy that are dealt with in FTF and CMC settings (see Chapter 1.3). The development of those hypotheses is done on the basis of a literature study and four experiments that took place in 2001 and 2002. Those experiments will be explained in detail in the following Chapter 5.

Inter-cultural experiment including Nordic, Anglo and Latin cultures:

H1: *FTF contributes more to a win-win strategy in negotiation than CMC does.*

H2: *FTF affects the participant's ability to empathize with each other more than CMC does.*

H3: *There are cultural differences in negotiation strategy.*

H4: *There are cultural differences in the negotiator's ability to empathize with each other.*

Those four hypotheses deal more generally with Anglo-Nordic and Latin culture clusters (as explained in more detail in Section 5.1) whereas the following two hypotheses relate to a specification of the Nordic and the Germanic culture cluster: the Nordic culture cluster is represented by the Netherlands and the Germanic culture cluster is represented by Germany.

Cross-cultural and inter-cultural experiments including Dutch and German cultures:

H5: *German negotiators are more cooperative in the OM context than in the IM context.*

H6: *Dutch negotiators are more cooperative in the IM context than in the OM context.*

The reason for choosing Dutch and German cultures is as follows: Being neighboring countries, the Netherlands and Germany share many crucial institutional factors and a common European history. The Dutch and German economies have been deeply inter-related for a very long time. Until the beginning of the 18th century the Netherlands dominated the relationship. Germany was literally the 'Hinterland' (Olie, 1996). But with the declining international importance of the Dutch Republic and the rise of Prussia, influence shifted in the opposite direction. After the German unification in 1871, Germany quickly developed into a nation of major economic importance for the Netherlands. Rotterdam became the leading seaport for the quickly industrializing Ruhr district, and the traditional maritime and colonial focus of the Netherlands shifted to a stronger continental orientation. By the start of the First World War, 48% of Dutch exports went to Germany, and 28% of its imports came from Germany (Olie, 1996). The growing German participation in Dutch banking and shipping, and German assistance in the industrialization of the Netherlands, bear witness of the growing economic dependency of the Netherlands on Germany. This relationship has not changed fundamentally since. Holland's postwar prosperity, in fact, has been largely due to close cooperation with Germany. Today, Germany is the Netherlands' most important economic partner, far exceeding the importance of other European countries. Exports to Germany, including agricultural products, non-mineral oils and mineral fuels, account for some 30% of Dutch foreign trade. Imports from Germany, including manufactured goods, investment and consumer goods, account for 25% of total imports (Statistisches Bundesamt, 2002). France and the Netherlands

are Germany's biggest trading partners. The Netherlands is Germany's fifth largest customer and second largest supplier (Statistisches Bundesamt, 2002).

The answers to the hypotheses might be affected by important variables in (international) negotiations, such as NC, roles and the computer system in use. Before the mentioned hypotheses were developed, the author in cooperation with J. Ulijn did an empirical study called the ALYK (Andreas Lincke, Yunus Karakaya) case with 22 students of an International Negotiation class at Eindhoven University of Technology (the experiment is published in Ulijn et al., 2001). The students were from the United States, Canada, The Netherlands, Sweden, Finland, France and Colombia (15 males and 5 females). Five of them had business negotiation experience. There were two parts: A survey about the (dis)advantages of the different media, such as e-mail, video-conferencing, Internet-relay-chat (IRC), virtual reality, telephone, fax and face to face, which mostly confirmed the findings already mentioned. However, the most (dis)advantages were mentioned for FTF in comparison with the electronics-based negotiations. This result shows that we have a controversial issue here. Is it possible to negotiate deals over e-mail? Negotiation experience is definitely a factor here. Inexperienced students appeared to spend much less time on preparation running into a failure in both e-mailed and FTF situations. The medium seems not to change the negotiation purpose or strategy, it might affect only the method to reach your goals. Closing is difficult in any negotiation (*Ask for the deal!;* for the importance of closing in negotiations see Section 2.1 and Chapter 3), but in an electronic situation you cannot easily "*Walk away and come back*", even if you have a high BATNA (see Section 1.3).

The second part of this study used a simulated negotiation over email about the ALYK case including one seller and one buyer of a computer system. It is important to notice that the study about the ALYK case differs from this PhD research in the way that the negotiations were only simulated email negotiations: This means that in the ALYK case, the participants did not sit in front of a computer writing emails, but they simulated this situation by writing their messages on a sheet of paper without seeing each other. A speech act analysis was made on these data with the non-published cluster-factorised list of Van der Wijst and Noordman identified on negotiation transcripts by 20 students and quoted by Ulijn and Strother (1995). The balance between cooperative and noncooperative behaviour (for instance *confirm*, *admit*, *inspire confidence*, *show good will* vs. *reject*, *object*, *deny*) and between general (*ask*, *request*, *suggest*) and metacommunicative speech acts (*repeat*, *explain*, *close*) is about equal, but not between the first and the second category. About 2/3 of all speech acts were general (29%) and metacommunicative (39%) to the expense of

negotiation strategy (cooperation, or win-win, vs. competition, or win-lose). This finding is in line with Condon and Cech' study (Condon and Cech, 1996), which compares FTF with computer-mediated decision making interactions and ascertained a 3 times higher use of metalanguage in the electronic condition. As mentioned before, the Ulijn et al. study just simulated the email condition; this study will use effectively this condition in a simulated real-life negotiation to keep possible contaminating variables under control.

4.3. Methodological approach of discourse analysis

This study is an attempt to test a negotiation strategy by linguistic means. In their psycholinguistic analysis of the technical and business communicator, Ulijn and Strother (1995) argue that linguistic analysis can be used, in both CMC (email and NSS) and FTF (negotiation) situations, to provide evidence of the effectiveness of communication strategies if the experimental setting meets some design and business relevance requirements. Specifically, in contrast to other deductive, descriptive, ethnographic speech act analyses, this study attempts to apply the quantitative methods of formulating and testing hypotheses in the hopes of increasing the reliability and validity of the speech act analysis. A simulating manufacturer-supplier case was developed by F. Wynstra (1999) at the Faculty of Technology Management, Eindhoven University of Technology (TUE) to gather data from the participants of the "International Business Negotiation" course by J. Ulijn. Those data will be analyzed in the following Chapter 5 by applying a speech act- and personal pronoun analysis as a further exemplification of discourse analysis to test the hypotheses mentioned above. Hence, the following sections will discuss this psycho-linguistic approach in detail.

4.3.1. Speech acts as an exemplification of discourse analysis

Discourse analysis is sometimes defined as the analysis of language 'beyond the sentence'. This contrasts with types of analysis more typical of modern linguistics, which are chiefly concerned with the study of grammar: the study of smaller bits of language, such as sounds (phonetics and phonology), parts of words (morphology), meaning (semantics), and the order of words in sentences (syntax). Discourse analysts study larger chunks of language as they flow together. Some discourse analysts consider the larger discourse context in order to understand how it affects the meaning of the sentence. For example, two sentences taken together as a single discourse can have meanings different from each one taken separately (Bühler, 1995).

Discourse and frames

'Reframing' is a way to talk about going back and re-interpreting the meaning of the first sentence. Frame analysis is a type of discourse analysis that asks, "*What activity are speakers engaged in when they say this?", "What do they think they are doing by talking in this way at this time?"* (further explanations about the concept of (re-)framing can be found in Section 2.2). Consider how hard it is to make sense of what you are hearing or reading if you don't know who's talking or what the general topic is. When you read a newspaper, you need to know whether you are reading a news story, an editorial, or an advertisement in order to properly interpret the text you are reading. Years ago, when Orson Welles' radio play "The War of the Worlds" was broadcast, some listeners who tuned in late panicked, thinking they were hearing the actual end of the world. They mistook the frame for news instead of drama.

Speech acts

Speech act analysis asks not what form the utterance takes but what it does. Saying "*I now pronounce you man and wife*" enacts a marriage. Studying speech acts such as complimenting allows discourse analysts to ask what counts as a compliment, who gives compliments to whom, and what other function they can serve (Bühler, 1995). For example, linguists have observed that women are more likely both to give compliments and to get them. There are also cultural differences; in India, politeness requires that if someone compliments one of your possessions, you should offer to give the item as a gift, so complimenting can be a way of asking for things. An Indian woman who had just met her son's American wife was shocked to hear her new daughter-in-law praise her beautiful saris. She commented, "*What kind of girl did he marry? She wants everything!*" By comparing how people in different cultures use language, discourse analysts hope to make a contribution to improving cross-cultural understanding.

In certain situations, we vocalize in order to send messages through the air to other members of our species. Such situations are speech events. In the approach to the analysis of speech events termed speech act theory, the message sent, the content of the communication, is a form of human action. This action is not the act *of* speaking, but an act we perform *by* speaking - a speech act. An example should clarify matters. If I were to say: "*I promise to give you ten Euros.*" I have made a *promise*. That promise is *created* by the words that I use. If I do not use those words, or equivalent words, there is no promise. That is the essence of the speech act; uttering the words generates the action. In this example, the choice of words (in particular, the word *promise*) defines the type of speech act performed. But that is not always the case. Consider the sentence: "*There's a bull in the field*." If I am describing my uncle's farm

and say: "*There's a bull in the field*.", then that sentence is an *assertion* or *statement*. If you tell me that you're going to take a short cut through the field to the pub and I say: "*There's a bull in the field*.", then that sentence is a *warning*. If you tell me you want your cow serviced but can't afford expensive stud fees, and I say: "*There's a bull in the field*.", then that sentence is a piece of *advice*. The type of speech act performed by particular words often depends on the speaker's intention and the context in which the words are uttered. These examples illustrate that the particular words uttered do not always uniquely define the type of speech act performed in uttering those words. For that reason, it is useful to distinguish three components of any speech act (Austin, 1976):

- locutionary acts: speaker says something, represents facts; these acts concern the contents of propositions,
- illocutionary acts: speaker acts by saying something ina particular mode of the speech acts; e.g. *promise, order, statement*,
- perlocutionary acts: speaker generates an effect on the hearer through utterance of the speech act (i.e. through acting by saying something); e.g. *fear, belief*.

The same locutionary act might have a different illocutionary force, depending on the *context* in which that act is performed.

A typology of speech acts
Traditional grammar recognises three classes of speech act, distinguishable in many languages on the basis of their form:

- statements or declaratives, e.g. *"Aaron took out the rubbish."*
- questions or interrogatives, e.g. *"Did Aaron take out the rubbish?"*
- commands or imperatives, e.g. *"Take out the rubbish, Aaron!"*

Though the unmarked illocutionary force for declarative sentences is assertion, we have already seen that they can be used with other illocutionary forces as well. Similarly, not all interrogative sentences represent acts of questioning:

1. **a.** *Would you mind shutting the door?*
b. *Yes, I would.*
2. **a.** *I'm going to quit school.*
b. *Do you want to be poor all your life?*
3. **a.** *Did they kill Kenny this week?*

b. *Does the sun rise in the East?*

4. *Were you born in a tent or a pub with swing doors?*

Example 1a. is a question form with the illocutionary force of a request or order. (Most polite commands are put in question form in English; the imperative form signals urgency, anger, and/or an assertion of authority.) If the addressee treated this instance of a question *form* as an *act* of questioning, we would most likely feel that the addressee was being non-cooperative. We would probably interpret the response 1b. as a defiant refusal to undertake a simple request. 2b. and 3b. are what are commonly termed *rhetorical* questions. That term is simply a labelling for a number of classes of cases where question forms do not have question force. 2b. is a warning, while 3b. is an oblique affirmative 'yes' response. Example 4 is an order, usually yelled at who leave the doors wide open during mosquito hour. A more polite version is:

5. *Would you like to shut the door?*

Similarly, imperatives need not express commands:

6. *Give me a hand with this.*
7. *Enjoy yourself in Bali.*
8. *Make yourself a cup of coffee.*
9. *Use at your own risk.*

where 6 is a request, 7 is a wish, 8 is an offer, and 9 is a warning.

Searle's typology of speech acts

If the traditional 'statement, question, command' contrast is a speech act typology at all, it is at best a pairing of sentence forms and their most literal, unmarked illocutionary force. The set of speech acts recognised in most linguistic communities is much larger and more fine grained than this traditional typology allows. An example of a more adequate classification is the one proposed by the philosopher John Searle in a 1976 paper. (The subcategories given under each category are meant to be representative, but not exhaustive.)

- Representatives are speech acts that represent some state of affairs: e.g. *assertions, claims, descriptions.*
- Commissives are speech acts that commit the speaker to some future course of action: e.g. *promises, threats, vows*.

- Directives are speech acts whose intention is to get the addressee to carry out some action: e.g. *commands, requests, dares, entreaties*.
- Declarations are speech acts that themselves bring about a state of affairs: e.g. *marrying, naming, blessing, arresting*.
- Expressives are speech acts that indicate the speaker's psychological state or mental attitude: e.g. *greeting, congratulating, thanking, apologizing*.
- Verdicatives are speech acts that assess or pass judgement: e.g. *judging, condoning, permitting*.

In everyday conversations we generally have not great problems in identifying the kind of speech act our interlocutor is performing. We apparently are able to use a variety of linguistic cues for making the correct identifications. This ability is the more amazing as it is very hard to formulate an explicit theory of speech acts that classifies the different speech acts and specifies the relations between speech acts and utterances (Searle, 1976; Austin, 1976; Renkema, 1993). These proposals aim to give a classification of speech acts that enables one to identify all utterances in terms of their illocutionary force. These proposals find their inspiration in a more philosophical approach to speech acts and human intentions in general that goes beyond the linguistic forms in which the intentions are expressed. As a result of the requirement for the theory to classify all utterances in terms of their illocutions without yielding a proliferation of categories, the categories of these classifications are too global and it is too difficult to use them for the purpose of studying speech acts in natural language as intended in this PhD study. In fact, they often do not differentiate between speech acts in a same class that differ in important, but subtle ways. Another requirement for the theory is that the categories are univocal. A classification of speech acts should be able to assign a particular speech act to one particular category in the classification. If the classification is not sufficiently fine-grained, this is not possible.

In Searle's classification as presented above for instance it is not clear whether the speech act 'to convince' belongs to the category of 'representatives' or to the category of 'directives'. The speech act 'to convince' can belong to both categories: to the first since 'to convince' commits the speaker to the truth of the expressed proposition, and to the second category since 'to convince' is at the same time an attempt by the speaker to get the addressee to do something (for instance: believe that the speaker's argument is more plausible than his own). Although speech act theory has had an important impact on pragmatics, its use for the study of natural language seems limited. As seen above, several proposals for a classification of speech acts have been made, but they can hardly serve as a tool to identify the illocutionary force of an

utterance. Therefore in this study of the illocutionary force of utterances in audio-recorded conversations (see Chapter 5) in a special communicative situation, i.e. business negotiations, the empirical approach by van der Wijst and Noordman as quoted in Ulijn and Strother (1995) has been adopted. Van der Wijst and Noordman have chosen to study the illocutionary force of utterances in a special communicative situation which is relevant to this PhD study: business negotiations. They investigated whether subjects can reliably identify the speech acts negotiators are performing, and, second, established a classification of speech acts on the basis of the judgments of subjects. The first question was answered in an experimental setting. Subjects showed a considerable agreement in their identifications of the illocutionary force of selected utterances. In a second experiment subjects were asked to order the 'labels' of the speech acts used in experiment 1. A clustering of the subjects' classification yielded four main categories of speech behavior, characteristic of the negotiations:

- Noncooperative speech acts (N): e.g. *criticize, deny, disapprove, object, reject, show indignation, irritation.*
- Cooperative speech acts (C): e.g., *admit, approach, be forthcoming, confirm, inspire confidence. emphasize cooperation, show goodwill*.
- General speech acts (G): e.g., *ask (for understanding, confirmation, information), explain, request, stipulate, suggest*.
- Metacommunicative speech acts (M): e.g., *conclude, close, engage, offer, promise, propose, remind, repeat, resume, specify*.

To explore this study's hypotheses, the author uses speech act analysis to identify cooperative attitude (including its lack) on the basis of this cluster-factorized list. A speaker's words often convey more than the literal meaning of the words uttered. A speaker can only express what he means in a way that the listener understands if the listener cooperates. To capture this notion, Grice formulated a general principle of language use, the 'cooperative principle' (Grice, 1975). The methods of this PhD study relate to the findings by Condon and Cech (1996), who compared FTF with computer-mediated decision making interactions and ascertained a three times higher use of metalanguage in the electronic condition to stimulate socializing at a distance. A linguistic analysis by Werry (1996) indicated that IRC is shaped at many different levels by the drive to reproduce and simulate the discursive style of FTF spoken dialogues. Thus, electronic discourse seems to be situated between the purely oral and written modes of communication. Speech acts occur at the boundaries of units as different as tone groups, sentences, actions, verses, and so on. This PhD study chooses the sentence as the unit of measurement by which to define speech acts (see Chapter

5; see Kuno, 1987, who uses sentences to define their contextual meaning; see Ulijn and Strother, 1995, who discuss sentences as steps in the speaker or writer's planning process). The reason for doing so is that sentences may be seen as the unit most germane to understanding language use and social interaction. It is well known that speech acts can be realized through a variety of sentence structures: a request can be enacted through a declarative sentence ("*The door should be closed*") or an interrogative ("*Would you please close the door?*") as well as an imperative ("*Close the door*"). However, basing the definition of speech acts on units of language use such as sentences is one of many possibilities that was chosen in the present study. It may be subject of investigation in future studies (see Chapter 8 which discusses this issue in more detail in the context of questions for future research).

The linguistic expressions such as sentences that carry functional meaning in terms of speech acts may carry more than one functional meaning simultaneously. Thus, speech acts may be multifunctional because they can simultaneously be intended to respond, promise, request, inform etc. In this case, the notion of multifunctionality can be recognized on the basis of distinct dimensions of linguistic information. For example, an utterance such as "*I want to discuss the price of the RF power transistor*" may either be a general speech act because the speaker expresses his wish to ask for more information about the price of the RF power transistor or the utterance can be interpreted as a cooperative speech act by emphasizing cooperation to talk about details of the deal such as the price. Such an interpretation of the speech act according to the clustering presented above depends on the context; we need more contextual information before we can establish the precise illocutionary force of an utterance. One could argue that the illocutionary force of an utterance is entirely determined by the contextual situation of that utterance. Nevertheless the linguistic features of the utterance itself play an important role in establishing its illocutionary force. For instance, discourse markers like '*well'*, '*you know'* and '*but'* are important illocutionary force indicating devices (IFIDs) (Schiffrin, 1987). In the experiments presented in Chapter 5, the multifunctionality of speech acts is of minor relevance. It would be very relevant if one tried to give a formal transcription or semantic representation of the text. However, in the experimental set-up of Chapter 5, two raters make a classification (according to the clustering presented above: cooperative, non-cooperative, meta-communicative and general speech acts) and their results are integrated in the Cohen's Kappa test (see Section 4.3.3). Thus, if a sentence embodies multiple speech acts, then first, this does not mean that it belongs to multiple categories, and, even if it does, because it would include contradictory clues, then the rater makes a subjective judgment about the 'net effect'. With the Cohen's Kappa test, errors are adjusted that can occur in this judgment. Schiffrin (1987), who applies a

similar simplification, states that understanding how language is used and how it is structured depends on consideration of how it is embedded in the context. According to Schiffrin, raters may be guided by "individual intuitions about idealized isolated sentences" (p. 3). The results of the data analysis in Chapter 5 show that the effects of ambiguity and multifunctionality are low: The range of the Kappa values lies between 0,81 and 0,90, see Table 5.4 and Table 5.10. If those effects were high, this would show itself in big differences between the rater's results, which is not the case.

In the above discussion of illocutions and the multifunctionality of speech acts, it was noted that these can be seen as functions of certain forms. The form 'announcement' can function as 'order', 'request', etc. Obviously, this does not adequately describe the term 'function'. In discourse studies, the definition of function is: the objective and effect in a given situation (Renkema, 1993). For instance:

A: *Do you smoke?*
B: *Well, if you've got a cigarette.*

The function of A's utterance could be that A wants to make B feel at ease by using the question form for the illocution 'offer'. A's objective has a specific effect: B makes it clear that the illocution is understood, and counters with, as a perlocution, a suggestion which makes it clear that A's objective has been achieved. The interpretation of possible objectives and effects can be strongly influenced by the situation in which the utterance takes place. If, for example, the question "*Do you smoke?*" is asked by a physician, it does not function as a means of starting a conversation, but as a medical question. The situation in which discourse is produced and processed can be analyzed into a large number of factors that can have an influence on possible objectives and effects of discourse. Such a description is available for the listening and the speaking situation. In a typical speaking/listening turn during a negotiation session, the interaction between the speaker and the listener occurs with the following flow as shown in Figure 4.2 (Ulijn and Strother, 1995). The speaker thinks of (conceptualizes) (C) a particular set of concepts to be converted into a text fragment, such as a sentence or a bigger chunk. As Levelt (1989) suggests, this thought can already be structured in a linguistic form. The speaker tries to formulate it by retrieving the correct words/terms from his mental or other lexicons (L) and by providing them with an appropriate syntactic structure (S) at the same time. In the beginning of the formulation process, the conceptual structure of the thought exploits the lexical and syntactic valency of the linguistic forms. However, the speaker often has to revise his original thoughts to produce an adequate sentence. The listener usually needs only a superficial syntactic analysis (SA) of a sentence, such as locating the verb and

sometimes the subject and the object to process it. However, he always needs a complete conceptual analysis (CA) based upon the content words known from his lexicon (LA). Generally, he then understands the gist of what has been expressed and needs no further syntactic analysis. He is only interested in extracting the meaning of what is being said, not in analyzing ist exact syntactic structure. The speaker/listener interaction is reached by an essential feedback loop which is crucial to effective negotiating.

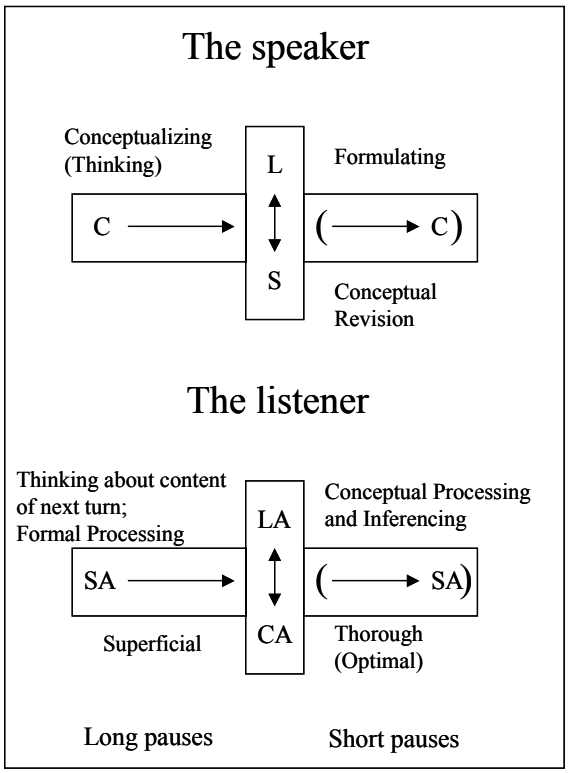

Figure 4.1: Speaking and listening turn during a negotiation session (Ulijn and Strother, 1995)

What does this mean for negotiations? During a speaking turn, your opponent will spend a lot of time in thinking what to say (C, marked by long pauses, Ulijn and Strother, 1995). Once he decides this, he will formulate it rather quickly (L+S) with a possible content revision (C) (short pauses) while you are listening to what the speaker is saying. Although you have to be on standby (formal processing) constantly, you will have time to reflect on the previous turn and plan the next one in line with your overall strategy. As soon as the short pauses start, you have to work hard as a listener; you have to process the main message and also infer what is not being said explicitly. You are listening “between the lines”, paying attention to hidden meanings and non-verbal cues.

The key for successful business communication both inside and outside the company seems to be an increased amount listening if you are near the top of the chain of command and more speaking for those nearer the bottom of that chain. The average American manager spends 30% of his time speaking and 45% listening, and a top manager may spend as much as 70% listening (Ulijn and Strother, 1995). The more power you have, the more critical it is to have good listening skills. In negotiation as in most business communication situations, managers must make decisions on the basis of what they hear, not on the basis of what they tell other people. That means that lower management and lower ranking personnel should be encouraged to express themselves openly to the top management of a firm.

Habermas (1984) argues that the competence of an "ideal speaker" must be regarded not only as the ability to produce and understand grammatically correct sentences but also as the ability to establish and understand modes of communication and connections with the external world. Therefore, communicative as well as linguistic competence is important. Habermas distinguishes three types of actions:

- *instrumental actions* which are material actions that follow technical rules; they have an effect on events and states of the world,
- *strategic actions* which follow rational rules and try to influence a rational opponent in order to achieve personal success,
- *communicative actions* where the motivation is rationally grounded consensus between communication partners.

Both instrumental and strategic actions are oriented towards success but they differ in the rules they follow, i.e. technical or rational rules. In contrast, communicative actions are oriented towards an agreement between a speaker and a hearer. In instrumental actions "success" is linked to the successful performance of actions whereas strategic actions aim to get the hearer to behave in a way that suits the speaker's own goals. Habermas argues that communicative interaction is the main mode of language use. In most communications there is a negotiation process towards an agreement between speaker and hearer. Speech acts that do not follow this orientation are defective acts. Therefore, strategic actions that try to achieve personal success are called defective acts, e.g. the act of ordering an opponent to perform a certain action without giving him or her the chance to accept or refuse, does not follow the ideal of negotiating towards a mutual agreement.

The "normal" type of speech act is the illocutionary act. A perlocutionary effect arises when the speaker combines speech acts and intentions. Perlocutionary acts are defective in the sense that they are covert acts. The intention is not declared which makes perlocutionary acts covert strategic actions. For example, asking someone to pronounce a German sentence with the intention to ridicule him or her would be seen by Habermas as a defective act unless the speaker openly declares this intention. Habermas criticizes both Austin and Searle for not recognizing that language is uses to coordinate actions and proposes to refine their language analysis. In the Theory of Communicative Action, only non-defective speech acts, i.e. no strategic, perlocutionary, or indirect acts, are considered.

4.3.2. Personal pronoun analysis to identify empathy and involvement

Personal pronoun analysis will be used to identify involvement and empathy. Both terms of involvement and empathy will be shortly described and their relation will be presented afterwards. Empathy has been defined by psychologists in two ways (Ickes, 1997):

- Empathy is the cognitive awareness of another person's internal states, that is, his thoughts, feelings, perceptions, and intentions.
- Empathy is the vicarious affective response to another person.

This study deals with the first type which is derived from the cognitive school whereas the second type is derived from the behavioral school. During the negotiations in both the FTF and CMC setting (see Chapter 5), it became obvious that the negotiator's accurate cognitive assessment of their negotiation partner's feelings – what Ickes (1997) calls empathic accuracy – is important for a mutually acceptable solution. This is not to deny the importance of affective empathy (second type of definition) which means that one empathizes to the extent that one's feelings match the other's feelings. Indeed, a certain amount of affective empathy is built into this study's theory, although empathy is more seen as including awareness of the negotiator's relevant (non-)cooperative negotiation strategy (see Chapter 2 form more information about possible negotiation strategies). Involvement is an individual, internal state of arousal with intensity, direction and persistence properties. By "intensity" the level of arousal experienced by an individual is meant, or how prepared one is to enlist specific information-processing or goal-related behaviors. "Direction" refers to the stimulus or object "toward which the arousal is channelled"; and "persistence" indicates the duration of the intensity, either enduring or situational (Andrews et al., 1990). Involvement is a strategy connected with considering and

shaping one's own perspective. It is concerned with the matter of whether one's own view is a target of the communication or whether it is left outside the scope of communication. Involvement includes both cognitive and social aspects of the negotiator's perspective. Involvement can best be demonstrated by taking interest in your own viewpoint, expecting your negotiation counterpart to inquire about your affairs and attitudes , to support them, and to share common beliefs. Gergen (1991) notes that similar to personal life, an attitude of self-referral due to a deep experience of Self is deemed to be more effective and powerful than one of other-referral, where one is continually seeking the approval of others due to a deep experience of Self is deemed to be more effective and powerful than one of other-referral, where one is continually seeking the approval of others and is influenced by fleeting circumstances. Gergen states that other-referral is essentially fear-based, and the deeper cause of the need for controlling others. After having defined empathy and involvement, it can be stated that in business negotiations, CMC prevents empathetic people (empathy related to the use of y*ou* and *we inclusive*) to get involved (involvement related to the use of *I* and *we exclusive*), see Figure 4.2.

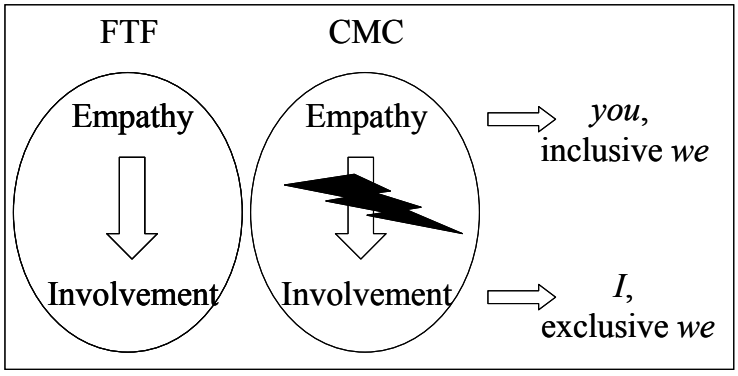

Figure 4.2: Relationship between empathy and involvement in an FTF and a CMC context

The reason for this is the lack of audio and visual communication channels. Furthermore, individuals have needs and desires; and an individual's needs and desires inevitably conflict with those of other individuals. Culture can minimize the frequency of such conflicts and there are likely fewer in cooperative cultures with a strong tendency to empathize in a mutually beneficial way than in more competitive cultures with a low tendency to empathize. This has an influence on the participant's ability to show empathy and involvement during FTF and CMC negotiations. Personal pronoun analysis has been used to identify involvement and empathy, which can be referred to the previously mentioned iceberg model, see Figure 4.3. Yates (1996) compared CMC with the written and spoken modes. For electronic

communication, the first person pronouns (*I, we*) were used most, followed by the second person pronoun (*you*). In contrast, in emailed negotiation the third person pronoun (*s/he, it, they*) was used much less.

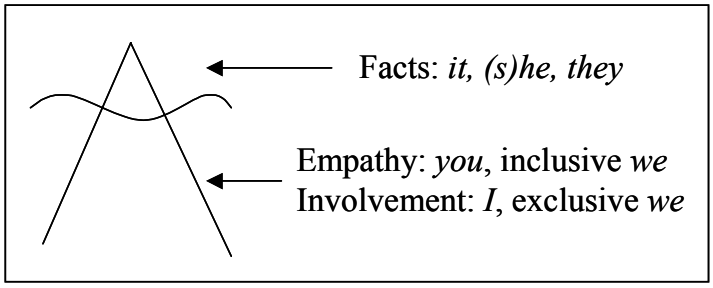

Figure 4.3: Iceberg Model as expressed by use of pronouns (adapted from Selfridge and Sokolik, 1975)

The predominant use of the first personal pronoun has been confirmed for a corpus of 115,618 words of electronic English language by Collot and Belmore (1996). Their findings were comparable in frequency of use with Biber's corpus of one million written and 500,000 spoken English words in which the use of the first person pronoun was twice as frequent in the Electronic Language Corpus, with the use of third person pronouns equal. Unfortunately, the use of the second person pronoun was not analyzed. It will be possible to compare this study's findings with those two studies. Applying this earlier work by Yates (1996) and Collot and Belmore(1996), this study identifies all personal pronouns in the transcripts of the negotiations as a measure of involvement and empathy. Empathy has been defined by psychologists as follows: (Ickes, 1997): Empathy is the vicarious affective response to another person. Affective empathy seems like a simple concept – one feels what the other feels – and many writers define it in simple outcome terms: One empathizes to the extent that one's feeling matches the other's feeling. Involvement is an individual, internal state of arousal with intensity, direction and persistence properties. Empathy as related to the use of second personal pronouns may imply more easily cooperative behavior as it reflects the negotiator's ability to put himself into the shoes of his/her negotiation partner whereas involvement – understood as the use of exclusive first personal pronouns – may imply more easily non-cooperative behavior (for a thorough discussion on empathy, involvement and (non-)cooperative attitude see Ulijn and Lincke, 2004. As explained in Chapter 1, four experiments were conducted in order to answer the research questions and hypotheses about the interaction between medium, innovation context and culture. The results of those experiments were 44 transcripts with a total sum of 48.161 words (see Figure 5.6). In order to see if the results are

significant and in order to achieve an inter-rater reliability, some statistical methods were applied which are discussed in the following paragraph.

4.3.3. Statistical methods used

Because of the small scale of the sample and potential differences in languages, a non-parametric statistical interference analysis is used to analyze personal pronoun use (Gibbons, 1985). Since most of the samples comprise two sheets of written text (the negotiation transcript) and the participants only have 20 minutes of time, it is assumed that the average usage of pronouns is symmetrically distributed around a mean value. Therefore, the Wilcoxon rank sum test can be used: On the basis of 2 independent samples, the Wilcoxon rank sum test is used to compare the 2 sample's distribution functions. Doing so, it is assumed that the relevant distribution functions are continual. Because it is non-parametric, it makes no assumptions about the distribution of the data (Hartung, 1995).

Cohen's Kappa is an index of inter-rater reliability. This statistic is used to assess inter-rater reliability when observing or otherwise coding qualitative/categorical variables. Kappa is considered to be an improvement over using % agreement to evaluate this type of reliability. Kappa is not an inferential statistical test, so there is no null-hypothesis. Kappa has a range from 0 to 1 with larger values indicating better reliability. Generally, a Kappa > 0.7 is considered satisfactory (Cohen, 1960). In the experimental studies about speech act analysis and personal pronoun analysis, the index of Cohen's Kappa was used to compare the results of two independent raters who counted the numbers of speech acts in each of the transactions. The unit of measurement was sentences which means that each sentence was clustered according to one of the above mentioned speech act clusters (see Section 4.3.1): (non-) communicative, general and meta-communicative. As the counting of personal pronouns is in itself an objective procedure, the index of Cohen's Kappa does not have to be applied for the counting of pronouns. Figure 4.4 visualizes the sequence of the statistical methods used. Both the FTF and CMC transcripts were analyzed with respect to personal pronouns and speech acts. As explained above, it is necessary for the speech act analysis to have two raters count all speech acts, which is not necessary for the personal pronoun analysis. Thus, Cohen's Kappa is applied to the results of the speech act analysis. In the end, the Wilcoxon rank sum test is used again to evaluate whether the results of both the personal pronoun analysis (comparing media, context and culture) and the speech act analysis (comparing media, context and culture as well) show any significant effects.

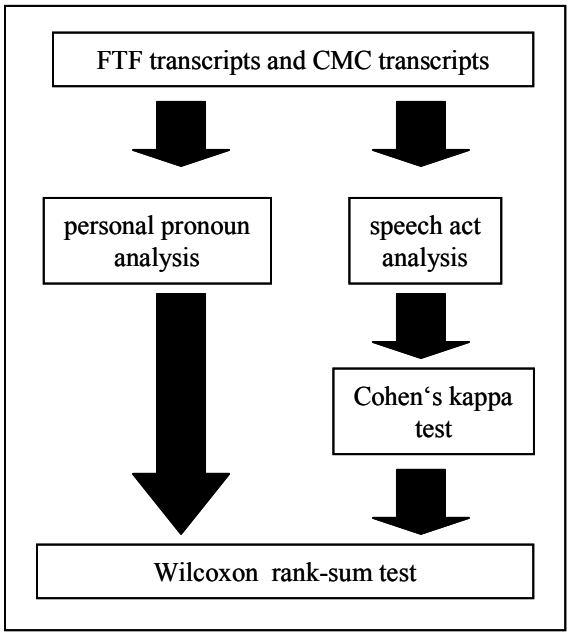

Figure 4.4: Sequence of statistical methods used

Because of the small scale of the sample and potential differences in languages, a non-parametric statistical interference analysis was used to analyze personal pronoun use (Gibbons, 1985). Since most of the samples comprise two sheets of written text (the negotiation transcript) and the participants only had 20 minutes of time for the FTF negotiation, it is assumed that the average usage of pronouns is symmetrically distributed around a mean value. Therefore, the Wilcoxon rank sum test could be used because it can be considered a non-parametric equivalent of the unpaired *t*-test.

4.4. Validity and reliability as concepts to measure the quality in negotiation research

Validity and reliability are two key concepts in measuring the quality of any research (Ulijn, 2000; see also Section 1.3 in which the concepts of validity and reliability are discussed in the context of this PhD study's research strategy). Do we analyze the right thing? Are we analyzing it the right way? Smeltzer (1993) analyzed both external and internal validity issues: Phenomenon description appeared to be more important than testing a model or theory, writing research and pedagogy used mostly students as subjects, organizational communication dealt with business managers or employees. External validity is at stake: For which audience is the research relevant? Smeltzer also looked at the internal validity of studies conducted in the *Journal of Business Communication*: 71% used "simple" frequency counts, content analyses, or

means tests. Multivariate analyses which would increase the internal validity of the studies were used in only 20% of the cases.

Internal validity is often a synonym for reliability, although one can imagine a study which has a high internal reliability but is "ecologically" or externally invalid for the business community, because the results are totally irrelevant in that context (Ulijn, 2000). What makes results of business communication research valid and reliable depends more on the research question and the reflection than on the instrumental/statistical answers. The first step to conceptualize the validity of any research for the field of inter-cultural business negotiation is to start with a definition of negotiation and culture, as presented in Chapters 2 and 3. The study by Garcez (1997, p. 90) of Brazilian-American business negotiations gives a rich overview of the different approaches for studies of negotiation. Not all studies are meant to be applicable to business practice: Economics adopt an abstract approach (e.g. game theory as presented in Chapter 2): ethnographic and sociolinguistic studies rarely focus on outcomes, tactics, and effectiveness of negotiations. The research procedures range from impressionistic observation of anecdotes and interpretation and interaction analysis of transcripts of naturally occurring talk to formal logic, theoretical model building, experimental hypothesis testing, coding schemes, and interpretation of participant observations and interviews. Simulations are most common, but prescriptive, ethnographic, and sociolinguistic studies may use real-life situations. Obviously this elaborate repertoire of methodological options varies in validity and reliability. Roughly speaking, there might often be a trade-off between two concepts: real life, prescriptive, and ethnographic/descriptive studies might have a high ecological validity (it is analyzed in the right way) but provide poor reliability (it is hardly analyzed in the right way). Some experimental approaches might have a high reliability, but be poor in (ecological) validity. Discourse analytical approaches might be poor in both: not very reliable and a poor or absent feedback from and to practice. Well planned experimental hypothesis testing, the use of coding schemes, large surveys, multiple case studies might score high on both.

Five questions might be important for validity and reliability (Ulijn, 2000):

1. Is the research quantitative or qualitative?
2. Does the research examine real life or simulation?
3. Does the research study language or "other things"
4. What kind of culture does the research examine: national, corporate, professional or just personal?
5. What is the impact of the communication medium on validity and reliability?

The following paragraphs will address each of these question with respect to the research conducted in this PhD study.

Quantitative vs. qualitative research

As mentioned in Chapter 1 and in the previous Section 4.3, this study is an attempt to test a negotiation strategy by linguistic means. It applies quantitative methods of formulating hypotheses. More specifically, this means that personal pronouns and speech acts were clustered and counted in order to formulate hypotheses. Tucker, Powell, and Meyer (1995) identify the qualitative methods used in business communication studies in three professional journals: participant observation, interview, ethnomethodology (conversation, narrative and content analysis) to non-participant and ethnography (cultural description/interpretation). Surprisingly, discourse analysis and linguistic description serving as (psycho-)linguistic tools of analysis, common methods in European research and applied in this PhD research, are not mentioned. The quantitative approach of this PhD study bears some risks that have to be carefully considered: much attention has to be paid to the selection of the appropriate statistical methods to analyze the quantitative data gathered by the linguistic approach. In this study, the Wilcoxon rank sum test proved to be the best method to distinguish significant from non-significant results. In addition, Cohen's Kappa, an index of inter-rater reliability, proved to be the best method when coding the categorical variables of the speech act analysis (for the methodological approach of discourse analysis see Section 4.3). Qualitative research seems to become more popular over the years, though still less published than quantitative studies. The important combination of qualitative and quantitative is still the least published and has hardly increased since 1990. This is a pity from a perspective of reaching the highest level of validity and reliability. This PhD study applies such a combination of a qualitative and quantitative research approach (see Chapter 5). It seems as if deductive qualitative and quantitative research provides explanations and predictions in laws, theories, and research models which derive from inductive, descriptive, exploratory research. Qualitative studies can help formulate testable definitions and hypotheses that will be (ecologically and content) valid, in particular for the business or teaching community, whereas quantitative research can increase the reliability and the construct and concurrent validity of business communication research. In the area of inter-cultural business, negotiation, the PhD thesis by Li (1999) about Dutch-Chinese negotiations is an example of qualitative linguistic research. Van der Wijst (1997) combines qualitative and quantitative work in a psycholinguistic verification of the politeness theory in Dutch-French negotiations and requests using coding schemes such as the Verbal Response Modes (VRM; Stiles, 1981; see also Ulijn and

Verweij, 2000, who use VRM) and the Face-Threatening Acts (FTA; Brown and Levinson, 1987).

Real life vs. simulation

Whether negotiation must be studied in real life or whether it is acceptable to study a simulation is an ongoing debate when it comes to validity and reliability of negotiation research results. This PhD study applies the simulation approach. As discussed in Section 1.3, an important criterion to select either real-life or simulation research is the empirical functionality (Schröder, 1986). This refers to both the ability to provide qualitatively sufficient data and the ability to formulate this study's hypotheses. In a simulated setting as applied in this study, hypotheses may be formulated in a model-like constructed reality. Hendriks (1991) concludes that the experimental tradition using simulations in games and role plays allows for empirical rigor, for manipulating variables, and for the possibility of attribution of the observed phenomena to causes, producing a high internal validity and reliability. Pruitt (1981), on the other hand, declares simulations as not valid for real business life, because they use artificial settings, students who have no or limited work experience, and limited issues and options in a compressed time. The thorough work using the Kelley game (Graham, 1994 and 1980) in numerous cultures has been replicated in Dutch and French negotiations (Van der Wijst and Ulijn, 1995) and in Dutch, Spanish, and Chinese negotiations (Ulijn and Verweij, 2000). These studies show that experienced negotiators often forget this artificial context and are not influenced by the presence of an audio recorder or a video camera: They act as if the issues were real. Studies of real negotiations with experienced negotiators might be less reliable but have a high external validity. The risk of litigation, of losing trust, or of revealing strategy explains the paucity of such studies. Examples are Halmari (1993, Finnish-American), Stalpers (1993, Dutch-French) and Garcez (1997, Brazilian-American). Ulijn (1995) and Li (1999) were able to use both simulations of a Dutch-Chinese role play and a videotaped Finnish-Chinese authentic negotiation. If combined in a careful way, real-life and simulation approaches might lead to the highest reliability and internal and external validity. Future studies which are based on the hypotheses mentioned in this PhD research might apply the real-life approach and thus compare the results to those gathered here in order to gain the highest reliability and validity.

Studying language or "other things"

What does this PhD study's stress on (psycho)linguistics contribute to increase its validity and reliability? It comes as no surprise that psychologists and linguists are in an ongoing debate about validity and reliability of "mere" discourse analyses to find out the truth about language use and language users (Ulijn and Strother, 1995) and

what those disciplines have to say about the application of their results for business practice. Mere qualitative analyses of negotiation discourse are numerous (Li, 1999). If authentic negotiations are used, such work has enough validity to give us insight into negotiation processes. Discourse analyses can increase their reliability by using both qualification and quantification, as Stalpers (1993) did. Reliability could also be increased by using more interpreters, and by calculating inter-rater-reliability by using the Cohen's Kappa test and other statistical means such as the Wilcoxon rank sum test, which has been applied in this study (see Section 4.3) Moreover, pre- and post-questionnaires could be used to see if the negotiators themselves perceive the same things as the discourse analysts. Such psycholinguistic research is still rare, but Van der Wijst and Ulijn (1995), Li (1999) and Ulijn and Verweij (2000) could increase the reliability of their findings this way. A psycholinguistic test of the results of negotiation discourse analysis might be particularly important if the negotiators have different (national) cultural backgrounds, such as Anglo, Nordic or Latin culture clusters or the specific cultures of Dutch versus German, as researched in this study (see the following Chapter 5). However, those different cultural backgrounds might be a source of misperceptions making research data unreliable. A combination of the American general strategic and model-wise approach and the European (psycho)linguistic approaches could provide an innovative setting for reliable and valid research (Ulijn, 2000).

National, corporate and professional culture

Studies of culture and communication such as this PhD study focus on national differences. Yet corporate and professional culture are other sources of cultural variation in the business community. The appendices A, D and E highlight the student negotiator's PC background in the column called "study background (PC)" and their NC background in the column called "country" or respectively "cultural cluster (NC)". It was striking that Reinsch and Lewis (1993) could spot only two sources for citation of culture from 1978 to 1992. No book was cited regularly in the context of NC, not even the work by Geert Hofstede. According to the (American) Social Science Citation Index (SSCI), this Dutch scholar has been the most cited social scientist since the late 1980s; recently he was named on of the 100 most cited living and dead social scientists worldwide; he has now been cited more than Sigmund Freud. Since 1980 the interest in inter-cultural communication is growing, and one must conclude that there is still not one single culture theory which dominates the field of business communication.

What can business communication gain from insights into the corporate and the PC of managers and employees? Cultural diversity would not only include gender, race, and

NC, but also CC and PC. Since Deal and Kennedy, there has been a growing interest in the analysis of CC (Trompenaars, 1993). Ulijn and Weggeman (2001) make an effort to demonstrate how NC and CC overlap, such as how to deal with power distance and uncertainty. In his analysis of long-term negotiations about international water disputes, where national governments seek agreement to have enough irrigation and clean drinking water, Lang (1993) presents evidence of PC's overruling differences. Engineers focus on technical specifications and project implementation and are precise and quantitative in the negotiation process. Lawyers focus on parties' rights and duties and are concerned with conflict resolution, they are precise and logical, but might create separation through their argumentation and litigation. Economists are concerned with costs, prices, payments, and cash-flow risks and tend to be technical and conservative in communicating. The last profession involved in such negotiations, politicians, try to satisfy their superiors and to avoid criticism, seek project completion, and are cautious and self-protective in their communication style. Since all those professions use their own jargon, it is not always easy to draw up technical documents accessible to all parties of concern. Ulijn and Strother (1995) suggest how to analyze and overcome those linguistic problems.

The results of the experiments to be presented in the following Chapter 5 show that we have to avoid seeing culture as a scapegoat for bad communication: "*Anglos and Nordics write in a difficult way because of their national culture*." In inter-cultural negotiations, Dutch business negotiators, for instance, appear to perceive their French counterparts differently depending on their success (Ulijn, 2000). If the meeting is profitable, they attribute this to the following factors in decreasing order of importance: 1. the negotiation issue (43.6%); 2. the individual (31.8%); and 3. the cultural background of the partners (24.6%). If they fail, culture comes first (45.5%), the other factors being almost equal (29.2% vs. 25.0%; Hendriks, 1991). Negotiations fail because of the other culture and they succeed because of one's own personality. Culture sometimes plays a negative role and personality a positive one. Poortinga and Hendriks (1989) interviewed 20 Dutch professional negotiators about their perception of foreign cultures in general: Both foreign cultures and their individual members were evaluated more negatively than their own culture and its members were. The negotiators attributed 42% of the problems in unsuccessful negotiations to cultural factors, against an average of 23% in successful ones.The question remains what we are researching: culture (NC, CC, and PC in any combination) or personality? Hofstede's (2001) impressive survey of more than 50 nations within and beyond the IBM context cannot solve this definition problem. More specifically, as introduced in Chapter 3, his scores on the five dimensions of Power Distance, Individualism, Masculinity, Uncertainty avoidance, and Long-term orientation do not lead

automatically to conclusions about how cultural groups perceive each other and how they communicate in an inter-cultural interaction. Thus the following Chapter 5 will give some experimental underpinning which may help to formulate this PhD study's hypotheses based on Hofstede's dimensions.

The communication medium

More and more, interpersonal communication takes place by means of technologically innovative media, for instance electronic meetings, NSSs, email or IRC. Two of those media have been of special interest in this PhD study: Email and NSS (for a more detailed elaboration on negotiations from a computer-support perspective see Section 2.3). Bordia (1996) gives a comprehensive synthesis of the experimental literature comparing FTF and CMC. Factors limiting the internal and external validity of such studies include limited subject characteristics (computer experience, use of students), amount of time allotted to experimental tasks, and use of different experimental designs. A difference in NC of communicators may complicate this further (Ulijn and Campbell, 2001), as the interface may not be culturally reliable. Inter-cultural negotiation research has examined different media: telex, fax, and phone (Halmari, 1993; Stalpers, 1993). But those media are generally not compared with FTF situations, which seem crucial to negotiation success. This PhD study tries to cover this research gap by combining the factors of media, innovation context and culture to find an impact on the negotiation strategy. One might expect that audio-interactions, lacking nonverbal cues, would be less cooperative, more task-oriented, and more impersonal. FTF may be more cooperative, spontaneous, informal, and reciprocal. Ulijn, Lincke and Karakaya (2001) studied cultural and linguistic aspects of CMC- vs. FTF-based international business negotiations of students taking a negotiation course, but with limited reliability (the CMC-situation was only simulated) and validity (students are not experienced negotiators). Although this PhD study still deals with student negotiators, the CMC-situation is not simulated any more in order to try to increase the reliability of the research. The medium used, however, showed an effect on using personal pronouns inline with Yates' (1996) study: the first-person pronoun was used the most (mostly *I*), then the second (*you*); the third was almost absent. This study found a cultural effect as well: Anglos (United States and Canada) used the most *I* and *we*; Nordics (The Netherlands, Sweden, and Finland) used those pronouns the least, and Latin students were between (France and Colombia). The results of this PhD study's experiments will be presented in the following Chapter 5. Chapter 6 will apply the results of the empirical study by examining a channel model of inter-cultural communication that addresses the practical needs of business persons. To produce a higher standard of reliability and validity in business negotiation research, the qualitative/quantitative loop with feedback circuits from and to business should be

completed. Such a loop with feedback will be discussed in the light of a model of e-business negotiation which is developed in Chapter 7. Conceptualizing, exploratory, qualitative work should be experimentally evidenced in the same setting of such a model of e-business negotiation which also regards the negotiation life cycle (see Section 7.2).

5. Empirical studies: the interaction of medium and culture on negotiation strategy between R&D and manufacturing partners in the supply chain

Generating a theory by formulating hypotheses involves a process of research. By contrast, the source of certain ideas, or even "models", can come from sources other than the data. The biographies of scientists are replete with stories of occasional flashes of insight, of seminal ideas, garnered from sources outside the data. But the generation of theory from such insights must then be brought into relation to the data, or there is great danger that theory and empirical world will mismatch. Thus, this Chapter 5 tries to create such a relation to the data by presenting both quantitative and qualitative analyses. It is important to note that the studies presented in this Chapter 5 represent an early phase of the research cycle, as visualized in Figure 1.6. It does not deal with testing, falsifying or verifying hypotheses, but with their formulation. As stated in Section 1.3, theory building or hypothesis formulation is a process which begins with the examination of the relationships in hypotheses and propositions. This chapter tries to examine those relationships empirically. The generally accepted approach by Popper (1959, see Section 1.3) according to which scientific research should try to falsify theoretical claims refers to the fourth step presented in Figure 1.6. This PhD study deals with the first three steps of Figure 1.6 and this Chapter 5 is specifically concerned with the second step of formulating hypotheses. By beginning the research with the formulation of hypotheses, researchers are not excluding the possibility that theory building or evaluation is a process which begins with the examination of the relationships in hypotheses and propositions, or what Kaplan refers to as the paradox of conceptualization. As Kaplan (1998, p. 53) noted, "the proper concepts are needed to formulate a good theory, but we need a good theory to arrive at the proper concepts". The results will be hypotheses to be tested in the years to come. The process of generating hypotheses presented here is based on the believe that people who might use it would arrive at results that potentially may be judged as successful. After having explained negotiation theory from different perspectives in Chapter 2 cultural factors in business negotiations in Chapter 3, this Chapter 5 deals with the empirical part of this PhD study. The following chapter is based on the research framework that has been presented in the previous Chapter 4. As indicated in Figure 1.5, the experiment offers the best options for the above developed hypotheses due to its special characteristics concerning the control of influence-factors, the design of the testing conditions, the validity of the results and the principal repeatability of

the results. Regarding the research process – as modeled in Figure 1.6 – this Chapter 5 deals with the central section of the research process.

Structure Chapter 5	Background information (materials, tasks, subjects, design)	Results: 3 studies: Study 1: speech acts, Study 2: personal pronouns, Study 3: qualitative study
Experiment comparing CMC and FTF negotiation settings (including Anglo, Nordic and Latin culture clusters)	Section 5.1	Section 5.2
Experiment comparing IM and OM negotiation settings (including Dutch and German cultures)	Section 5.3	Section 5.4

Table 5.1: Structure of Chapter 5

Table 5.1 highlights how Chapter 5 is structured: Both Sections 5.1 and 5.2 deal with the experiment comparing CMC and FTF negotiation settings whereas Section 5.3 and 5.4 deal with the experiment comparing IM and OM negotiation settings. The description of background information (such as materials, tasks, subjects and design) can be found in Sections 5.1 and 5.3. The results (as presented in Section 5.2 and 5.4) will be divided in 3 parts or studies: Study 1 refers to speech acts, Study 2 to personal pronouns and finally, Study 3 comprises a qualitative analysis. This division into 3 studies is based on what has been discussed in Section 4.4 about quantitative versus qualitative research. This PhD study applies in those 3 studies both quantitative and qualitative methods of formulating hypotheses. It tries to make a contribution to the important combination of qualitative and quantitative research that is still the least published (see Section 4.4), at least in the area of electronic business negotiation and culture.

5.1. An experiment comparing computer-mediated communication and face-to-face negotiation settings

The growing significance of global electronic commerce leads to an increasing use of computer support in negotiating deals, which to this point has been carried out almost exclusively via FTF or other high-feedback media (e.g., telephone) but not via CMC. The literature study of the Chapters 2, 3 and 4 indicated the following 4 hypotheses:

- **H1**: *FTF contributes more to a win-win strategy in negotiation than CMC does.*

- **H2:** *FTF affects the participant's ability to empathize with each other more than CMC does.*
- **H3:** *There are cultural differences in negotiation strategy.*
- **H4:** *There are cultural differences in the negotiator's ability to empathize with each other.*

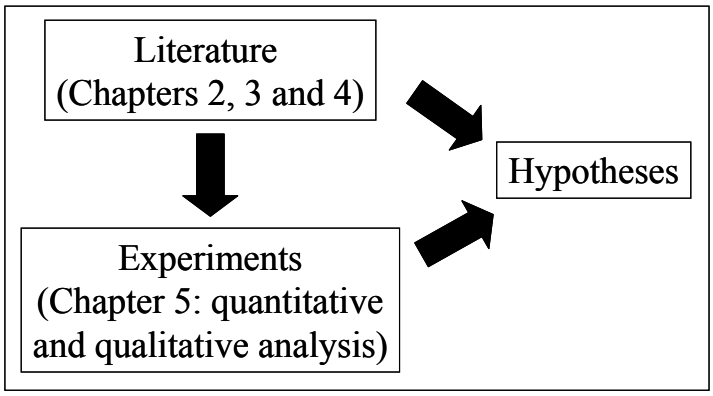

Figure 5.1: Relationship between literature, experiments and hypotheses

Using this as a basis, both the quantitative and qualitative analysis of the experiments try to go one step further by investigating if empirical studies support the forumulation those 4 hypotheses, see Figure 5.1. This study tries to address, through an empirical study, the question of whether CMC can support the discourse of effective negotiation.

Negotiation materials and the task of the negotiators

A manufacturer-supplier case called "The RadioTech case", was developed by Finn Wynstra at the Eindhoven University of Technology (see Appendix K). 24 international students were asked to negotiate a deal between a company called RadioTech and one called Ericsson. RadioTech developed a new type of RF power transistor and executives of RadioTech were faced with a problem of timing the introduction of this new product. The development of the new RF power transistor had been undertaken by RadioTech in response to a request from Ericsson, a manufacturer of radio base stations for mobile telecommunication and an important customer of RadioTech. In February, Ericsson executives were forced to postpone plans for use of the new RF power transistor eight months, from April to December. RadioTech personnel were thus faced with the question of whether they should introduce the RF power transistor immediately to other base station manufacturers or wait until the Ericsson Company was able to make use of the RF power transistor. The students had to play either the role of the Ericsson company or the RadioTech

company. Participants were given 20 minutes to negotiate the terms of the deal in a FTF setting before they had to negotiate the same case using CMC. The negotiators switched their roles between the FTF and the CMC negotiation: Those, who played the supplier in the FTF setting played the manufacturer in the CMC setting and vice versa. The rationale behind this is to see how the participants manage to put themselves into the shoes of their partner by having to negotiate from the opposite perspective in the second negotiation and to give the opportunity to the same subjects to use both media so that a subject-related preference could be controlled for to some extent. An exemplary transcript of the FTF negotiation can be found in the Appendix C.

Subjects and design

The 24 participants represented three different cultural backgrounds: Anglo (North American), Nordic, and Latin (European) and were placed in a mono-cultural and an inter-cultural setting, see Table 5.2. This clustering into Anglo, Nordic and Latin culture is derived from Hofstede (see Chapter 3) who was able to group the countries he researched into 11 cultural areas using cluster analysis. All subjects were advanced students just before the Master's level and had a comparable background of education except the Anglo participants who were less technical, being management and business (communication) students (Appendix A gives more detailed information about the subjects). As mentioned in Section 1.4, this study's moderating variables (see Figure 1.8) were kept in a balance as much as possible with respect to culture and gender. This means that it was the aim to have an equal number of mono- and inter-cultural negotiation dyads and to have as many mono-gender interactions as inter-gender interactions (and possibly an equal number of man-man and woman-woman interactions).

NC Cluster	**Countries**	**Number of Participants**		**Total**
		Male	**Female**	
Anglo-Nordic	Canada, Finland, the Netherlands, Sweden, US	5	6	**11**
Latin	France, Italy, Spain	10	3	**13**
Total		**15**	**9**	**24**

Table 5.2: Gender and national culture of the participants

An attempt was made to rule out gender and manufacturer/supplier role bias and to keep independent variables such as mono- and inter-cultural dyads under control as much as possible within the constraints of an inter-cultural negotiation class. This means that the balance between the genders was tried to be as equalized as possible. The following sections will draw no strong conclusions on differences in male and female negotiation behavior. As explained above, the negotiators switched roles between the FTF and the CMC negotiation in order to test the participant's ability to empathize with each other and to give them the opportunity to use both media so that a subject-related preference could be controlled for to some extent. In sum, 4 of the negotiations were inter-cultural and 8 mono-cultural. As described in Chapter 4, the transcripts of the simulated negotiations were categorized into four clusters of speech acts for each turn identified in the transcripts of the twelve negotiation interactions: The unit of measurement for the speech acts is sentences (see Section 4.3.1): Every sentence is assigned to one of the four speech acts. According to speech act theory as presented in Chapter 4, conclusions from speech acts to negotiation behavior are drawn, see Figure 5.2: If a negotiator uses cooperative speech acts during his/her negotiation, this will be interpreted as cooperative negotiation behavior. If he uses non-cooperative speech acts, this will be interpreted as non-cooperative negotiation behavior respectively. This means that we cannot control for non-intended non-cooperative speech acts. For instance, those non-cooperative acts might show the negotiator's limits of satisfaction with the medium and not his conscious intention to be non-cooperative on a certain negotiation context-related subject.

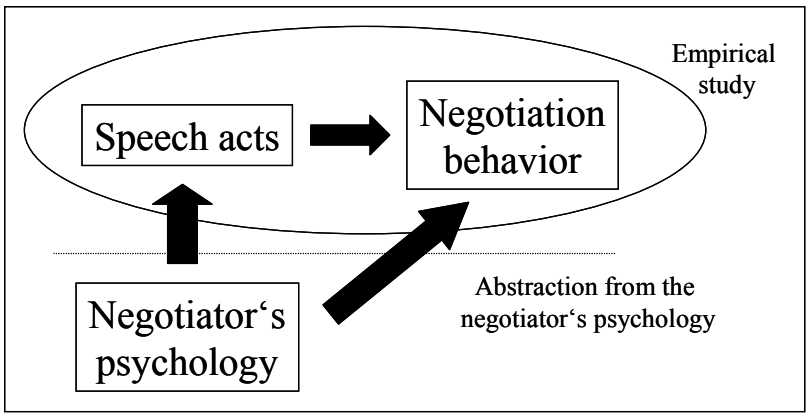

Figure 5.2: Speech acts as an abstraction from the negotiator's psychology

Thus, the relationship between speech acts and the negotiator's behavior may be seen as an abstraction from the negotiator's psychology which we do not know. This PhD study empirically investigates the link between speech acts and the negotiator's (non-)cooperative negotiation behavior, it does not empirically test the negotiator's psychology, i.e. his attitude, his feelings or experiences. Underlying this proceeding is

the assumption from literature (speech act theory and discourse theory as explained in Chapter 4) that a negotiator using cooperative speech acts in fact *is* cooperative; however, this assumption is derived from literature and not tested empirically. Appendix C presents an example of a FTF transcript, which was selected due to its approximately average length. For illustration purposes a copy of an exemplary negotiation is quoted below.

RadioTech:
Let us explain that we are a manufacturer of specialty electronic components and that key players in the communications industry rely on RadioTech to provide the latest high-tech products. We are not willing to wait until you are able to make use of the RF power transistor. Thus, we suggest to introduce the RF power transistor to other base station manufacturers immediately.
Ericsson:
We absolutely disagree with your suggestion to introduce the RF power transistor to other base station manufacturers. Please consider the fact that we were the first who requested for a better RF power transistor, which had given you the idea that lead to the creation of the new RF power transistor. In order to reach an agreement, we propose to give you a financial compensation if you do not introduce your RF power transistor to any other customers.

Appendices F, G, H and I present examples of FTF and CMC transcripts, which were selected due to their approximately average length.

12 international negotiators in the FTF setting	**24 international negotiators in the CMC setting**
Experiment in September 2001. Result: 12 transcripts. Size of the data set: 12.132 words.	Experiment in September 2001. Result: 24 transcripts. Size of the data set: 3.892 words.
Total size of the data set: 36 transcripts, 16.024 words	

Table 5.3: Experimental design of the FTF and CMC negotiations

Table 5.3 visualizes the design of the experiments: In September 2001, 12 international negotiators (the first 6 groups, see Appendix A) negotiated the RadioTech case FTF, resulting in 12 transcripts – which derived from an audio-tape of the FTF negotiations - and at a total size of 12.132 words. The negotiations were followed by those in the CMC setting, including all 24 international participants

producing a total data set of 3.892 words. Thus, the total size of both data sets that were analyzed is 36 transcripts containing 16.024 words.

5.2. Results of the experiment comparing computer-mediated communication and face-to-face negotiation settings

As explained above, the presentation of the results contains 3 studies: Study 1, Study 2 and Study 3. All 3 studies are designed to investigate if the empirical study supports the formulation of the 4 hypotheses mentioned above, see Figure 5.1. Study 1 deals with an analysis of speech acts, Study 2 deals with an analysis of personal pronouns and Study 3 comprises a qualitative analysis. The following paragraphs will deal with the 4 hypotheses in the order of their numbering, starting with H1 and ending with H4.

Study 1: Cooperation versus competition

This section addresses the first hypothesis*: FTF contributes more to a win-win strategy in negotiation than CMC does.* Figure 5.3 presents the relative distribution of the speech acts found in the 12 CMC - and 6 FTF negotiation transcripts. The unequal level of negotiation transcripts (N=6 FTF negotiation transcripts and N=12 CMC negotiation transcripts, see Figure 5.3) is due to the explorative character of this study and the constraints of the student negotiator's time and availability. The FTF negotiation experiments took place during J. Ulijn's course on "International Business Negotiation", with each of the FTF negotiations taking a maximum of 20 minutes, resulting in a total maximum negotiation time of 2 hours. As Table 5.3 shows, the experiments totalled in 36 transcripts comprising 16.024 words.

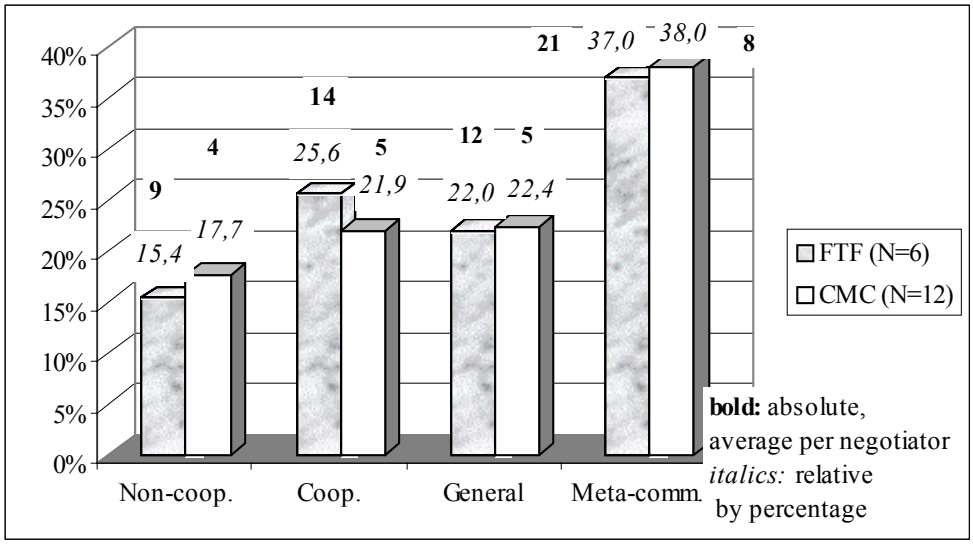

Figure 5.3: Proportion of four speech act clusters in the FTF and CMC negotiation (H1)

Figure 5.3 highlights the proportion of four speech act clusters in the FTF and CMC negotiation. The bold numbers in that figure represent the average absolute number of the respective speech act cluster in either the FTF or the CMC negotiation. The reason for giving average absolute numbers and not total absolute number for all FTF (or respectively CMC) transcripts is the unequal level of negotiation transcripts (N=6 FTF negotiation transcripts and N=!2 CMC negotiation transcripts) which would make it impossible to compare the FTF and the CMC negotiation in total absolute numbers. In addition to the absolute numbers, Figure 5.3 visualizes the relative numbers by percentage for both the FTF and the CMC negotiation. This means that the sum over all four speech act clusters for either the FTF or the CMC negotiation totals 100%. Thus, each sentence was only interpreted as one category of speech act. The balance between cooperative and non-cooperative behavior (e.g., as indicated by the use of *confirm* or *inspire* vs. *reject* or *deny*) and between general (as indicated by the use of *ask* or *request*) and metacommunicative speech acts (as indicated by the use of *repeat* or *explain*) is roughly equal. However, about two-thirds of all speech acts were either general or metacommunicative rather than indicative of negotiation strategy (cooperative or "win-win" vs. noncooperative or "win-lose"). Thus, the general and metacommunicative speech acts were used two times more frequently than the non-cooperative and cooperative ones. Both sets of clusters are in balance, confirming a negotiation interaction somewhere between fighting and cooperating with a tendency to more win-win (see Figure 5.3 again). This is in line with the objective of most negotiation training: in the long run one wins more through cooperation than through competition. The predominant use of general and, in particular, metacommunicative speech acts, however, seems to suggest that

negotiators, who were interacting computer-mediated, had to express their involvement in the negotiation more explicitly, thus using less (non-)cooperative speech acts than they could do in a FTF setting. In both the FTF and CMC negotiations, all negotiation parties reached an agreement on the basis of what they said in the transcripts and during a questionnaire they filled in. However, as mentioned above, the cooperative attitude is slightly more present in the FTF setting than in the CMC situation. This result shows that the negotiation strategy interacts with the medium. In Chapter 1, it was explained that the cooperation and exploration strategy in negotiation requires that negotiation parties care for the other party's concerns. However, CMC negotiators tend to pay less attention to such a strategy than FTF negotiators. Chapter 1 also dealt with the general statement which is often mentioned by negotiation trainers: a win-win strategy is related to finding creative agreements that satisfy both groups whereas a win-lose strategy means pursuing the own group's outcomes while forcing the other group into submission. Regarding the results of the empirical study, we can propose that a win-win strategy in a cooperative spirit seems to depend on the medium in use: CMC negotiators did not behave as cooperatively as FTF negotiators.

Proportion of four speech act clusters in the FTF negotiations	Kappa = 0,84
Proportion of four speech act clusters in the CMC negotiations	Kappa = 0,81

Table 5.4: Cohen's Kappa values for the speech act count in the FTF and CMC experiments

In Chapter 4, Cohen's Kappa was introduced as an index of inter-rater reliability of two independent raters who counted the speech acts in the negotiation transcripts. Kappa is used to assess inter-rater reliability when observing the results of the speech act analysis. It has a range from 0 to 1 with larger values indicating better reliability. Generally, a Kappa > 0.7 is considered satisfactory (Cohen, 1960). Table 5.4 shows the Kappa values of the speech act count for both the FTF and the CMC negotiations. After the transcripts of the FTF negotiations (on the basis of the audio-recordings) and those of the CMC negotiations (on the basis of the computer-database where the negotiations were saved) were created, two independent raters analyzed all transcripts concerning the speech acts. The fact that all Kappa values are higher than 0,8 indicates the reliability of the results. According to Ulijn (2000), linguists tend to take only one person to analyze transcripts. However, the special design of the experiments which are based on a speech act count make it necessary to attain some inter-subjectivity. Similarly to Cohen's Kappa, Cronbach's Alpha is a method to identify the reliability of measuring instruments in the empirical research in management

science. Cronbach's Alpha is not needed in this study as it has another notion than making a linguistic analysis more inter-subjective; it is mostly used in the context of analyzing questionnaires and it is a method to test the internal consistency of a group of items that represent a one-dimensional construct (Klapprott, 1975).

Study 2: Empathy and medium

In this section, the second hypothesis is addressed: *FTF affects the participant's ability to empathize with each other more than CMC does.* Figure 5.4 gives the results of the frequency count of two types of personal pronouns. An additional comment for the number of first pronouns is needed because the pronoun "*we*" can have an inclusive (*you* and *I* equals *we*) and an exclusive (me and others equals *we*) meaning. This distinction is important because by frequently using the inclusive version of the first pronouns, the person's language indicates an atmosphere of solidarity and politeness and that he or she wants to bind the other entity to himself and build a long-term relationship. By often using the exclusive meaning of the first pronoun, the negotiator indicates a more distant, not necessarily disrespectful, position towards the other party.

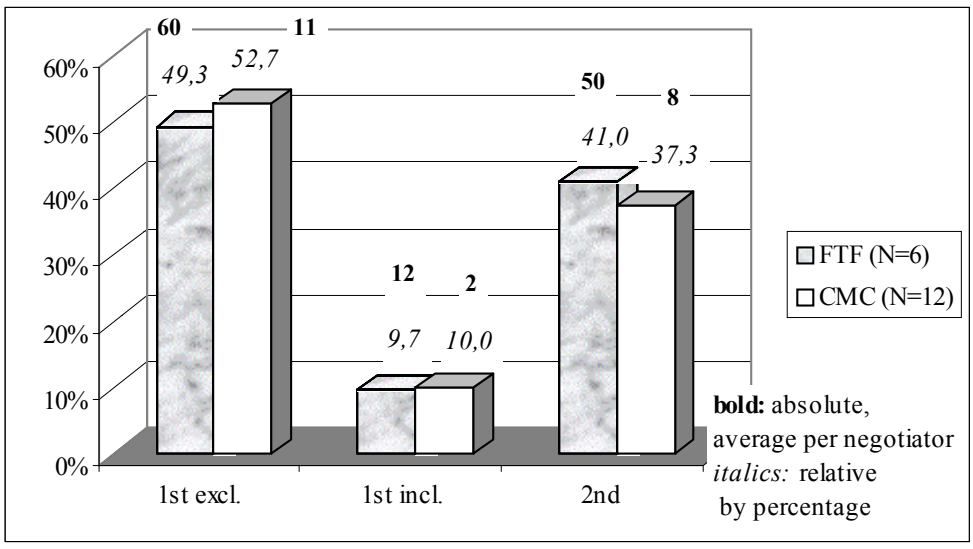

Figure 5.4: Proportion of first and second personal pronouns in the FTF and CMC negotiation (H2)

One can say that there is no significant difference in the use of the first (both exclusive and inclusive) pronouns. As a matter of fact, nearly every usage of the first pronoun was intended to have an exclusive meaning, even in a multicultural environment of the classroom, where different cultures were represented. This brings the conclusion that the earlier mentioned ideal rank order of personal pronoun use in

negotiation (1st *you*, 2nd *we*, 3rd *I*) is not yet reached at the end of this course, but in FTF (41,0% *you*) slightly more so than in CMC (37,3% *you*). However, as Figure 5.4 shows, about half of all pronouns in both the FTF and the CMC setting were first pronouns (*I* and *we* exclusive).

Influence of national culture on strategy (Study 1)

This section addresses the third hypothesis: *There are cultural differences in negotiation strategy.* Table 5.5 shows possible significance effects of NC on speech act use. The analysis of FTF is not mentioned because there were no significance effects at any level.

Significance effects of national culture clusters	**Use of speech acts**			
	Non-cooperative	Co-operative	General	Meta-communicative
1. Higher speech act use of the **Anglo-Nordic** culture cluster in comparison to the Latin culture cluster.	NS	slightly significant at p<0,10	slightly significant at p<0,10	NS
2. Higher speech act use of the **Latin** culture cluster in comparison to the Anglo-Nordic culture cluster.	slightly significant at p<0,10	NS		NS
NS – not significant				

Table 5.5: Significance effects of NC clusters on speech act use in the CMC setting (H3)

Looking at the metacommunicative speech acts, one sees that there is no predominant use comparing both cultural clusters. However, general speech acts and cooperative speech acts are used in a CMC setting slight significantly more by Anglo-Nordic participants (both slightly significant at p<0,10) and Latin negotiators use slight significantly more noncooperative speech acts (at p<0,10), see Table 5.5 and Figure 5.6.

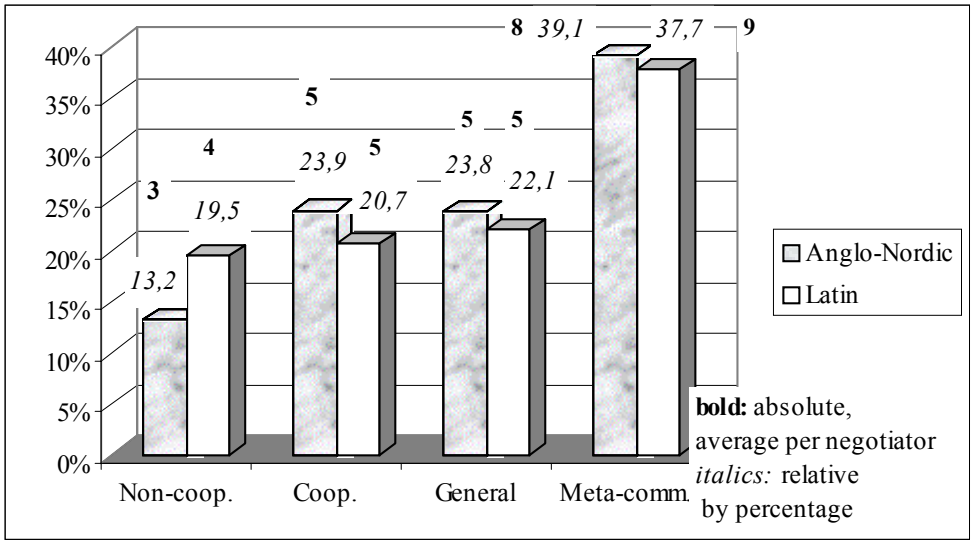

Figure 5.5: Proportion of speech acts use in the CMC setting (H3)

This would mean that in a kind of continuum the Anglo-Nordic participants tend to be comfortable in using a cooperative strategy in a CMC setting and they seem to address the CMC handicap by using general speech acts avoiding conflict related may be to their high score on the Hofstedian dimension of femininity or affiliation and willingness to empathize. Latin negotiators at the other end of the strategy continuum might not trust immediately the new medium and revert even to a non-cooperative negotiation strategy in the CMC context.

Influence of national culture on empathy (Study 2)

In this section, the fourth hypothesis is addressed: There are cultural differences in the negotiator's ability to empathize with each other.Table 5.6 shows the significance effects of NC on pronoun use.

Significance effects of national culture clusters	**Use of Pronouns**		
	1st		**2nd** (*You*)
	Inclusive (*We*)	**Exclusive** (*We, I*)	
1. Higher pronoun use of the **Anglo-Nordic** culture cluster in comparison to the Latin culture cluster in the CMC setting.	significant at p<0,05	NS	slightly significant at p<0,10
2. Higher pronoun use of the **Latin** culture in comparison to the **Anglo-Nordic** culture in the CMC setting.	NS	slightly significant at p<0,10	NS
NS – not significant			

Table 5.6: Significance effects of NC clusters on pronoun use in the CMC setting (H4)

In the CMC setting, the Anglo-Nordic culture cluster uses slight significantly more second personal pronouns (*you,* at p<0,10) and significantly more inclusive first pronouns as indicated by an inclusive *we* (at p<0,05). Latin negotiators use slight significantly more exclusive first pronouns as indicated by *I* or an exclusive *we* (at p<0,10). Those statistical facts are visualized in Figure 5.6.

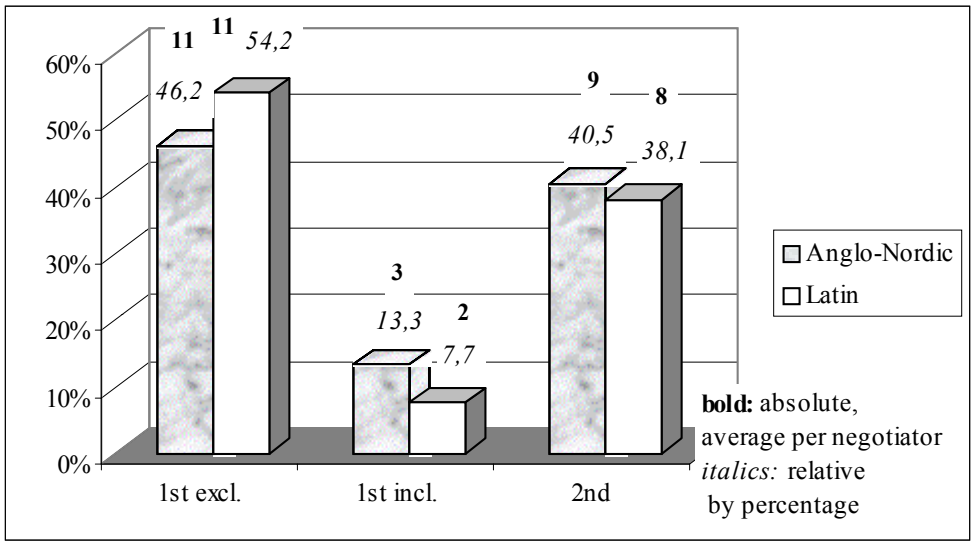

Figure 5.6: Proportion of pronoun use in the CMC setting (H4)

There seems to be an interaction between strategy and empathy which may be associated with the interaction between strategy and the medium as explained above. The Anglo participants may support their cooperative strategy by using more inclusive *we* (*you* and *me/us*), partly empathetic. The Nordic ones seem to try to compensate their off-record general speech acts with the use of a strongly empathetic *you*. Finally, the Latin participants might strengthen their non-cooperative strategy with using exclusive personal pronouns: *I* and *we*. This non empathetic attitude is in line with a high Hofstedian score on masculinity and assertiveness/ competition. On the basis of the results of Study 1 and Study 2, one can surmise that CMC does not seem to allow negotiators to employ a cooperative win-win strategy (as recommended by negotiation strategy training). Differences appear when we look at the use of personal pronouns and speech acts by the Anglo, Nordic and Latin culture clusters. When we look at the use of cooperative speech acts, a similar situation occurs: In contrast to Anglos, who seem to behave in a cooperative way, Latins might be more non-cooperative whereas Nordics use more general speech acts in the CMC setting.

Study 3: Qualitative analysis

The author's position in this PhD study is as follows: there is no fundamental clash between the purposes and capacities of qualitative and quantitative methods or data. What clash there is concerns the primacy of emphasis on verification or generation of theory – to which heated discussions on qualitative *versus* quantitative data have been linked historically. The author believes that each form of data is useful for both verification and generation of hypotheses, whatever the primacy of emphasis. Primacy depends only on the circumstances of research, on the interests and training of the researcher, and on the kinds of material he needs for his theory. In many instances, both forms of data are necessary – not quantitative used to test qualitative, but both used as supplements, as mutual verification and as different forms of data on the same subject, which, when compared, will each generate hypotheses. This section focuses on qualitative data for a number of reasons: because the crucial elements of sociological theory are often found best with a qualitative method, that is, from data on structural conditions, consequences, deviances, norms, processes, patterns and systems; because qualitative research is, more often than not, the end product of research within a substantive area and because qualitative research is often the most "adequate" and "efficient" way to obtain the type of information required and to contend with the difficulties of an empirical situation (Becker and Geer, 1960). Currently, the general approaches to the analysis of qualitative data are these:

1. If the analyst wishes to convert qualitative data into crudely quantifiable form so that he can provisionally test a hypothesis, he codes the data first and then analyzes it. He makes an effort to code "all relevant data that can be brought to bear on a point", and then systematically assembles, assesses and analyzes these data in a fashion that will "constitute proof for a given proposition" (Becker and Geer, 1960).
2. If the analyst wishes only to generate theoretical ideas – new categories and their properties, hypotheses and interrelated hypotheses – he cannot be confined to the practice of coding first and then analyzing the data since, in generating theory, he is constantly redesigning and reintegrating his theoretical notions as he reviews his material. Analysis after the coding operation would not only unnecessarily delay and interfere with his purpose, but the explicit coding itself often seems an unnecessary, burdensome task. As a result, the analyst merely inspects his data for new properties of his theoretical categories, and writes memos on these properties (Strauss and Corbin, 1996).

In this PhD study, a third approach to the analysis of qualitative data is applied – one that combines, by an analytic procedure of constant comparison, the explicit coding

procedure of the first approach and the style of hypothesis development of the second (Strauss and Corbin, 1996). The purpose of the constant comparative method of joint coding and analysis is to generate hypotheses more systematically than allowed by the second approach, by using explicit coding (such as (non-)cooperative negotiation strategy) and analytic procedures. While more systematic than the second approach, this method does not adhere completely to the first, which hinders the development of theory because it is designed for provisional testing, not discovering, of hypotheses. This method of comparative analysis is to be used jointly with theoretical sampling, whether for collecting new data or on previously collected or compiled qualitative data. Systematizing the second approach (inspecting data and redesigning a developing theory) by this method does not supplant the skills and sensitivities required in generating theory. Rather, the constant comparative method is designed to aid the analyst, who possesses these abilities, in generating a theory that is integrated, consistent, plausible, close to the data – and at the same time is in a form clear enough to be readily, if only partially, operationalized for testing in quantitative research. Still dependent on the skills and sensitivities of the analyst, the constant comparative method is not designed (as methods of quantitative analysis are) to guarantee that two analysts working independently with the same data will achieve the same results; it is designed to allow, with discipline, for some of the vagueness and flexibility that aid the creative generation of hypotheses.

The following qualitative analysis (Strauss and Corbin, 1996) is intended as an extension of the quantitative psycholinguistic analysis presented above. The findings seem to confirm what has been mentioned above as a result of quantitatively analyzing the results of the RadioTech case's negotiations: There seems to be a tendency of the FTF negotiator's cooperative and empathetic behavior as opposed those negotiators in the CMC setting. The following paragraphs will first deal with all six FTF negotiations and finally with six CMC negotiations that were selected due to their representative character.

FTF negotiation 1

Cooperation: RadioTech (Anglo-Nordic) is concerned with losing valuable opportunities and therefore money, stressing that RadioTech is Ericsson's (Anglo-Nordic) largest supplier by a significant amount, but also indicating a high BATNA (see Section 1.3) by stressing that there are 40 other customers who are waiting for RadioTech's product as well. However, both negotiators find a cooperative solution and in the end RadioTech stresses that the solution "*keeps our customers as well as keeps our relationship in a positive sense*".

Empathy: RadioTech tries to elaborate Ericsson's benefits from a mutually cooperative solution: "*By giving you a discount rate on this material, you could save money on 40% of your costs*."

FTF negotiation 2

Cooperation: FTF negotiation 2 starts in a very friendly atmosphere, the RadioTech negotiator (Anglo-Nordic) tries to be exploring: "*So basically what is your standpoint in the situation?"*. Ericsson (Anglo-Nordic) shows its cooperative attitude by offering to be "*giving (RadioTech) a down-payment or maybe later even a larger one*".
Empathy: Ericsson tries to put himself in the shoes of his negotiation partner by stating: "*If I am looking from your standpoint, you have established a very good industry reputation and I wouldn't want to see your reputation diminish because of outside people looking in and saying: well they broke their contract with Ericsson, are they going to do that with us as well?*" In the end, both negotiation parties find a mutually beneficial solution. Ericsson asks his negotiation partner: "*So are you satisfied?*" and he receives the answer: "*I am satisfied*."

FTF negotiation 3

Cooperation: The negotiation starts right to the point: Without welcoming each other, Ericsson (Latin) opens the discussion by directly stating: "*I am Ericsson and we have a problem about the product you want to sell to me*." However, Ericsson's negotiation partner (Anglo-Nordic) does not seem to be surprised nor offended by this direct opening the discussion. Instead, RadioTech answers in an empathetic way, using relatively many second personal pronouns: "Yes, we made a new product, a new power transistor that we can show *you*. *You* can buy this new product. If *you* want, if *you* accept, I can sell this product to *you*."
Empathy: During the discussion, it becomes obvious that this empathetic attitude does not result in a weak bargaining position, what becomes obvious when RadioTech clearly shows his BATNA: "*Yes, we made a new product, a new power transistor and we can show you. You can buy this new product. If you want, if you accept, I can sell this product to you*". Finally, both negotiation parties find a mutually acceptable solution.

FTF negotiation 4

Cooperation/empathy: One of the first sentences the Ericsson negotiator (Anglo-Nordic) speaks is a question that shows his empathy and exploring attitude: "*From your point of view, what is the problem?*" Although the discussion that follows is characterized by some misunderstandings about the facts (top of the iceberg), the negotiators try to work a lot on the soft aspects (bottom of the iceberg) such as their

relationship. Thus, Ericsson mentions: "*So there is a good relation between Ericsson and RadioTech*", and, after having found a solution finally, RadioTech (Anglo-Nordic) says: "*I think our company can still have a good relationship after this, that is good*."

FTF negotiation 5

Cooperation: In contrast to FTF negotiation 4, FTF negotiation 5 deals more with the top of the iceberg (facts) and less with the bottom of the iceberg (relationship). In each turn, both negotiators use many words to explain their standpoints. However, explaining a lot does not seem to make thing much clearer or convincing to either of the negotiation parties. Thus, at the end of the negotiation, Ericsson (Anglo-Nordic) still asks: "*What is the main problem?*" and "*I really don't know what was possible so can you explain what you need…*".

Empathy: Finally, RadioTech (Latin) says: "*We are really concerned about the good relationships with you as well since you are one of our largest customers*." Only the fact that RadioTech finally seems to discover the bottom of the iceberg seems to bring the turnaround by leading to a mutually acceptable solution.

FTF negotiation 6

Cooperation: This negotiation is characterized by a matter-of-fact and businesslike atmosphere. RadioTech (Latin) clearly summarizes the situation before a solution is discussed: "*Yes, but we talk about a date to sell the product to you but there have been some problems in your company and because of that you need now more time than we talked about before*."

Empathy: Both parties show empathy by asking questions such as: "*Do you see what I mean?*". Their cooperative attitude can best be demonstrated by quoting the following dialogue which took place at the final stage of the negotiation:

Ericsson (Anglo-Nordic): "*Yes, I think you are absolutely right about that, so what would you say if we pay you …*"

RadioTech: "*I think you must pay me 5% more than the normal price*."

Ericsson: "*5%? We are going to pay 3% more*."

RadioTech: "*I think that we are losing customers because of you and we respect the idea that we developed your idea but we can lose some customers we know – they are the most important. So I think that 3% is very low for us*."

Ericsson: "*Would 4% be all right?"*

RadioTech: "*Our company does not really want to wait for 3 months…*"

Ericsson: "*But you compromise that it's not more than 3 months. We could wait for 3 months but not more than this*."

RadioTech: "*No more than 3 months and 4%*."

Ericsson: "*Ok, thank you*."
RadioTech: "*Yes, thank you*."

Counter-example FTF negotiation

So far, the qualitative analysis of the FTF negotiations seems to suggest the negotiators' cooperative attitude and their ability to empathize with each other. However, there is a counter-example in the FTF transcripts of negotiation 6: After Ericsson (Anglo-Nordic) suggested to talk about the price and even offered a compromise by stating "*we could raise the price a little and if you wait with the release of this transistor*", RadioTech (Latin) applies a rather fighting negotiation strategy, although the first reaction to Ericsson's proposal is "*Yes*". However, this "*Yes*" is not meant as a well-deliberated agreement, but rather in the sense of "*Yes, I understood your point, but I ignore it*", which is rather fighting behavior. Hence, RadioTech continues by saying "*you must understand that it is important for us that our earnings are basically based in this product so you must have some money for us in these three month*". The statement "*you must have some money for us"* shows some distortions in the perception of RadioTech's opponent; the 'bad' side of Ericsson assumedly having no money is accentuated more and more heavily, while the 'good' elements of Ericsson suggesting a compromise are ignored.

CMC negotiation 1

Lack of cooperation/empathy: The fact that there are missing audio- and visual communication channels seems to refrain people from applying a cooperative or empathetic strategy or an empathetic attitude. Writing words with capital letters which indicates shouting, seems to foster a negative atmosphere. For instance, RadioTech (Latin) stresses this shouting-at-each-other by using exclamation marks. He writes: "*We would like to start selling the product NOW!!"* Ericsson's (Latin) reaction is that it "*wants RadioTech to postpone the release of the RF transistor*." RadioTech's reaction to this shows again the non-cooperative spirit of the negotiation: "*We feel that it is impossible for RadioTech to postpone the release of the new product because in this industry products become outdated very rapidly*."

CMC negotiation 2

Lack of cooperation: This negotiation deals with the following issue: Ericsson (Latin) states that it only made a general request and offered no specific ideas for developing a new RF power transistor. RadioTech's (Latin) answer to this is as follows: "*RadioTech completely created and financed the new RF power transistor and does not owe Ericsson anything*."

Lack of empathy: The fact that RadioTech is convinced that it "*does not owe Ericsson anything*" shows the rather non-empathetic point of view of that negotiator who applies a competitive strategy with a short-term orientation instead of a cooperative strategy with a long-term orientation.

CMC negotiation 3

Lack of cooperation/empathy: The fact that the negotiators do not see nor hear each other in the CMC negotiation seems to make them more concerned with their own point of views instead of trying to understand their negotiation partner's positions as well. Thus, in turn to Ericsson's (Anglo-Nordic) concern that RadioTech (Latin) does not want to wait until December when Ericsson is ready, RadioTech writes: "*RadioTech knows that ther are other 30 large potential users and 40 potential customers. By introducing the new RF power transistor at this time, on April 30, as decided before, RadioTech engineers would be able to incorporate new product in their design work and could take orders for the new RF power transistor. This means that for RadioTech is very important don't wasting time and introducing the RF power transistor at once*."

CMC negotiation 4

Lack of empathy: Negotiations via computers forces both negotiation partners to formulate their issues in written sentences. In contrast to a FTF negotiation, both negotiation partners (both Latin) have whatever thinking time they need before the sentence is expressed in written form. This fact seems to help both negotiation parties to be able to formulate their final problem description in a pertinent way, as done in one of the negotiations: "*Ericsson has asked RadioTech to do research on finding a new high-tech thing. RadioTech has done that with the help and instructions from Ericsson. Now Ericsson has to delay their introduction of this thing into their base stations and RadioTech are getting impatient, wanting to introduce their thing into the market. However, Ericsson is a big customer of their so they don't want to lose them*."

CMC negotiation 5

Cooperation: The negotiators in CMC negotiation 5 seemed to be happy with the situation of that asynchronic, computer-based mode of negotiation. As an example, after having reached a mutually beneficial result, one negotiator (Anglo-Nordic, his counterpart: Latin) states: "*I am so happy to have been negotiated with you. I think there were not many difficulties to understand each other. I hope every negotiation as this one!!*"

CMC negotiation 6

Cooperation: The previously mentioned fact that computer-mediated negotiations – as opposed to FTF negotiations – are asynchronic seems to have its drawbacks as well. Although having successfully negotiated about the central question to the RadioTech case ("*How much is the transistor worth for Ericsson or respectively RadioTech?*", as explicitly asked by both negotiation parties), negotiators miss the possibility to easily jump from one issue to the other. In the closure phase of the negotiation, RadioTech (Anglo-Nordic, his counterpart: Latin) states: "*Yes we're finished! (Our issues weren't quite well chosen but we did work out fine I think.)*". Although the negotiators had formally more time for the CMC negotiation than for the FTF negotiation, time seems to play a mayor role in the CMC negotiation as well: Negotiators are dependent on the answer of their negotiation partner which reduces the flexibility as it is available in a FTF setting.

Counter-example CMC negotiation

As already mentioned under "CMC negotiation 5", the negotiators seem to be happy with the computer-mediated mode of negotiation. Looking more closely at this negotiation, it becomes obvious that both parties (one Anglo-Nordic, the other one Latin) first agreed on the issues to be negotiated: time and price. What follows are questions which help to define the issues more precisely: "*When will RadioTech introduce the new-type RF power transistor?*" and "*How much would the price be?*". The fact that both negotiators asked questions seems to help them conducting their negotiations in a pleasant and cooperative attitude.

Conclusions of Study 3

Although there are some counter-examples in both the FTF and the CMC negotiation, the basic result of the qualitative analysis comparing CMC with FTF negotiations is that there seems to be more cooperation and empathy building in the FTF than in the CMC negotiations. Cultural differences between the Anglo-Nordic culture cluster and the Latin culture cluster seem to be present in both the negotiation strategy and the negotiator's ability to empathize with each other. Negotiations are always about something substantial: personnel, budgets, division of authority, tasks. In addition to this substance, there is also the aspect of the personal relationship between the participants. Negotiators conduct themselves towards each other in various ways: they show more or less openness, friendliness, malice, arrogance, restfulness. In this way they influence the climate. In the FTF situation, where negotiators see, smell and hear each other – which means their ability to make use of more communication channels than in the CMC situation – influencing the climate in a positive way seems to be more likely than doing so in the CMC setting. During the negotiations about the

RadioTech case, the participants made all kinds of remarks and comments, sometimes spontaneous and intuitive (more in the FTF situation), sometimes purposeful and calculating (more in the CMC situation), which evoke certain feelings and incite responses from their opponent. These negotiators do not need to indicate openly what their true intentions are with such statements; they may even be in contrast to their actual opinions. As can be seen from the negotiator's quotations as presented above, especially in the CMC setting, such remarks are also intended to influence the balance of power. A more detailed discussion and conclusions on the studies' results is to be found in Section 5.4.

5.3. An experiment comparing Innovation Management and Operations Management negotiation settings

Conflict resolution or negotiations in different business settings may induce different types of negotiation behavior. More specifically, the usually more defined problems in an OM setting may lead to different behavior than a usually more diffuse IM context (for more detailed information on negotiations in an IM and OM context see Section 1.2 and Section 2.5). In addition, negotiators from different NCs may react differently to such variations in business settings. This section tries to address these issues through a set of experiments, the specific aim of this study being to find out whether there is a difference between German and Dutch negotiators regarding their negotiation behavior in IM and OM settings. To analyze possible cross-cultural differences, negotiations that took place in a German mono-cultural setting and those in a Dutch mono-cultural setting are compared. In addition, inter-cultural differences were investigated which means that Dutch and German negotiators communicated directly with each other. Two hypotheses can be formulated from the literature survey of the Chapters 2, 3 and 4:

- **H5:** *German negotiators are more cooperative in the OM context than in the IM context.*
- **H6:** *Dutch negotiators are more cooperative in the IM context than in the OM context.*

As explained in Figure 5.1, the literature survey is used as a basis for both the quantitative and qualitative analysis of the experiments to go one step further by investigating if empirical studies support the forumulation those 2 hypotheses. The following paragraphs try to address those two hypotheses through an empirical study.

Negotiation materials and the task of the negotiators

The first case, called "RadioTech", was already mentioned above. In the cross-cultural setting, 10 German students and 12 Dutch students were asked to negotiate this deal, whereas there were 7 German and 7 Dutch students in the inter-cultural experiment. The participants were given 20 minutes to negotiate the terms of the deal FTF and they had a maximum of 4 emails to negotiate in the computer-mediated setting. The FTF negotiation took place before the email negotiation. The second case, the "Printer Case", was developed by Greenhalgh (1996, see Appendix L). It was not used in the studies mentioned in Section 5.1 and Section 5.2 since those studies only deal with a comparison of FTF and CMC negotiation settings. In contrast to the RadioTech case which evolves around an IM issue between a supplier and a customer, the Printer Case focuses on an OM problem. It is based on applied role playing that classically induces emotions, greatest acceptance and persuasion. It has an American bias of litigation culture that contrasts cultures where it would be unusual to call in an attorney at such an early stage of a conflict. Pat Pufahl, the Executive Vice President and General Manager of a small manufacturing company who has been in business for fourty-five years, was given an estimate for a repair job and then charged much more. Robin Adler, the proprietor of the repair shop, has been in business with Pufahl's small manufacturing company for over 25 years. Most of this time, Robin Adler was in contact with Pat's father Otto who moved to Flarida after a heart attack, just bevore Pat took over the business.Thus, Pat's "son" role with a short term negotiation objective and Robin's supplier "father" role focusing a long term perspective brought in an interesting Confucian value, which was not the case toward Pat's father Otto. This role play is normally used with the negative affect feelings classification by Higgins (1987) and will be culture-sensitive enough. Again, participants were given 20 minutes to negotiate the terms of the deal FTF and they had a maximum of 4 emails to negotiate in the computer-mediated setting. Both cases were selected as respectively representing an IM and OM setting, since the RadioTech case is much more 'ambiguous', with much more problem dimensions, and lends itself much more to exploring different, alternative solutions than the Printer case.

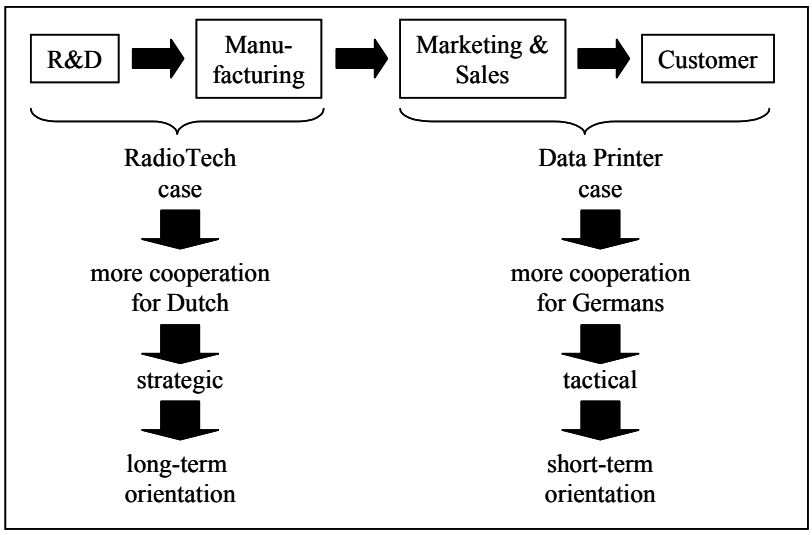

Figure 5.7: Supply chain covering the RadioTech and Data Printer cases, including the prediction of the negotiation strategy related to the strategic and tactical levels of negotiation

Figure 5.7 presents the supply chain and its relation to both cases (RadioTech, IM and Data Printer, OM) and the hypotheses. The RadioTech case deals with R&D and manufacturing; the Data Printer case is about a conflict between marketing & sales and the customer. As indicated in the hypotheses, it is assumed that Dutch negotiators are more cooperative in the IM context (beginning of the supply chain) and German negotiators are more cooperative in the OM context (end of the supply chain). As described in Section 1.3, such a cooperative win-win negotiation strategy has to be seen as opposed to competitive win-lose tactics. Figure 5.7 also indicates the rather strategic level of IM (RadioTech) in contrast to the tactical level of OM (Data Printer). Section 2.1 explained the difference between strategy (described as the long-run approach) and tactics (described as short-run actions). The negotiation strategy is characterized by a long-term orientation and indicates a conceptual plan that outlines the general approach or steps to be taken to attain a desirable outcome. The negotiation tactic, in contrast, delineates a behavior initiated by a negotiator designed to implement or operationalize a strategy; the tactic is characterized by a short-term orientation.

Subjects and design

The participants represent two different cultural backgrounds: Dutch and German. In the cross-cultural experiments, there were 12 Dutch participants (9 male and 3 female) and 10 German participants (8 male and 2 female), see Table 5.7. Similar to the experiment mentioned in Section 5.1, this PhD study's moderating variables (see Figure 1.8) were kept in a balance as much as possible with respect to culture and gender. Again, it was the aim to have an equal number of mono- and inter-cultural

negotiation dyads and to have as many mono-gender interactions as inter-gender interactions (and possibly an equal number of man-man and woman-woman interactions) within the constraints of international negotiation classes (see also Section 1.4).

Country	Number of Participants		Total
	Male	Female	
the Netherlands	9	3	**12**
Germany	8	2	**10**
Total	**17**	**5**	**22**

Table 5.7: Country and gender of the participants in the cross-cultural experiment

The male/female ratio was about 3:1, but it was about equally distributed across the country distinction. Similar to the experiments comparing CMC and FTF negotiation settings (see Section 5.1), an attempt was made to rule out gender bias as much as possible within the constraints of cross-cultural negotiation classes. This means that the balance between the genders was tried to be as equalized as possible. The following sections that will discuss the results will not draw any strong conclusions on differences in male and female negotiation behavior. The first experiment took place in April 2001 in a German mono-cultural setting and the second experiment took place in September 2001 in a Dutch mono-cultural setting. In the inter-cultural experiments, there were 7 Dutch participants (only male) and 7 German participants (4 male and 3 female), see Table 5.8. The participants presented in Table 5.7 and Table 5.8 are not the same due to the fact that the inter-cultural experiment took place in a different course on “International Business Negotiations” by J. Ulijn than did the cross-cultural experiment. Hence, the same subjects were not operating in the inter- and the cross-cultural setting.

Country	Number of Participants		Total
	Male	Female	
the Netherlands	7	0	**7**
Germany	4	3	**7**
Total	**11**	**3**	**14**

Table 5.8: Country and gender of the participants in the inter-cultural experiment

There were no females in the Dutch group, and the male/female ratio of the German group was about 1:1. The experiment took place in May 2002. In each experiment, the students negotiated both the RadioTech case and the Data Printer case first FTF and then over email; they had a maximum of four emails to complete the negotiation. As explained in Section 5.1, the rationale behind this is to see how the participants manage to put themselves into the shoes of their partner by having to negotiate from the opposite perspective in the second negotiation. However, in contrast to the FTF-versus-CMC experiments presented in Section 5.1 and Section 5.2, the IM-versus-OM experiments presented in this section do not deal with a comparison of different media and thus will not draw strong conclusions on role-switch effects. This means that negotiators who switched roles between the FTF and the CMC negotiations (see Section 5.1 and Section 5.2) might be better able to put themselves in the shoes of their negotiation partner and thus show more empathy after the role-switch. However, the studies presented in this section do not explicitly deal with empathy and thus will not draw strong conclusions on role-switch effects. The same negotiators were acting in both the IM and OM situation, negotiating the IM case first and the OM case second, which relates to the natural order of the product life cycle which considers the innovation of the product earlier than operative actions (see Section 2.5 for more information on negotiations in IM and OM settings). Table 5.9 visualizes the design of the experiments: In April 2001, all 10 German participants negotiated both the RadioTech case, resulting in 10 transcripts and at a total size of 11.586 words. The negotiations were followed by those of the Data Printer case, including again 10 German participants producing a total data set of 2.182 words. In September 2001, the same experiment took place in the Dutch setting where the Dutch students negotiated both cases, resulting in 12 transcripts with 14.390 words for the RadioTech case and 12 transcripts with 4.466 words for the Data Printer case. In May 2002, the inter-cultural experiment took place, resulting in 7 German transcripts with a total sum of 7.951 words and 7 Dutch transcripts with a total sum of 7.586 words. Thus, the total size of all four data sets that were analyzed is 44 transcripts containing 48.161 words.

	IM (RadioTech case)	OM (Printer case)
10 German negotiators in a monocultural setting	First experiment in April 2001. Result: 10 transcripts of the FTF and the email negotiations. Size of the data set: 11.586 words.	First experiment in April 2001. Result: 10 transcripts of the email negotiations. Size of the data set: 2.182 words.
12 Dutch negotiators in a monocultural setting	Second experiment in September 2001. Result: 12 transcripts of the FTF and the email negotiations. Size of the data set: 14.390 words.	Second experiment in September 2001. Result: 12 transcripts of the email negotiations. Size of the data set: 4.466 words
7 German negotiators in an inter-cultural setting	Experiment in May 2002. Result: 7 transcripts of the FTF and the email negotiations. Size of the data set: 7.951 words.	No negotiations about the Printer case.
7 Dutch negotiators in an inter-cultural setting	Experiment in May 2002. Result: 7 transcripts of the FTF and the email negotiations. Size of the data set: 7.586 words.	No negotiations about the Printer case.
Total size of the data set: 44 transcripts, 48.161 words		

Table 5.9: Experimental design of the German and Dutch negotiations in both mono- and inter-cultural settings

The transcripts of the RadioTech case derive from the email negotiations and the FTF negotiations which were audio-recorded. The transcripts of the Data Printer case derive only from the email negotiations. The Data Printer case was only negotiated in the cross-cultural experiment, not in the inter-cultural one. The reason for this was the time limit of this exploratory empirical study which took place during J. Ulijn's course on "International Business Negotiations". For more information about the subjects see Appendix D and E.

5.4. Results of the experiment comparing Innovation Management and Operations Management negotiation settings

The discussion in this section begins by focusing on the two hypotheses posed earlier:

- **H5:** *German negotiators are more cooperative in the OM context than in the IM context.*
- **H6:** *Dutch negotiators are more cooperative in the IM context than in the OM context.*

As already done in Section 5.2, the results will again be presented within the framework of 3 studies: Study 1 deals with an analysis of speech acts, Study 2 deals with an analysis of personal pronouns and Study 3 comprises a qualitative analysis.

Study 1: Speech act analysis

In this section both hypotheses are addressed. Figure 5.8 refers to the German context of the cross-cultural experiment, whereas Figure 5.9 represents the German context of the inter-cultural experiment. These figures present the relative distribution of the speech acts found in the negotiation transcripts. They address the fifth hypothesis: *German negotiators are more cooperative in the OM context than in the IM context.* The balance between the OM and the IM negotiators using the general speech acts (as indicated by the use of *ask* or *request*) and metacommunicative speech acts (as indicated by the use of *repeat* or *explain*) is roughly equal in both experiments. In the cross-cultural experiment, German negotiators use slightly (but not significantly) less cooperative speech acts in the OM setting and slightly (again, not significantly) more non-cooperative speech acts in the IM setting). However, in the inter-cultural condition, there seem to be some slight significance effects: OM negotiators use significantly more cooperative speech acts (at $p<0,05$) and IM negotiators use slight significantly more non-cooperative speech acts (at $p<0,10$). This represents a tendency of German negotiators behaving in an OM context more in a cooperative "win-win" spirit than in an IM setting.

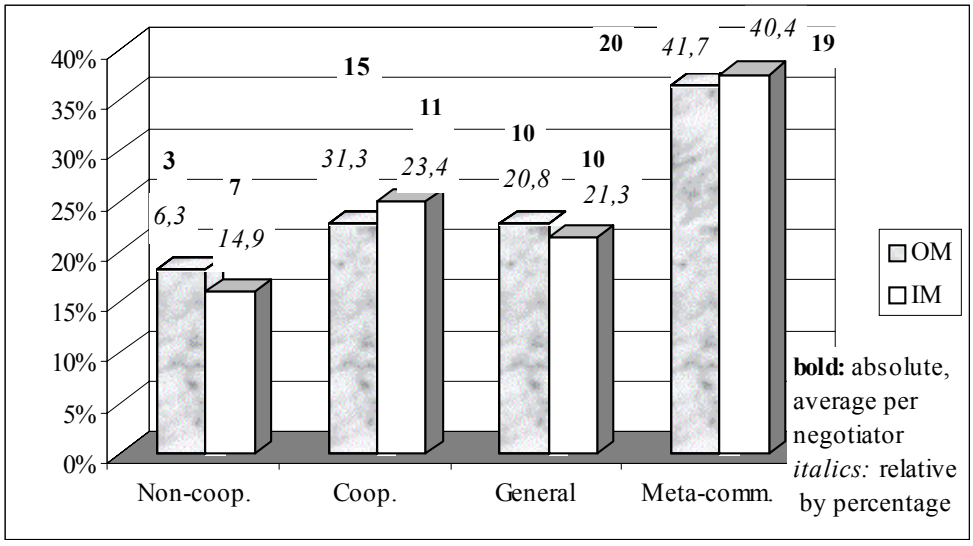

Figure 5.8: Proportion of four speech act clusters in the OM and the IM negotiations of the cross-cultural experiment - German negotiators

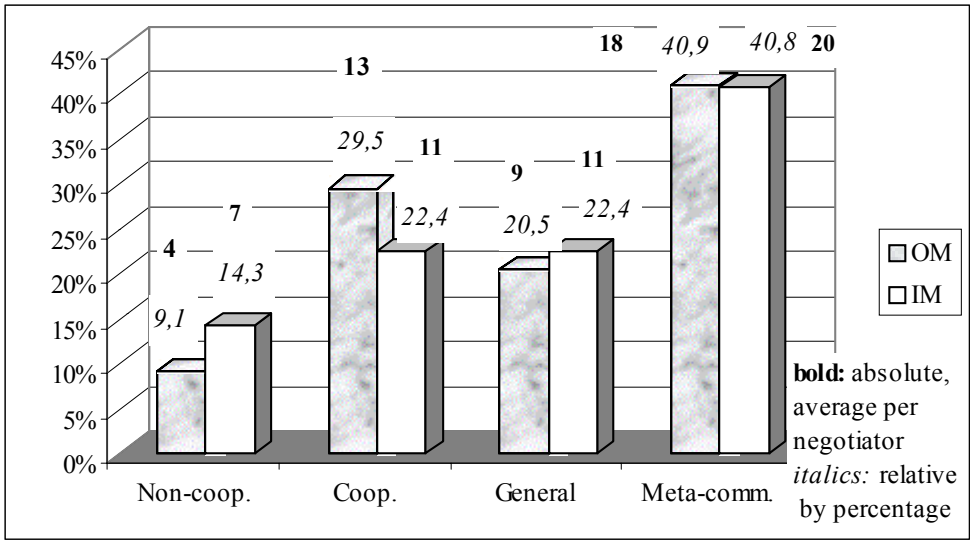

Figure 5.9: Proportion of four speech act clusters in the OM and the IM negotiations of the inter-cultural experiment - German negotiators

Figure 5.10 refers to the Dutch context of the cross-cultural experiment, whereas Figure 5.11 represents the Dutch context of the inter-cultural experiment. These figures present the relative distribution of the speech acts found in the negotiation transcripts. They address the sixth hypothesis: *Dutch negotiators are more cooperative in the IM context than in the OM context.* In both the cross-cultural and the inter-cultural experiment, the use of general and metacommunicative speech acts is slightly higher in the OM setting than in the IM setting. However, the difference is not significant. Concerning the non-cooperative speech acts, both experiments show contrary results: In the inter-cultural experiment, OM negotiators use more non-cooperative speech acts and in the cross-cultural experiment, IM negotiators use more non-cooperative speech acts. Both results are not significant. There is a slightly significant difference in the use of cooperative speech acts (at $p<0,10$) in both experiments, showing that the Dutch negotiators behave more in a cooperative way in an IM setting than in an OM setting. Thus, the results of the speech act analysis confirm the formulation of both hypotheses.

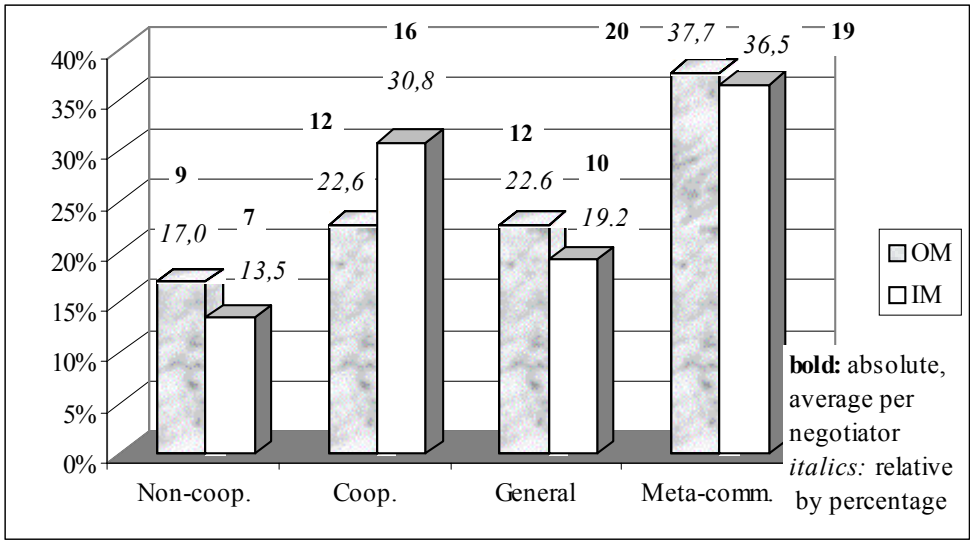

Figure 5.10: Proportion of four speech act clusters in the OM and the IM negotiations of the inter-cultural experiment - Dutch negotiators

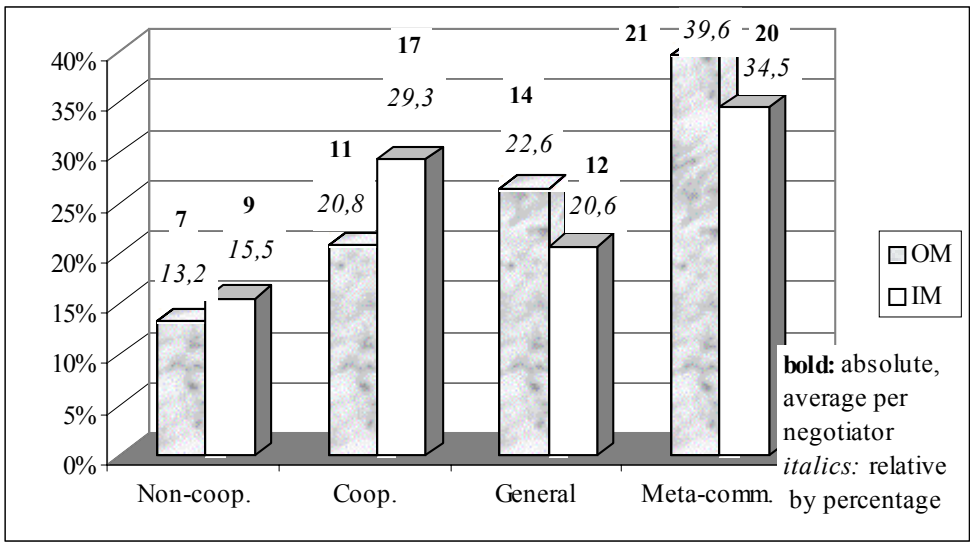

Figure 5.11: Proportion of four speech act clusters in the OM and the IM negotiations of the cross-cultural experiment - Dutch negotiators

As mentioned in Chapter 4, Cohen's Kappa is an index of inter-rater reliability of two independent raters who counted the speech acts in the negotiation transcripts.

Proportion of four speech act clusters in the OM and the IM negotiations of the cross-cultural experiment - German negotiators	Kappa = 0,85
Proportion of four speech act clusters in the OM and the IM negotiations of the inter-cultural experiment - German negotiators	Kappa = 0,89
Proportion of four speech act clusters in the OM and the IM negotiations of the inter-cultural experiment - Dutch negotiators	Kappa = 0,81
Proportion of four speech act clusters in the OM and the IM negotiations of the cross-cultural experiment - Dutch negotiators	Kappa = 0,90

Table 5.10: Cohen's Kappa values for the speech act count in four experiments

Table 5.10 shows the Kappa values of the speech act count for both the Dutch and German experiments (cross-cultural and inter-cultural). The result of all values being higher than 0,8 indicates their reliability.

Study 2: Personal pronoun analysis

Figure 5.12 highlights the results of the frequency count of three types of personal pronouns in the German context of the cross-cultural experiment whereas Figure 5.13 represents the German context of the inter-cultural experiment. As a matter of fact, nearly every usage of the first pronoun was intended to have an exclusive meaning. Although OM negotiators use about 4% more inclusive first personal pronouns, this difference is not significant. German OM negotiators use significantly less (at $p<0,05$) first exclusive personal pronouns and they use slight significantly more (at $p<0,10$) second personal pronouns. This result of German negotiators using more "*you*" in the OM setting and more "*I*" in the IM setting confirms the first hypothesis as "*you*" indicates empathy and would thus mean a first step to cooperation: German negotiators are more cooperative in the OM context than in the IM context.

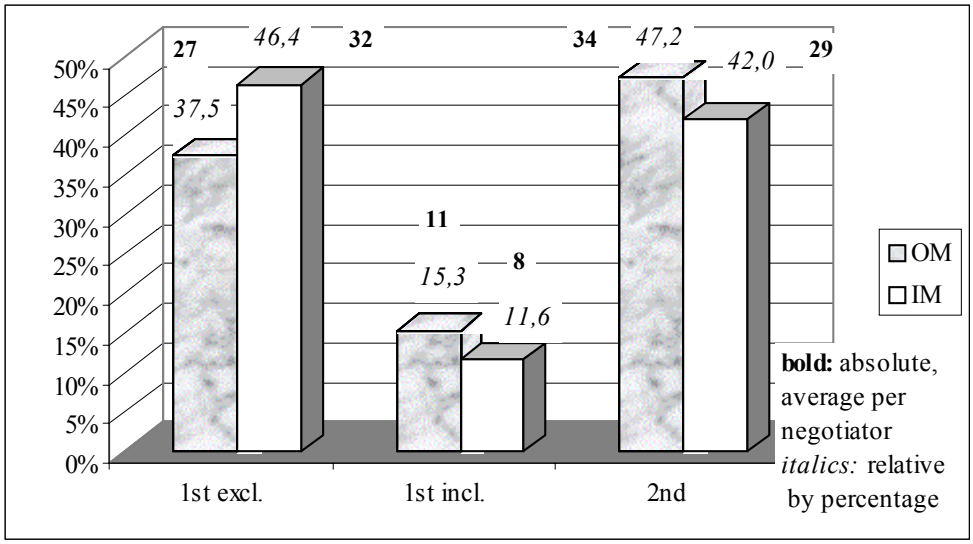

Figure 5.12: Proportion of first and second personal pronouns in the OM and the IM negotiations of the cross-cultural experiment - German negotiators

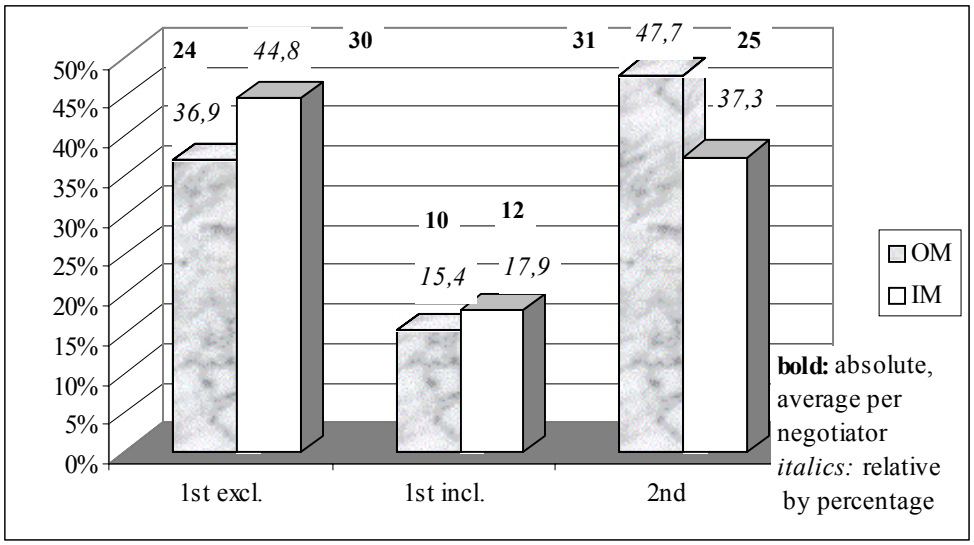

Figure 5.13: Proportion of first and second personal pronouns in the OM and the IM negotiations of the inter-cultural experiment - German negotiators

Figure 5.14 visualizes the personal pronoun count in the Dutch context of the cross-cultural experiment. Dutch IM negotiators use significantly more (at $p<0,5$) second personal pronouns and slight significantly less (at $p<0,10$) exclusive first personal pronouns in the IM setting compared to the OM setting. This result seems to confirm the second hypothesis: *Dutch negotiators are more cooperative in the IM context than in the OM context.*

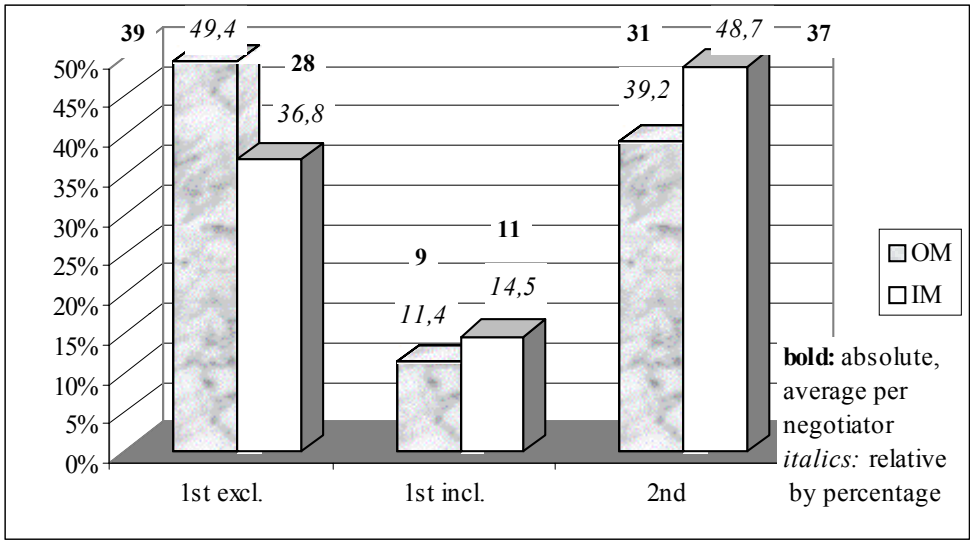

Figure 5.14: Proportion of first and second personal pronouns in the OM and the IM negotiations of the cross-cultural experiment - Dutch negotiators

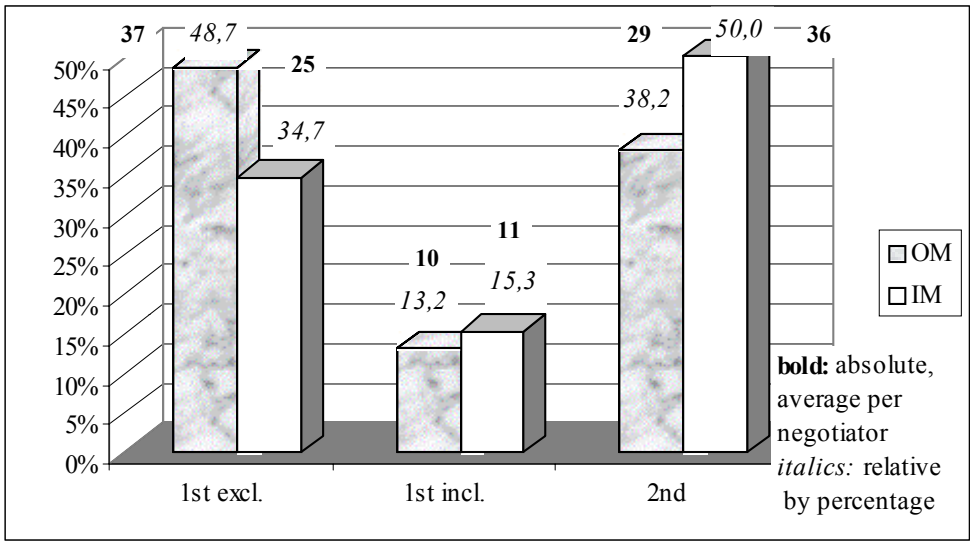

Figure 5.15: Proportion of first and second personal pronouns in the OM and the IM negotiations of the inter-cultural experiment - Dutch negotiators

As a result of Study 1 and Study 2, one can say that both hypotheses tend to be confirmed by using speech act analysis and personal pronoun analysis. Non-cooperative speech acts related to the use of the first pronoun *show your limits* and there might be more need of this in the competitive setting of OM than in IM; Dutch negotiators seem to have problems with using a cooperative attitude and building empathy in an OM context, whereas German negotiators discovered those problems in the IM situation. Concerning this result, no difference between the cross-cultural and

the inter-cultural setting could be remarked. Those results will further be discussed in Section 5.5.

Study 3: Qualitative analysis

As mentioned in Section 5.2, there are two general approaches to the analysis of qualitative data, the first approach being to code the data first and to analyze it afterwards and the second approach being to inspect the data and redesign a developing theory. This PhD study applies a third approach to the analysis of qualitative data by combining, by an analytic procedure of constant comparison, the explicit coding procedure of the first approach and the style of hypothesis development of the second (Strauss and Corbin, 1996). The purpose of this method of joint coding and analysis is to generate hypotheses more systematically than allowed by the second approach, by using explicit coding (such as (non-)cooperative negotiation strategy) and analytic procedures (for more explanations of this approach see Section 5.2). Similar to Section 5.2, the following qualitative analysis is intended as an extension of the quantitative psycholinguistic analysis presented above. The first four qualitative analyses of German and Dutch negotiators in both the OM and IM setting qualify their cooperation strategy while the succeeding four qualitative analyses deal with their (non-)empathetic behavior. The results confirm the tendency of the German negotiators behaving more cooperative in the OM setting (Data Printer case) whereas the Dutch are more cooperative in the IM setting (RadioTech case).

German OM setting (Data Printer case)

Cooperation: German OM negotiators seem to have understood Fisher and Ury's advice to be soft on the people and hard on the facts. Mr. Adler states: "*I regret that our good business relationship has been affected by the incident of the repair-job of your (Mr. Pufahl's) Datronix printer*." This working on a good relationship is highlighted by Mr. Adler's intention to cooperate in a long-term win-win oriented spirit: "*I sure hope that we can resolve this issue to maintain our many-years relationship*." This cooperative attitude is in line with an appropriate closure of the negotiation: "*I'm glad that we've found a proper agreement on this matter and I'm looking forward to our further cooperation in the future*". If there appears to be no way for German negotiators in the OM setting to find a solution, those negotiators try to avoid a deadlock by suggesting an interruption of the CMC negotiation and trying to continue the negotiation FTF. Thus, Robin Adler states: "*I do not think the current situation should be solved on the level of our attorneys nor through an email negotiation, so I would suggest a face to face meeting. That way we could probably find a satisfactory solution of the case for the both of us*." Instead of insulting his negotiation partner by directly accusing him of having presented an invoice which

was too high, Mr. Pufahl refers to his own feelings in order to avoid an explosion of the situation: "*When I tried talking to you about the invoice, I had the feeling that you were a little bit angry and therefore handed me the new invoice which was even higher, $774*." Again, the intention to have a good, long-term relationship is emphasized: "*I really don't want this trifle to interfere our relationship*."

German IM setting (RadioTech case)

Lack of cooperation: The following quotation may be characteristic for a German negotiation in the IM (RadioTech case) setting: "*We regret that you have run into difficulties during the development of your new product and understand your concerns, but you have to understand that such a postponement would cause serious problems for us. We have already invested in new equipment, hired extra personnel for the new production line and would have the possibility to introduce our new product to a considerable number of customers right away. The postponement would therefore have very negative effects for our company. It therefore appears to be difficult for us to fulfill your request*." This statement of RadioTech shows some inflexibility in a situation where a high degree of flexibility would be necessary: Generally speaking, mutual understanding, as indicated by that RadioTech negotiator, is necessary for a reasonable negotiation outcome. However, in the special situation of the conflict between RadioTech and Ericsson, the solution cannot be accessed by the completion of routine tasks. In contrary, the special situation of RadioTech having developed a product for Ericsson who does not want to buy it now requires the discussion of a possibly large set of innovative solutions. However, German negotiators do not seem to find the right way to access those problems as presented here in the context of the RadioTech case.

Dutch OM setting (Data Printer case)

Lack of cooperation: In contrast to the German negotiators who behaved rather cooperatively in the OM setting (Data Printer case), Dutch negotiators seem to apply a strategy of avoiding such a cooperative negotiation strategy in the OM setting. A Dutch negotiator who played the role of Mr. Adler directly starts the negotiation with the following statement: "*Dear Mr. Pufahl, it was not really an act of goodwill that you took the printer at 9:00 AM sharp without giving me further notice nor having paid the bill*." However, this does not mean that Dutch negotiators are merely non-cooperative in an OM setting. The following statement of Mr. Adler shows that: "*I have the impression that you only look at short-term costs. I think you are ignoring some other important aspects. I am happy that we can work this printer problem out now, and can avoid future conflicts*." Dutch negotiators show the will to avoid conflicts in the future and they thus follow a long-term orientation even in the OM

setting, as suggested by negotiation training. However, there is a slight tendency to fighting behavior in issues that concern the present conflict. This fighting behavior is converted into a negotiation strategy by showing confusion: "*I am a little bit confused about the price*."

Dutch IM setting (RadioTech case)

Cooperation: Dutch negotiators make the impression to be used to a conflict-situation in which it is required to develop as many alternative innovative ideas as possible. In the RadioTech case (IM setting), there is no obvious way to find the right conflict resolution. On the contrary, an exploring way of negotiation is required that elaborates the needs of both negotiation parties on the one hand and on the other hand shows possible ways to find a mutually acceptable solution in a cooperative win-win spirit as suggested by negotiation training. Dutch negotiators seem to cope well with this situation and proved to find a cooperative solution. The following quotation of a Dutch RadioTech negotiator may show this: "*The suggestion you made in your last email - that we could introduce the transistors to the other companies but will not deliver them until your company has finished your products - has been discussed within RadioTech. We came to the conclusion that we could do this, however, we do like to start delivering the transistors to other companies before the end of this year. Could you tell me when your company would be ready to have their products finished, so we can deliver to other companies?*"

German OM setting (Data Printer case)

Empathy: German negotiators in the OM setting seem to show slightly more empathy than in the IM setting. Mr. Adler seems to be interested in his opponent's view of the whole situation before planning further steps: "*Dear Mr. Adler, after your lawyer called me yesterday and told me your point of view of the whole situation, I want to take the chance to set up a meeting between the two of us to get things settled in private*." Although Mr. Pufahl seems to be a tough negotiator who clearly states that he cannot accept Mr. Adler's behavior which lead to the conflict situation, Pat Pufahl shows interest in his negotiation partner's view and asks open questions: "*However, I cannot except that you -after having sent the first bill- issued a second, more expensive one... and I am also somewhat astonished that you consulted your lawyer without talking to me on the "printer-removal" issue first. What is your point of view, and what do you propose to resolve this situation?*". At the same time, such an open question forces the negotiator to listen, and listening in negotiations is more important than speaking (see Section 4.3.1).

German IM setting (RadioTech case)

Lack of empathy: In contrast to the OM setting (Data Printer case), German negotiators seem to have problems with building empathy in the IM setting (RadioTech case). A possible reason for this might be that those negotiators spend a lot of their negotiation effort with involving themselves in order to cope with a situation which is highly unstructured and in which routine solutions (as in the OM case of the Data Printer) will not help to find an adequate solution. Such a high degree of involvement may refrain those negotiators from caring for the problems of the circumstances of their negotiation partner and thus developing less empathy than it was the case in the OM setting. The following quotation by a German RadioTech negotiator might underline this reasoning: "*That is a good point to start with. From our point of view, you first asked us to develop the power transistor but you did not help us in any case. Our resources developed this new transistor and now you gave us the sign that you could not use it. You want us to wait for a supply on the market until you are ready - and that is the point*."

Dutch OM setting (Data Printer case)

Lack of empathy: Dutch negotiators do not seem to behave as empathetic in the OM setting than in the IM situation. The following quotation by Pat Pufahl makes this explicit: "*I 'm not happy with the situation as it is at the moment and I'm seriously wondering if I 'll go on doing business with your company. We've had a good relationship, but now things are running out of control!*" In the first sentence, the first personal pronoun "*I*" appears 3 times, whereas "*your company*" only appears at the end of the subordinate clause. However, such an involved position in which one negotiation party is mainly concerned with its own perspective may have some advantages as well provided that the other party does not feel offended by it and reacts in the same way. Pat Pufahl states the following: "*Now you explained your actions, I can understand them better*." This indicates that a free exchange of information, in which both negotiation parties try to understand each other without losing firmness on the facts is the best way to come to a mutually accepted compromise.

Dutch IM setting (RadioTech case)

Empathy: The following exemplary quotation by Ericsson shows well how Dutch negotiators apply empathy in order to reach a cooperative agreement: "*First of all I'd like to apologize for our late reply. I've been away during the holidays and haven't had access to a computer with a connection to the internet. I've forwarded you're e-mail to the engineering department and talked with it through what the main problems are at this moment. (...) In the meantime you can ask all the questions you*

want and I'll try to answer them as soon as possible but we'll have to wait until tomorrow for answers to question relating to engineering." The first two sentences deal with the bottom of the iceberg: Before talking about the facts, the Dutch negotiator addresses his opponent's feelings by apologizing for the late reply. He strengthens his plausibility by explaining why he was not able to reply earlier. The next sentence again refers to his opponent (his email) and at the same time builds a bridge to the bottom of the iceberg. He closes his turn by offering the opposite negotiation party (again empathy) to ask any questions and Ericsson politely promises to try to answer them as soon as possible. This somehow ideal turn exemplarily shows the Dutch negotiator's ability to deal well with applying an empathetic attitude in IM situations such as the one of RadioTech which requires innovative ideas to find a satisfying solution.

Counter-examples

So far, the qualitative analysis seems to suggest that Dutch negotiators are more cooperative and better able to build up empathy in the IM setting whereas German negotiators seem to more cooperative and better able to build up empathy in the OM setting. However, there are some counter-examples to these conclusions as well: In the IM setting, a German negotiator acting as Ericsson suggests the following: "*I have different perspectives at our relationship for both of us to make a positive or win-win-situation for the future for both of our companies*". By stating explicitly his interest in creating a win-win situation and by mentioning explicitly the relationship between the two negotiators, he expresses his willingness to solve things in a cooperative way. He seems to be aware of Fisher and Ury's (1991) advice – as explained in Section 2.1 – to be *tough on the issues and soft on the people.* An example of the German negotiator's ability to empathize with his opponent is the following statement of a German negotiator acting as Ericsson: "…*if you keep producing 100 till 105 thousand units, I will promise this to you. Are you positive with that?"* However, his German counterpart reacts in a rather reserved way to Ericsson's proposal: "*Yes, in principle yes, but maybe we can arrange another meeting tomorrow because I still have to talk to our production manager".* This reaction is also a matter of time: As explained in Section 2.3.1 and Table 2.4, FTF is a synchronous medium of communication which forces each party to react immediately to the opponent's statements. By stating that one has "*first to talk to our production manager*", one succeeds in winning more time to prepare an elaborate counter-proposal. Concerning Dutch negotiators in the OM-setting, the following example shows very well that Dutch negotiators are able to manage successful negotiations in OM settings as well. During the negotiation, a deadlock seems to be inevitable, but even in a CMC situation with a reduced number of communication channels, the negotiator solves this problem by suggesting another

appointment: Thus, first, Pat Pufahl (Dutch negotiator) states: "*I am deeply offended by the way you treat me: not accepting apologies, treating me like I am dumb, etc. You should learn to listen to your costumers a lot better, because I do not have the feeling that you listened to me at all. I will definitly not do any more business with you!"* However, after his counterpart (also a Dutch negotiator) apologized, he states: "*I appreciate and accept your apologies. I would like to meet you to see if we can solve this problem. My secretary will contact yours to schedule an appointment."*

Conclusions of Study 3

The general impression after having analyzed qualitatively the Dutch and German negotiation behavior in both IM and OM negotiation settings is that Gerrman negotiators seem to be more cooperative in the OM context than in the IM context and Dutch negotiators are more cooperative in the IM context than in the OM context. As explained in Section 1.2 and Section 2.5, an OM context is characterized by routine tasks whereas an IM context contains more tasks of solving new problems and finding innovative solutions and Dutch negotiators seem to be more creative in finding such innovative solutions. In contrast, it seems as if German negotiation parties in the IM setting may let it be known to their opponent that the latter's views and behavior simply do not come up to the mark, that they deserve only disapproval. The opponent is given to understand that his opinion is in fact somewhat short-sighted, that his reasoning is not logical, that he would do well to adopt a more constructive attitude, that his ideas and premises no longer work in these modern times, that his argument is devoid of principles. But such negotiators may also observe that their opponents have formulated a thorough and innovative report, that they are well known for their progressive thinking, that their premises should be the basis of any further discussion, and that their contribution can be viewed as highly constructive. German negotiators in an OM setting seem to apply a more cooperative negotiation strategy, showing their ability to empathize with their negotiation partners in the OM case more than in the IM setting. Those negotiators assume that there is a certain relationship between negotiating partner that is characterized by a relatively strong mutual dependance and by no clearly superior power on one side or the other. When those negotiators realized that they have been probing in the wrong direction, they started to try and find the right track. At issue was the distribution of scarce resources – money and time, and German negotiators in an OM setting tries to investigate the consequences of a lasting crisis. They tried to set down conditions of the basis of which they could agree to at least a rough draft of a compromise. More detailed discussion and conclusions on the studies' results are presented in the following Section 5.5.

5.5. Discussion and conclusions

All NC groups seemed to be differently affected in the CMC negotiations, so the empirical study seems to confirm the formulation of the hypotheses H3 and H4. The different strategy and state of empathy across national borders might be explained by the Hofstedian dimension of femininity/masculinity. If we label this one as an expression of willingness to affiliate at least or even cooperate (more feminine), one may conclude that Latin negotiators simply need more time, being rather masculine/assertive (also for females) and may need FTF encounters to build up trust (Ulijn and Verweij, 2000). Anglo-Nordics seem to accept CMC as a strategic way to a positive mutual agreement. For empathy they are superior in doing their best to overcome the potential hurdle of CMC. On the basis of these results, it may be surmised that CMC does not seem to allow all negotiators to employ a cooperative win-win strategy (as recommended by negotiation strategy training). Although there is only a slight tendency towards a higher use of second personal pronouns in the FTF setting indicating the ability to empathize, significant differences can be seen when one looks at the use of personal pronouns by the Anglo-Nordic and Latin NC clusters. The results show that the empathy or involvement building required in CMC interaction detracts from the win-win strategy by requiring an excessive and perhaps cumbersome use of general and metacommunicative acts to compensate for the lack of the context and non-verbal cues available. The need for this metalanguage might also drive an excessive use of first person pronouns as negotiators produce self-disclosure statements, contradicting the dictates of win-win negotiation strategy. The fact that the FTF negotiation took place before the CMC negotiation and each participant switched roles does not cause a change towards more cooperative behavior or towards using more empathy in the CMC setting, which may be expected if people had to negotiate the same case in switched roles FTF again. In these respects, the findings support those of earlier studies (Collot and Belmore, 1996; Condon and Cech, 1996). In contrast, the findings do not corroborate Hall's (1959; 1998) distinction between low context (Anglo-Nordic) and high context (Latin) negotiators in this CMC context. This empirical study's findings may also expand Hofstede's theory on cultural dimensions (such as IND, MAS, PDI and UAI as explained in Chapter 3). The fact that the different cultures' negotiation strategy varies with the medium seems to suggest that their score on Hofstede's dimensions seems to be medium-sensitive as well. However, future studies would be necessary to get to know exactly the degree to which there is a variation the culture's scores on Hofstede's dimensions related to the medium in use.

However, the results are slightly different depending on the cultural setting in which the negotiations take place. The fact that people are either from the Anglo-Nordic NC (a tendency to use more inclusive *we* and more *you*) seems to help them putting themselves in the shoes of their partner in the CMC setting: Arguments, facts, standpoints, goals, interests, basic assumptions, compromise proposals, concessions and conditions are formulated by those NCs in a more empathetic way in the CMC setting. Information and arguments might be presented as open for discussion, the interests of the other side are accepted as they are and concessions are part of the game, but impasses are allowed to occur. Those empathic negotiators seem to be better able to cope with a situation in which there is a lack of audio- and visual channels because they know how their partner reacts in several negotiation situations. They might not only present alternative solutions for the items on the agenda, but also different ways of reaching their own goals, possibly together with the negotiation partner in a cooperative win-win spirit. Good negotiators consider it important to promote a constructive climate and respectful personal relationships. An irritated or very formal atmosphere hampers effective negotiating. So they might try to develop trust, acceptance and credibility. In this way they express their interdependence by reducing uncertainty. The above presented results show that negotiators from the Latin cultural cluster have problems with empathy. The dilemma those negotiators seem to face here might be that trusting the other without reservation means running the risk of seriously weakening their own position and of overcompromising. Especially in an international CMC situation, where Latins are involved, what might be needed is a kind of calculated trust, compatible with remaining fully aware of the exploitative possibilities of a very personal and confidential relationship.

When we look at the use of cooperative speech acts, a similar situation occurs: Anglo-Nordics use more cooperative speech acts whereas Latins use more non-cooperative speech acts in the CMC setting. The reason might be here that Latins have a strong need for visual and audio channels. In a CMC setting where both of these channels are missing, those negotiators seem to have more problems with cooperation than Nordics and Anglos who can cope better withouth those channels. The question here might be: how explorative is a negotiator? Both practitioners and researchers emphasize the central importance of an actively exploring attitude. Successful negotiators go on energetically seeking alternatives that are relatively satisfactory to both parties, without having to moderate their own demands. In an inter-cultural setting, the lack of communication channels (auditive and visual) negatively influences the negotiation, which is especially true for those negotiators who have a strong need for those channels. Especially in an inter-cultural setting, the participants are unfamiliar with their partner’s NC, and missing communication channels intensify this problematic

situation, which results in the negotiators avoiding attitude: They stay on one track, rely on fixed procedures, stick to their original position, supplying in a repetitive and rigid way more evidence that it is right. This is also true for Anglo-Nordic negotiators who use significantly more general speech acts and less (non-)cooperative speech acts than the Latin NCs.

Hofstede (2001) mentions that in some organizational units employees derive their identity largely from the organization, whereas in other units they identify primarily with their type of job or profession. This depends on both the nature of the job and on the culture of the organization. if professional identities are strong, they may split the organization into different subcultures. Ulijn, Nagel and Tan (2001) notice that many employees do not feel loyal to the company any more but to their profession, their own outline of their profession and their professional code of ethics. R&D and Marketing seem to have different views about the relationship of the whole organization to the environment. R&D considers the technological and scientific relationship to the environment as crucial: The scientific and technical quality of the products justifies the existence of the whole firm, and the provision of technically useful products to the environment as the fundamental task of the organization. Marketing, however, regards the firm's role in the economical environment as most important: By supplying products that suit the market demand the financial input is obtained, and the organization survives through its commercial activities. Marketing also has a shorter time perspective than R&D, it is today-oriented and focusing on the rapidly changing markets. R&D, on the other hand, has a long-term perspective and has to do long-term anticipation into the future. It was not the aim of this empirical study to analyse PCs in detail. However, the detailed information about the subjects (see Appendices A, D and E) show that the subjects vary in their study background, the majority of them having a technical/engineering background. According to the experiment's results, those students with a technical/engineering background seemed to be more eager to negotiate in a computer-mediated way, still not more successful in their computer-mediated negotiations. Technology seems to be an important resource for those technically trained students. A glance at the current curricula of engineering studies at technical universities shows that education focuses to a large extent on teaching technical knowledge and methods. The PC of the engineer is often dominated by an intense enthusiasm for technology as a value of itself. There is a strong tendency in literature to emphasize the relevancy of technology-driven innovation (see Ulijn, Nagel and Tan, 2001). However, such an enthusiasm of technically trained student negotiators seems to be clearly separated from applying a successful negotiation strategy in a cooperative win-win spirit. The enthusiasm for computer-mediated business negotiations does not make it superfluous to carefully

prepare for the negotiation and to deal carefully with building up empathy. Building up empathy and putting themselves in the shoes of their negotiation partners even seems to be slightly more difficult for students with a strong engineering background because those student negotiators seem to be so convinced of the technology they try to sell that they sometimes forget asking for their negotiation partner's needs. In contrast, students with a strong marketing background seem to be slightly more aware of the fact that empathy and asking questions are important for successful business negotiations (see Section 3.3 and Ulijn, Nagel and Tan, 2001).

Comparing IM and OM negotiation settings

The above mentioned differences in FTF and CMC settings were discussed based on the experiment conducted by Anglo-Nordic and Latin participants. The following comparison of IM and OM negotiation settings refers to the Dutch and German culture which is a specification of the more general Anglo-Nordic culture cluster that has been considered so far. Both Dutch and German people belong to the Anglo-Nordic camp and even where no differences might be expected because Dutch and German people geographically are so close to each other, the experiments showed some differences. One can generally say that expressions about their negotiation partner's positions were used more often by the Dutch negotiators in the IM setting and by the German negotiators in the OM setting. An explanation for this could be: Empathy building for Dutch negotiators in an OM context appears to be difficult although it may be possible, but it would require many general and metacommunicative speech acts. And still OM communication might seduce those negotiators to overuse *I* and not an inclusive *we* or an inviting *you*. A win-win strategy for Dutch negotiators through OM would require additional training to get away from an egocentric bargaining position. As explained above, the negotiators had to switch roles between the FTF and the CMC negotiations in both the IM and OM settings which implies that putting yourself in the shoes of your negotiation partner may induce more use of the 2nd personal pronoun. However, this role-switch effect does not bring in a bias for the total results of the experiments because *all* negotiators had to switch roles. This means that the *total* result of all 2nd personal pronouns might be higher in comparison to a situation in which there would not have been any role-switching. As the number ob CMC participants who switched roles is equal to the number of FTF participants who switched roles, this effect may be minimized in a comparison CMC versus FTF. The fact that the formulation of both hypotheses could be confirmed shows that both German and Dutch negotiators tried to exhibit cooperative behavior, but may have considered the context to see to what extent this behavior is possible. Cooperative negotiation indeed produces the best results for long-term relationships, but the context in which those negotiations take place plays

an important role as well: Germans may interpret an OM context as relatively certain which encourages them to behave in a cooperative way, whereas they perceive the IM context as too uncertain - and decrease their cooperative attitude. Dutch, however, may perceive the IM context as ideal for cooperative behavior, and might see the OM context as more fitting for non-cooperative behavior. Both German and Dutch negotiators can learn from each other: Good negotiators know that win-win agreements in a cooperative spirit are constructed by increasing the available resources so that both sides can get what they want. For German negotiators who have a relatively higher UAI, this means to learn from the Dutch way of negotiating in IM situations, i.e. to expand the pie and to construct win-win agreements by exchanging concessions on different issues, with each party yielding on issues that are of low priority to itself and high priority to the other party. Such concession exchanges are sometimes called “tradeoffs”. If the issues involved in the exchange are already on the negotiation agenda, the exchange is called “logrolling” and indicates that both parties make concessions because they see individual benefits in such a tradeoff. Dutch negotiators can learn from their German colleagues when it comes to negotiations in an OM setting. A way to construct cooperative win-win agreements is to examine the concerns that underlie the positions taken by one or more of the parties and to seek a way to achieve these concerns which may involve goals, values or principles involved in IM and OM.

When one regards German negotiators, one can see that they have problems with empathy building in an IM context. A reason for this might be that Germans are rather masculine, whereas the Dutch, unlike many other countries, are very feminine. In a highly innovative setting, where it is necessary to cope with the tension between cooperation and fighting, such high masculinity may seduce German negotiators to behave in an avoiding and passive way instead of seeking for more information and alternatives. They may neglect the fact that parties are interdependent, they need each other. What binds them is the overlap in interests. Especially in an innovative setting which requires the party’s ability to discuss what benefits both of them, the lack of empathy may lead to a lack of clarity of the partner’s interests because the lack of empathy may indicate the disability to identify with the negotiation partner.

Considering the negotiator’s (non-)cooperative attitude, one can generally say that non-cooperative speech acts related to the use of the first pronoun *show your limits* and there might be more need of this in the competitive setting of OM than in IM. The results show that German negotiators are more cooperative in the OM setting whereas Dutch negotiators are more cooperative in the IM setting. The Dutch applied a cooperative attitude in the IM negotiations and showed that they were able to find

common criteria: Discussing the question whether the basic assumptions show any common ground and whether there are norms and values that appeal to both parties are essential. There is also a risk in this, and Germans seem to have more problems in coping with that risk: Parties may start negotiating at length about assumptions and principles. Parties sometimes hope to gain concrete advantages by elevating certain statements to the level of principles. If care is not taken, the result may be very lengthy negotiations about high-flown ideals. For parties will refuse to endorse criteria and principles unfavourable to them unless they are formulated in such complex or abstract terms that they can be interpreted to their advantage in the negotiations. In that case, a hard round of negotiations will have been completed, the value of which is slight. In the OM negotiations, Germans behaved more cooperatively and may have showed that they did not commit themselves to a solution during the negotiations. It is important to discuss in what direction a solution should be sought and to create room to manoeuvre. On the basis of these results, one can surmise that OM communication allows Dutch negotiators to employ a less cooperative win-win strategy (as recommended by negotiation strategy training) than in IM communication. IM negotiations show the limits of German negotiators more than those of Dutch negotiators, who where more successful here in building empathy and a cooperative spirit than their German colleagues.

From the point of view of buyer-supplier relationships and purchasing and supply management, these findings bring interesting nuances to some existing debates. One of the main trends is that the relation-oriented approach (see Figure 2.10) – i.e. the cooperative negotiation strategies – becomes more and more explicit, and increasingly applicable to a wider set of contexts and buyer-supplier relations (Axelsson and Wynstra, 2002, p. 235). The findings seem to suggest, however, that cultural factors have a potentially strong moderating effect. More precisely, it may be the case that managers from cultures that rely more on masculinity and uncertainty avoidance feel insecure in more uncertain, ambiguous contexts and then ‘revert’ to more transactional buying. Obviously, such findings need to be investigated further before making any really strong conclusions, among others by investigating (via case studies, surveys or again experiments) the behavior of managers rather than students.

Looking back at the Hofstedian dimensions as being evaluated ideal for either innovation initiation or implementation, one might conclude that some of the noted differences in values between Dutch and German culture make Dutch (with their high femininity and individualism) more eager to negotiate in a win-win situation in the innovation initiation as a first stage in IM, as it was exemplified by the RadioTech case. The Germans (with their high uncertainty avoidance), however, seem to be more

comfortable in negotiating cooperatively in an OM context, such as the Data Printer case.

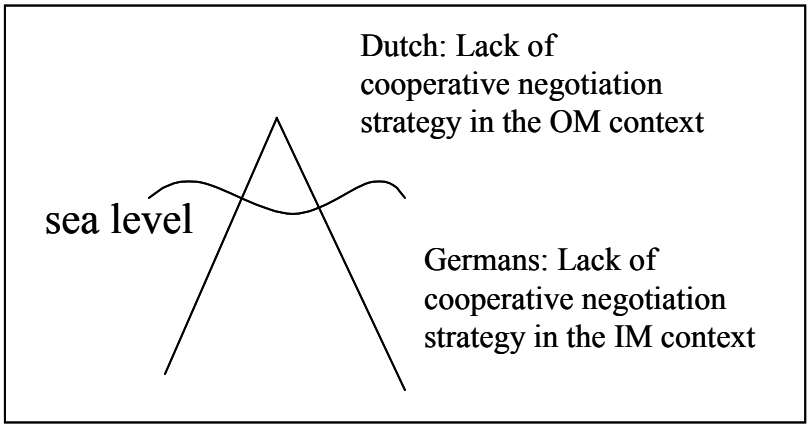

Figure 5.16: Results of the experiments as a culture-bound dead ends of strategic gamesmanship (adapted from Selfridge and Sokolik, 1975)

The following Chapter 6 will explain that game theory posits that non-cooperative negotiation processes are by their very nature strategic and that strategies are designed to help negotiators win in such a situation. Chapter 6 explicitly deals with the fact that game theory offers descriptions and predictions of how rational opponents are likely to think before then working out what a negotiator's own best response should be (Rosenmüller and Trockel, 2001). The 3 studies' results show that the dead end to which strategic gamesmanship may lead is culture-bound: Dutch negotiators have problems in an OM setting (top of the iceberg, see Section 2.5), whereas German negotiators have problems in an IM setting (bottom of the iceberg, see Section 2.5) to find the right negotiation strategy, see Figure 5.16.

6. Possible implications to progress business negotiation theory

The hypotheses formulated in the previous Chapter 5 show that culture (bottom of the iceberg, see Figure 6.1) may effect (non-)cooperative negotiation strategy (top of the iceberg). The question remains: what does this mean for theory and practice (see Figure 1.6 for the process model of this PhD research)? According to the results of Chapter 5 in relation to game theory as it was presented in Section 2.4, where are the limitations of game theory? Those questions will be addressed in the following sections of Chapter 6, the latter question being dealt with in Section 6.1, showing from a more general theoretical perspective that there are some conflicts with the assumption that negotiators behave like the "rational man". The author argues that understanding why and how actors transcend the rules of rationality is the first step towards developing a prescriptive theory in games. As theoretically derived in Section 2.4.2 and empirically experienced in the previous Chapter 5, the best solution set to a negotiation is one that will provide the highest satisfaction available to both negotiation parties such as the RadioTech and the Ericsson company. It is the one that is collectively rational, seeking above all to create the largest possible "cake". Such an assumption of rational behavior will be critically explored in Section 6.1. As a consequence, Section 6.2 tries to develop a more prescriptive theory of negotiating in games by proposing to create a communicative game. Binmore (1994) suggests that a neat distinction can be made between two separate stages in game theory: the stage of model construction and that of game-theoretic analysis. By arguing to create a communicative game in Section 6.2, the author holds that this distinction may not be so neat because strategic moves are highly interrelated with communicative moves in such a communicative game approach. Section 6.3 tries to answer the question what negotiators must do to ensure the game they are playing becomes and remains communicative, given that the participation in a communicative game is a prerequisite for successful negotiations. Hence, Section 6.2 and Section 6.3 may be understood as a contribution to developments in game theory that show that communication is important in games (Vromen, 1996). Section 6.4 continues with a communication model based on meta-communication issues and inter-cultural communication. A reason for doing so is the fact that general models of communication – as presented in Section 2.2 – do not deal with problems arising from inter-cultural interactions, nor do these models adress the practical needs of business persons. Section 6.4 addresses this gap because a more adequate communication model is needed that takes into consideration the explicit and implicit components of communication.

6.1. Limitations of game theory for real-life negotiations

Economists have often been apologetic about the assumption that decision makers behave like the "rational man" as introduced in Section 2.4. Introspection suggests that those assumptions are often unrealistic (Rubinstein, 1998). This is probably the reason why economists argued long ago that the rational man paradigm has to be taken less literal. In economic theory, a rational decision maker is an agent who has to choose an alternative after a process of deliberation in which he answers three questions:

- *"What is feasible?"*
- *"What is desirable?"*
- *"What is the best alternative according to the notion of desirability, given the feasibility constraints?"*

This description lacks any predictive power regarding a single decision problem, inasmuch as one can always explain the choice of an alternative, from a given set, as an outcome of a process of deliberation in which that outcome is indeed considered the best. Herein lies a key assumption regarding the rational man: The operation of discovering the feasible alternatives and the operation of defining the preferences are entirely independent (Güth, 2000). That is, if the decision maker ranks one alternative above another when facing a set of options that includes both, he will rank the alternatives identically when encountering any other decision problem in which these two alternatives are available.

Rubinstein (1998) attacks the traditional approach mentioned in Section 2.4 by referring to three motives often underlying procedures of choice that may conflict with the rational man paradigm: "framing effects", the "tendency to simplify problems", and the "search for reasons":

Framing effects

By framing effects, Rubinstein (1998) refers to phenomena rooted solely in the way that the decision problem is framed, not in the content of the choice problem (further explanations of the concept of framing can be found in Section 2.2). As explained in Section 2.4, a choice problem is defined as a choice of an element from a set. In practice, this set has to be described; the way that it is described may affect the choice. For example, the model does not allow distinct choices between the lists of alternatives (a,b,b) and (a,a,a,b,b) because those two sets are identical. If, however, the language in which the sets are specified is a language of "lists", then the following

procedural scheme is well defined: *Choose the alternative that appears in the list most often.*

The tendency to simplify decision problems

Decision makers tend to simplify choice problems, probably as a method of saving deliberation resources. An example of a procedure motivated by the simplification effort is the following (Rubinstein, 1998): *Given a decision problem A, pick the first and last elements (by a certain pre-defined order) among the set A and choose the better alternative between the two.* In this case, the decision maker does not consider all the elements in *A* but only those selected by a predetermined rule. From this sample, he then chooses the best alternative. If the alternatives are a, b, and c, the preference ranking is b>a>c, and the ordering is alphabetical, then the alternative a will be chosen from among (a,b,c) and b from among (a,b).

The search for reasons

Choices are often made on the basis of reasons. If the reasons are independent of the choice problem, the fact that the decision maker is motivated by them does not cause any conflict with rationality (Jost, 2001). Sometimes, however, the reasons are "internal", that is, dependent on the decision problem; in such a case, conflict with rationality is often unavoidable. For example, the decision maker has in mind a *partial* ordering of alternatives. *Given a decision problem, the decision maker selects an alternative that dominates over more alternatives than does any other alternative.* A reason for choosing an alternative is the large number of alternatives dominated by the chosen alternative (Rubinstein, 1998). This is an "internal reason" in the sense that the preference of one alternative over another is determined by the other elements in the set.

Business negotiators do often manage to trust one another, to make commitments, and therefore to reach the best results possible in many strategic interactions. Are these negotiators therefore by definition irrational? In addition to the experience provided by real-world negotiations, experimental economics has in recent years produced a wealth of laboratory evidence to show that decision and game theory often fail to fulfill their primary mandate as a descriptive theory. The reason for this is thatsubjects who were observed in controlled laboratory experiments often did not behave as the theory would predict that they will. For Simon (1979), there can no longer be doubt that the assumptions of perfect rationality are contrary to fact; they do not even remotely describe the processes that human beings use for making decisions in complex situations. As alternatives to replace the classical and neoclassical theories, he offers to focus more on the social sciences, which may be more appropriate to

investigate (rational) human behavior. Selten (1999) provides an extensive analysis of the concept of bounded rationality and argues that rational decision making within the cognitive bounds of human beings must be non-optimizing. By using aspiration adaption theory, he demonstrates the possibility of a coherent modeling approach to non-optimizing but nevertheless systematic and reasonable boundedly rational behavior. However, he mentions that a complete answer to what is bounded rationality “cannot be given at the present state of the art”. Rabin (1998) criticizes that economists are downplaying the relevance of behavioral research challenging its habitual assumptions. It is his strong impression that many of the arguments invoked against the reality or relevance of behavioral research derive from unfamiliarity with the details of this research. A variety of *anomalies* - divergence of observed facts from the theory - which challenge the axioms of decision theory and the equilibria of game theory have given rise to puzzlement. If people do not follow the rules of rational negotiation, what are we to make of them? Why do they diverge from the norm in this way? And most importantly, how do they manage to achieve such good results from their nonconformity? The author will argue that the observed anomalies are a natural sign that the descriptive paradigm of rationality underlying game theory is at best incomplete: actors often instinctively break the rules and find their own way forward by transcending the game-theoretic dictates of rationality. Understanding why and how they do this is the first step towards developing a prescriptive theory of negotiating in games which truly captures all available value.

It must be stressed that decision and game theory make only a very weak claim to normativity. Unlike some philosophical theories of rationality and ethics, for instance, there is no search for a universally binding answer to the question of what one should do. Rather, these theories are primarily descriptive, and as such include no value judgment: they merely record how people behave. It is from that legitimacy that they are useful as a predictive tool. And, under the asymmetrically prescriptive theory of negotiations that the author is pursuing, it is the accurate prediction of what my opponent will rationally do that gives the theory a (weak) normative claim on me: it tells me what I therefore *should* do to win. Game theory, applied this way, asserts at most a weakly normative or prescriptive claim: rather than setting out an ideally normative solution, it confines itself to the "practically normative" or "prescriptive". It helps a player to observe her opponent and reason about what that opponent is likely to do at the end of the game following the dictates of rationality (Riechmann, 2002). And it then, based on that prediction, prescribes a course of action for the player which will lead to a *"best response"* to the strategy exhibited by the opponent. This asymmetry of prediction and prescription is not independent, for one of the factors driving my opponent's strategy is his prediction of what I will do - he will base his

own prescriptions on that information! And my own actions will (hopefully) result from the prescriptions with which game theory will provide me. The process of strategic interaction, at least in a negotiation situation, is therefore *interdependent,* with both prescriptive and descriptive elements intertwined. Prescriptive recommendations are embedded in descriptive patterns. Both are essential if the theory is to help us solve negotiation problems. We must, however, first of all judge decision and game theory on their own terms: as tools which are useful for describing and predicting how rational players will naturally behave. If this description and prediction turns out to be inaccurate, however, then the prescriptive element must be questioned as well, especially in light of the difficulties we have already seen. And if game theory is neither descriptively accurate nor prescriptively useful, it is unlikely to serve as a viable tool for a prescriptive guide to successful business negotiation.

But what are the key descriptive elements of game theory's picture of rational deliberation? The first quite plausible assumption of game theory is that players in a game will *naturally seek their own interests* and that these interests are best expressed in terms of their subjective expectations of results that will produce consequences most favorable to them. Game theory then goes on to say that in a strategic game, the players will assume rationality and further factor their expectation that the opponent thinks in the same way to naturally move towards mutually "best responses", i.e. to equilibrium. Such a theory is *naturalistic:* people are supposed to be "hard-wired" this way. Without undue effort, and using only the common-sense rationality with which they are naturally endowed, they will gravitate towards results *as if* they consciously followed these rules. By providing an idealized model of this process, decision and game theory merely serve to sharpen our thinking and help to quantify the decisions and moves being made naturally by the players. By providing such a quantitative picture of intuitively rational deliberation, the theory establishes its credentials as predictor for future decisions and games (Güth, 2000).

6.2. Creating a communicative game

In order to locate negotiation in relation to games, one may refer to the distinction between two types of games: non-cooperative games, and cooperative games. In non-cooperative games each player takes the decisions within his set of possible actions without communicating and making any sorts of agreements with other players. Cooperative games are often defined as games in which the players are permitted to communicate with each other and make agreements (form coalitions) before decisions are made and actions are taken (Riechmann, 2002). To this characterization is sometimes added the requirement that it shall be possible to enforce and control the

fulfillment of agreements which various players and groups of players may have made. From one point of view negotiation belongs to the sphere of cooperative games. Negotiation is a process of communication (see Section 2.1) – an exchange of information, proposals, promises, threats, etc. In other words, one might say that the description of a negotiating process represents an elaboration of what is referred to as the possibility of communication and formation of coalitions in a cooperative game. Sometimes game theory is able to show quite convincingly that the possibilities of formation of coalitions so to speak define a unique equilibrium outcome. Technically this may be referred to as the case in which the 'core' of the game contains one unique outcome. (Some different types of cores, and also other solution concepts, may be of interest, but will not be considered in this context). Then the negotiation aspect is rather trivial (Rosenmüller and Trockel, 2001). However, this case occurs only under very special circumstances. In most realistic cases there remains a set of possible outcomes which is such that the choice between these outcomes represents an element of conflict between the interests of various players or groups. Then negotiating in the more interesting sense takes a prominent place.

In this sense one might say that negotiating is a process by which an outcome is determined in a cooperative game in which no unique point is determined by a sort of coalitional balance of powers. There are also relevant cases in which the core is empty, i.e. no outcome satisfies all requirements defining the core. Negotiating is also essential in this case, but this point of view has not (as far as the author is aware) been explored in the literature. In a negotiating process, the exchange of information, proposals, promises and threats as referred to above, are the essential elements. Although the game is 'cooperative' in the technical sense just described, the players are opponents in the negotiating process. Each of them determines his 'moves' in this process unilaterally. Accordingly, the negotiating process itself can be considered as a special type of non-cooperative game, where the moves in the game are the information given to the opponents, the offers or threats made, etc. Thus, one might say that negotiating is a process associated with cooperative games, but the negotiating process itself is so to speak by definition non-cooperative.

Game theory posits that such non-cooperative negotiation processes are by their very nature strategic; thus its prescriptions, or strategies, are designed to help players win in such a situation. It offers descriptions and predictions of how rational opponents in this kind of game are likely to think before then working out what a negotiator's own best response should be if she is to maximize her own utility in light of that information (Rosenmüller and Trockel, 2001). In Chapter 5, we have seen the dead end to which strategic gamesmanship often leads – it is a dead end

that is culture-bound: Dutch negotiators have problems in an OM setting, whereas German negotiators have problems in an IM setting to find the right negotiation strategy, see Figure 5.16. It seems that negotiators are trapped in a box of their own making. The answer, then, must be to break out of this box and transform the strategic game into an altogether different kind of interaction. Negotiators must find a way to move beyond individual strategies, to create a conversational space which allows them to communicate openly with one another. This kind of communication will not guarantee but rather enable cooperation. It will create an atmosphere of trust which allows for the joint identification and capturing of all available cooperative gains. Good communication transforms the game because it makes *coordination* of action possible: language, used in its primary, non-strategic sense, serves as the foundation for a new and far more promising kind of interaction. Vromen (1996) states that "it is one of the few robust experimental results, results that are reproduced in replications of experiments, that the rate of cooperation in prisoner dilemma's is significantly higher when the subjects have the opportunity of pre-play communication". What Vromen considers even more remarkable is the difference in rates of cooperation in two 'intermediate' versions of the experiments. In the one 'intermediate' version the subjects were allowed to talk, but not about the experiment itself. In the other version the subjects were allowed to discuss the experiment (which most of them did), but not to make declarations of their choices and plans. In these 'intermediate' versions the rates of cooperation were 35% and 74% respectively. Apparently, then, what really made a difference was not so much whether the subjects were allowed to make promises and announcements, but whether the subjects were allowed to discuss the experiment itself.

Binmore (1994) presupposes that a neat distinction can be made between two separate stages in applied game theory: the stage of model construction and that of game-theoretic analysis. In Binmore's view the tough problems reside only in the first stage. Much more attention should be paid to the stage of model construction. The second stage is considered to cause no problems at all. Game-theoretical analysis as presented in Section 2.4 proceeds from the assumption that players have common knowledge. Something is said to be common knowledge if each player knows it, each player knows that the others also know it, and so on. In conventional game theory, not only is it assumed that the mathematical structure of the game is common knowledge, but also the theorems that can be proved about the game. Furthermore it is also assumed to be common knowledge that the players are rational. The assumption of common knowledge is an abstraction from communication: If the players have common knowledge about the mathematical structure of the game etc., there is no need any more to communicate. The communicative game approach proposed in this section

does not make this assumption. That is why it can explain why traditional game-theoretical analysis fails: It is the abstraction from communication by assuming common knowledge and rationality. Myerson (1991) concentrates on the assumption of game theory that the model, the mathematical structure of the game, is common knowledge. He argues that this assumption can be derived from the even more fundamental assumption that players are intelligent: “when we say that players are intelligent, we mean that each player knows at least as much about the game as we”. In line with the communicative game approach suggested in this section, Myerson stresses that this assumption is never perfectly accurate because inconsistency and ignorance are common human attributes which can only be overcome by communicating. According to those results, the neat distinction that Binmore (1994) presupposes to be made between two separate stages in applied game theory (the stage of model construction and that of game-theoretic analysis) may be questioned as well. The results of Chapter 5 showed that the process of communication (be it either CMC or FTF) cannot be separated from the strategic moves in negotiation: cooperation or non-cooperation. Using the Binmore’s distinction, communicative moves would refer to the first stage of building up common knowledge and thus construct a model which corrects for the possible ignorance of the players. Strategic moves, accordingly, would refer to the stage of game-theoretic analysis. However, the strong interrelation between communication and (non-)cooperative negotiation strategy suggests that the distinction by Binmore may be much smaller than Binmore holds.

But even communicative games are not only about "win-win". Rational negotiating actors, especially in the business world, cannot afford to be naive. They cannot allow themselves to be exploited, and must therefore find ways to properly gauge the sincerity of their opponent, as well as to assess the "principles and commitments" that drive his thinking (Güth, 2000). They must deal with the issues of unequal bargaining leverage as well as react appropriately to threats. And finally, once the cooperative surplus has been identified and the potential deal moved to the best possible negotiation possibility frontier, they must rightly push (within the agreed rules of the communicative game) to have as large a portion possible of that deal allocated to their side. Not all objectives are congruent: even in a communicative game, interests usually are still largely divergent and must be defended. This tension between the joint objective of reaching the best possible overall deal and the individual objective of capturing as much as possible of that value, once it is identified, for oneself is the fundamental challenge of rational negotiation. But far from being mutually exclusive, these objectives can be pursued interdependently, in interaction with the opponent. The contours of a communicative game will, for the first time, allow a rational actor

to do justice to both (Güth, 2000). The ground rules of such a communicative game are clear. It must start with mutual respect for the autonomy of each negotiator, recognizing his right to set and reset goals, articulate considered preferences and do all that he can to ensure that those preferences are fulfilled in action. It demands, however, if autonomy is to be taken seriously, that the negotiation be *principled:* especially the maxims of fairness and reciprocity must be respected. Negotiators will focus not only on the issues over which they are bargaining but also on the *relationships* they are building with their counterpart across the table. Good negotiators find that they can bargain about all aspects of the game - including the nature of the payoff matrix itself. They can discuss not only the issues to be resolved but also the relationship between them and between the parties. They can help each other to understand and interpret various outcome scenarios and thus profoundly shape their own and each others' emerging preferences. Through their conversation, they can identify new individual and joint strategies, thus adding complexity and new dimensions to the matrix in the course of the game. And they can jointly decide to move beyond a matrix analysis altogether, choosing instead a richer depiction and measurement of the game result (Riechmann, 2002).

Section 6.1 dealt with the incomplete paradigm of the actor's rationality. However, negotiation is a social process. Rational actors are in the end largely guided not only by considerations of utility (top of the iceberg) but rather by social norms (bottom of the iceberg, see Figure 6.1) - norms which they choose to accept because they are congruent with the practical identity they have constructed for themselves. The experiments presented in Chapter 5 show that culture as part of the iceberg's bottom plays an important role here: The (non-)cooperative negotiation strategy depends on the negotiator's culture, but the models of game theory do not consider this as important. In contrast, the negotiations as presented in Chapter 5 show that the appropriate behavior in games is part of the part of the perception or understanding that agents have of their situations.

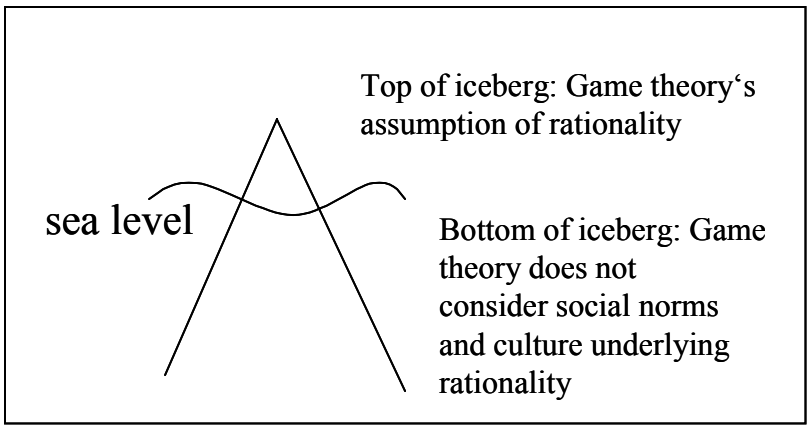

Figure 6.1: Limitations of game theory as referred to its assumptions (adapted from Selfridge and Sokolik, 1975)

And so successful negotiators in a communicative game will strive to establish norms - rules of the game - which foster inquiry and enable a joint reflection about ends. These will be at first procedural, but then, increasingly, also substantive. Such negotiators will seek first of all to establish joint *objectives,* based on whatever common ground they can identify between them. While "no agreement is (indeed) better than a bad agreement", opponents in a communicative game can usually count on at least the common goal of reaching some kind of agreement to justify their presence at the negotiating table and motivate the opening of their discussions (Jost, 2001). The extent of the substance of those common interests leading to a possible agreement must then be explored more fully. In a communicative game, joint objectives must then be clarified, and objective criteria set against which the results of the negotiation will be measured. With these joint criteria identified, communicative negotiators can then start the difficult process of creating (rather than discovering) the Pareto-efficient *negotiation* possibility frontier visualized in Figure 2.7. They must look for those combinations of deals on individual negotiating points which will unlock the most value for the negotiation at large.

Essential to this process is the *exchange* of information. If negotiators are to reflect together and learn from one another, they must share their own information, to the extent that it is rationally justifiable, with their opponent. But here, even in a communicative game, established "strategic" habits of posturing, deception and secrecy can abort the process: communicative behavior can often turn out to be manipulative strategic behavior in disguise. Especially early on in a negotiation, trust has not been sufficiently established to allow each side to reveal its hand to the extent necessary for the mutual learning process to start. One way to get started in getting information flow going in order to realize joint objectives is to separate procedure

from results (Jost, 2001). While the substantive outcome of a negotiation may be hotly contested, even strongly divergent partners can usually agree on a game plan and timetable, as well as a set of procedural rules to govern the process of information exchange, proposals, counterproposals and bargaining. Communicative negotiators will therefore spend much time early in a negotiation process articulating and agreeing on these rules, achieving closure with their opponent well before any substantive issues are brought to the table. Finally, communicative negotiators will recognize, with their opponents, that they have a joint interest in ensuring that the agreed rules of the game have "bite". They will want to ensure compliance of agreements up front, through the creation of institutions. This can involve the techniques of signaling and pre-commitment to evidence sincerity, but also provide for mechanisms for securing the services of outside mediation or arbitration as necessary (Rosenmüller and Trockel, 2001). And so, with the machinery of a truly communicative game in place, and a prima facie atmosphere of trust, cooperation and open information exchange established, rational negotiators will stand a far better chance of reaching optimal deals. By properly understanding and respecting their own and their opponent's legitimate economic rationality, and by putting in place mechanisms which allow that rationality to find full expression, communicative negotiators set the stage for a very different interaction than the kind typical of the "strategic game" that they have jointly escaped.

6.3. Effective negotiation behavior means communication

But how are these results to be realized? If participation in a "communicative game" is a prerequisite for successful negotiations, what must negotiators *do* to ensure the game they are playing becomes and stays "communicative"? How do they guard against defections, or strategic behavior masquerading as communicative? How should they conduct themselves at the negotiating table as they engage in integrative and distributive bargaining? What *kind of behavior* typifies a successful "rational" negotiator?

We have seen that communicative games naturally involve the *free exchange of information.* This is indeed the first key to success, especially in integrative bargaining: the more negotiators can learn about and from one another, the more willing they will be to work together and the better equipped to creatively search for win-win outcomes on individual issues (Rosenmüller and Trockel, 2001). But how is a successful negotiator to keep this information flow going? The obvious answer is to *ask many questions.* The following example may serve to illustrate this in the context of the RadioTech case:

RadioTech: "*Is it right that the delay will not be 8 months, but 6 months?"*
Ericsson: "*Yes, thats true from our point of view, we have to consider the phase of testing, which would mean that there is only a delay of 6 months."*
RadioTech: "*Ah*."
Ericsson: *"And now, we have to cope with the delay of 6 months. I dont know, how is the situation at your research and development department?"*

In this example, both RadioTech and Ericsson ask quesitons in order to learn about the opponent. RadioTech combines two things by asking his question: On the one hand, the question aims at gathering informaiton from Ericsson and on the other hand it shows his interest in a possibly short delay by Ericsson (for further explanations of the RadioTech case see Chapter 5). The question Ericsson asks shows his true interest in his negotiation partner's situation at RadioTech's research and development department. Empirical research into negotiation behavior has shown that this is the characteristic, more than any other, that separates successful negotiators out from their average peers. On average, skilled negotiators are observed to ask two or *three* times as many questions of their opponents than do average negotiators, and this in all phases of the negotiation process. The benefits of asking questions are clear. In the first instance, questions are a way to learn about the opponent. They help us to gauge his true interests, as well as to estimate his reservation and target values for various issues, and his BATNA (for an explanation of the concept of BATNA see Section 1.3). This information is crucial to a negotiator's ability to make rational proposals in distributive bargaining. But for integrative bargaining, questions provide valuable raw content as well: only when I know what is truly important to my opponent can I gauge potential tradeoffs on issues and make proposals that he will find attractive. In a truly communicative game, asking questions will not only uncover valuable information: it will in fact create it. As the negotiators construct a social interaction between them, the device of questions is the primary way in which preferences and goals are aired, reflected on and set. Through questions, the skilled negotiator can *influence* the objectives and preferences of the other side. He can thus change the dynamics of the game and steer the conversation towards reflective equilibrium far more efficiently than was possible in the standard argumentative mode of the strategic game. The negotiator who is asking questions, perhaps intuitively, thus gains control of the negotiation process. By resisting the urge to put forward ever more arguments for one's own positions, and instead seeking to empathize with the point of view on the other side of the table, a rational negotiator learns to *listen.* He gives his opponent "air time" in order for her to explain and think about her point of view and so gains time to reflect on his own responses well in advance of voicing them. He controls the agenda

by determining which issues are discussed, in which order and for how long (Riechmann, 2002). The rational negotiator will not only ask simple questions of understanding in a negotiation. He will also build on these with more sophisticated *conditional* or *"limited -choice menu" proposals.* By asking for his opponent's reactions to potential linkages between issues ("*if I were to be willing to give on A, could you possibly concede on B?*") and offering alternative options on concession packages ("*I could make that payment up front with a 10% discount or, alternatively, in full in 90 day. Which do you prefer?*") the negotiator teases out the true interests and objectives of his opponent, while at the same time putting her at ease as she sees her concerns addressed. The following example illustrates this. In a rather late stage of the negotiation, RadioTech summarized what has been discussed so far and then comes up with a conditional proposal:

RadioTech: "*So you would guarantee me the December date and I will start negotiating with other companies let's say at the beginning of December and they wont use the product let's say before March and if you get problems with the December date - I mean we really cannot postpone the December date again, that is really impossible*."
Ericsson: "*Ok*."
RadioTech: "*But I can only agree to this if you take let's say 35 % of our production*."

Rational negotiators will also frequently look for interim closure on negotiation points by offering rhetorical summations of the other sides' position (Riechmann, 2002). "*Did I understand you correctly*?" "*So what youare saying is ...*", "*Your real concern on this point seems to be....?*" The following example may illustrate this:

RadioTech: "*Yes, but we always react to a certain demand. Your demand was made in October and from that date on, we decided "go or no go". It was our free responsibilitiy and our risk that we had to take. There was not a different input. You know we work on a lot of products in our company. And we can decide ourselves if we produce this technology or not*."
Ericsson: "*If I understand you correctly, you consider yourself as the only developer of this component? And you offerd me to get the same condidion as any other customer?"*

Beyond summations, rational negotiators will also engage in *probing* to assess the sincerity and also the rationality of opponent responses. Questions like "*How did you arrive at that figure?"* or "*Tell me more about that?"* help to "get behind" articulated

opponent positions and reveal the thinking behind the statement. In short, the negotiator seeks to be sure he has understood what he has heard correctly, and that he understands the opponent's thinking process, before making counterproposals. Thus emerging positions are fixed in the public sphere, and both sides have a common understanding of the differences and common ground between them before the bargaining begins. A conversational space has been created. All of these techniques serve a further purpose as well. When questions are put not only skillfully but also sincerely, they help to relax the atmosphere of the negotiation, as the opponent is encouraged to do what, for most people comes naturally: to talk about herself. Rather than fending off a barrage of hostile persuasive arguments which force her to entrench her stated positions, the opponent will find herself willingly revealing information about her objectives and concerns. She will feel less vulnerable in communicating critical information and in making creative proposals and offers (Güth, 2000). By drawing out his opponent in this way, and by reciprocating through sharing of his own feelings and information, the rational negotiator will help to establish an atmosphere of trust.

Trust is the second key factor for success in business negotiations. Only when business negotiators find they have some reason to believe in the honesty and sincerity of their opponents will they allow themselves to be bound by the cooperative norms which are essential to breaking out of the dilemmas of strategic games. This enables a positive and selfreinforcing spiral of expectations and counter-expectations to get started. Only in this way does cooperation become possible and is compliance assured. Learning in a negotiation is twofold. First, a rational negotiator learns facts, assembling building blocks for use in his own later integrative and distributive strategies. But at the same time, he learns about his opponent: what his most basic commitments are, what principles he regards as normative, what reasons are likely to move him to act. In the course of the negotiation, he builds an empirical base of experience which then allows him to decide whether trust and cooperation are justified. As negotiators learn about each other, reputations are established (Rosenmüller and Trockel, 2001). Expectations, tentative at first, become solidified as first cooperative moves are reciprocated and confidences shared are honored with counterproposals which take account of those confidences. As this process continues, norms of cooperation grow stronger, and the cost of defection later in the game increases. Even in a once-off negotiation, negotiators find that exploitation has its price: they have a reputation to protect.

There are a number of further behaviors which will help reinforce the trust and cooperation which arise naturally in a truly communicative game. Experimental

psychologists have for instance performed much research on the power of verbal and nonverbal signaling: sharing of feelings especially when one is uncomfortable with a proposal, but also efforts to show the opponent in both word and deed that one is sincere, that concerns voiced by the opponent are taken seriously, that claims made can be backed up with facts that commitments entered into will be honored. The following section of an overall rather harmonious negotiation, in which both negotiaiton parties ask many quesitons, illustrates such a sharing of feelings in the context of the RadioTech negotiation. The section ends with Ericsson's interest in RadioTech's feelings:

RadioTech: "*That makes sense. So not 250 $, but 270 $?"*
Ericsson: "*Yes, and you wait up to September*."
RadioTech: "*September, is that reasonable?*"
Ericsson: "*You are still doing research and development with our competitors as well. So I think if you wait up to September, we could continue our good relationship. Is this a deal?*"
RadioTech: "*I have got nothing to say more about this*."
Ericsson: "*Do you feel uncomfortable with this?*"
RadioTech: "*Yes, sure*."

Signaling, to be effective, is often backed up by precommitments. By binding oneself to the honoring of an agreement well before any temptation to defect can arise, the rational negotiator instills confidence in his opponent that the communicative game will stay communicative and that the risk of cooperation will always be manageable. Self-imposed penalties for defection, clearly communicated and easily measured, help to ensure that offers made can also be believed and relied upon. Thus, a labor negotiator may "nail down" a key point agreed on (or concession he has made) early in the negotiation through public announcements or press leaks, effectively closing off his option to renege on this concession should the opportunity unexpectedly present itself. He will expect management, for its part, to do the same, perhaps by delivering in pilot form what it has offered to provide for all employees when the negotiation package is complete (Jost, 2001). House buyers put down payments supporting bids in escrow to underline their commitment; sellers will reciprocally sign letters of intent binding them to a deal even in the face of later better offers. This principle of reciprocity is an important confidence-builder in negotiations. But unlike actors in conventional theories of tit-for-tat, rational negotiators will not allow themselves to be drawn into negative spirals of escalation at the first sign of defection. Because both parties have committed themselves up front to the principles of a communicative game, they can appeal to those standards when behavior on either side seems suspect.

They will be proactive in defending the norms that have been articulated. Rather than reacting blindly and automatically to defections and cooperative moves with like responses, a rational negotiator will break this cycle at its origin. He will ask for reasons for a perceived defection by the other side, challenging his opponent to justify his behavior in light of the agreed norms of a communicative game. Unjustified behavior will be punished, but always with an eye to continuing the negotiation (and the relationship) on a positive note, with the aim of an optimal agreement for both always in view.

6.4. Towards a practical model of inter-cultural communication

In Section 2.2, we have seen that communication is at the heart of the negotiating process. Communication is the central process by which key negotiation elements such as planning, preparation, and strategizing are enacted (Lewicki, 1999). Most analyses of communication begin with a discussion of a basic model of the communication process which was presented in Figure 2.4. Both Section 6.2 suggests to make negotiation a communicative game in order to overcome the pitfalls of traditional game-theoretical analysis. Given this as a basis, Section 6.3 shows how these results are to be realized and argues that effective negotiation behavior means communication. However, as has been discussed in Section 2.2 and in the previous sections of this Chapter 6, we must be aware of the fact that communication is more than the exchange of explicit messages. The game-theoretical model of Section 6.2 includes the possibility to exchange information messages in order to create a communicative game. However, as we will see in this Section 6.4, this is not enough and a more adequate communication model is needed that recognizes the explicit and implicit components of communication and that can account for the role of meta-communication. Only in this way, it becomes possible to address the problems in intercultural communication which were theoretically explained in Chapter 3 and empirically experienced in Chapter 5. In this section, such a more adequate communication model will be presented. Because the model is intended for business people who do not have a strong background in communication theory, the model incorporates explicit cues to problem areas in inter-cultural communication and has been kept as simple as possible for ease of retention. The following sections first discuss the problems of communication models and then examine the needs of business communicators. Next, the assumptions of the channel model, its elements, and its dynamic operation are described. Finally, the dynamics of the model and its cultural influences are discussed.

6.4.1. Problems of communication models

The best known communication model is the Shannon-Weaver model (1949) in which the sender encodes and transmits a message and the receiver receives and decodes the message (see Figure 2.4, for further explanations of the model see Section 2.2). Timm (1986) points out four major fallacies of this model: (1) it tends to focus primarily on the message preparation skills of the sender, (2) it ignores the inferences that the receiver may draw, (3) it implies that the receiver may not communicate when in fact communication occurs concurrently, and (4) it ignores the continuous bidirectional nature of oral communication. Further, the Shannon-Weaver model has no provision for nonverbal content which may make up a large part of an inter-cultural exchange (Timm, 1986). Such a model is difficult to apply because it omits many aspects of communication. Bowman and Targowski (1988) delve beneath this criticism of the Shannon-Weaver model by noting the model's philosophical roots in Hartley's (1949) objectivist view of the communication process as the transmission of information. By focusing on the reception of intact signals, the Shannon-Weaver model equates communication with syntax. If the receiver can replicate the same signals in the same order as they were transmitted, communication occurs. However, as Bowman and Targowski note, this definition of communication ignores both semantic (the 'subjective' meanings the signals evoke) and pragmatic (the 'action' such subjective meanings entail) levels of analysis.

Knapp (1984) proposes a detailed model which allows for the influence of the sender's and receiver's value systems, incorporating both a syntactic and semantic level of analysis. His model contains fifteen significant boxes, five noise boxes, and a web of connections. The model provides for most of the known or hypothesized influences on interpersonal communications; however, the model has too many components to be easily retained by the person who is being trained to practice inter-cultural communications. Furthermore, although his model allows for the influence of the receiver's value system, the effects of the sender's value system or cultural biases on the process of message selection are not explicit. Targowski and Bowman (1988) put forth a layer-based model that is slightly less complex. Their model parallels in many respects the Open Systems Interconnection reference model for computer data communication established by the International Standards Organization (Stallings, 1985). The Targowski and Bowman model has ten layers that address separately various communication factors. Like the boxes of the Knapp model, the layers interact, but the nature of the interaction is not described. Berlo (1960) presents a model of communication which allows for multiple channels of communication, the influences of the sender's and receiver's phenomenal field (expressed as

communication skills, attitudes, knowledge, social system, and culture), and the message. This model does not address specifically the implicit and explicit message(s) which may be sent, nor does it address the number of the explicit messages which may be apprehended or the amount of inference which the receiver may draw. However, Berlo's model does provide a framework which suggests that communication may occur in several channels simultaneously and that several channels may be used to transmit one message, elements which would be useful in a training model. Many of the models reported in academic writing assume a scholarly sophistication, including a knowledge of related disciplines (Smith, 1962). Business people often lack the breadth of study needed to relate reductive or ambiguous models to the situation at hand. In some situations, the user may not have time to sort through the knowledge of various disciplines and relate this knowledge to a model which does not explicitly allow for such relationships (Jackson, 1995). A practitioner's model then should show relationships that might only be implied in a scholar's model.

Assumptions of the model

Seven well accepted assumptions about human communication are incorporated in the channel model (see Section 2.2). Communication is (1) a process involving (2) both purposive and expressive messages (3) composed of multi-unit and (4) multi-level signals that (5) depend upon the context for their meanings (Knapp, 1984). Moreover, (6) communication involves explicit and implicit meanings which are apprehended directly and indirectly inferred, respectively (Habermas, 1984). Hence, (7) communication competence is dependent upon the expressive and interpretive abilities of both interactants (Spitzberg and Cupach, 1984). As a process, communication has no determinate beginning or end; rather, it is an ongoing exchange of messages between two or more people. People exchange both intended (purposive) and unintended (expressive) messages. Misunderstanding may occur, as MacKay (1972) has noted in his discussion of goal vs. nongoal directed signals, if expressive messages are interpreted as purposive messages and vice versa. Moreover, the possibilities for this misunderstanding may be heightened – or lessened – because messages are composed of multiunit signals.

FTF communication involves verbal, paraverbal, kinesic, proxemic, olfactory, and other signals apprehended by the five senses. These multi-unit signals, simultaneously exhibited, provide a configuration which typically contains both expressive and purposive messages. (Because multiple signal configurations may occur either within or/and across channels, the term multi-unit signals is more precise than multichannel signals.) If multi-unit signals are congruent, the messages are more likely to be interpreted as intended. However, if these signals are incongruent, one or another of

the conflicting messages are typically discounted (Watzlawick et al., 1967). This process of misinterpretation can be further exacerbated – or resolved – by the multilevel nature of communicative signals.At least two levels of communication – the semantic and the pragmatic – are of significance in all relevant communication (Ulijn and Strother, 1995). In other words, every interaction involves not only signals directed toward the semantics of a shared concern or topic but also signals that comment about the communication itself (Ruesch and Bateson, 1951). These meta-communicative signals may be verbal but are often nonverbal, and they provide a framework for understanding the purpose of the interaction, for proceeding with the interaction, and for interpreting potentially confusing multi-unit signals. As such, meta-communication centers upon the pragmatics of the relationship between communicators. For example, such obtrusive signals as those involving turn-taking during a conversation can indicate whether a recommendation is well received (nodding ‘yes’ and gesturing ‘go on’), ignores (interrupting and talking over), or disapproved (a frown and silence).

The specific meanings of utterances – as intended or apprehended – often depend on the context. The context provides both speakers and listeners a more-or-less shared background which can alter the literal meaning of any utterance as well as lend significance to the unspoken. Here, we can distinguish at least two ways in which the context affects the meaning of messages (Knapp, 1984). One notion of context ties it closely to the ongoing interaction of the speaker and listener. Because the present conversation is incrementally built upon the exchange of messages, each new message is framed by that exchange and affects the interpretive framework for future messages. For example, a business person's utterance, `Let's play ball,' has only a literal, generic meaning unless its conversational context of petty grievances about working together on a project with a colleague are considered. Another notion of context brings into play the NC of the two people in the conversation. This broader sense of context as an overlapping cultural field is what permits the speaker to assume that saying *`Let's play ball'* will convey a spirit of cooperativeness based on a shared cultural background.

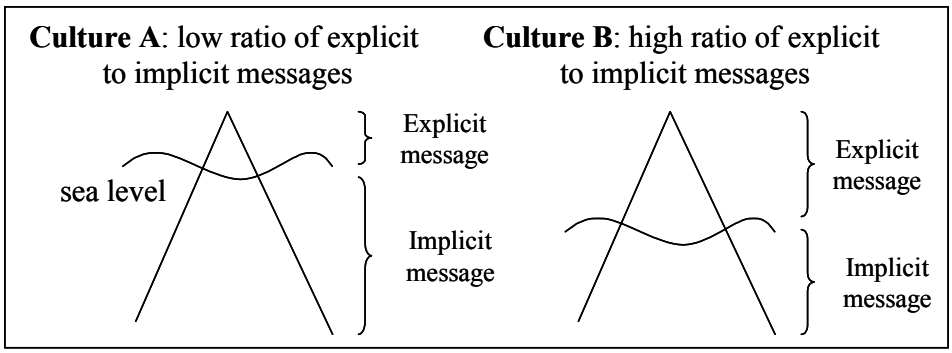

Figure 6.2: Cultural variations of the ratio of explicit and implicit messages (adapted from Selfridge and Sokolik, 1975)

Reliance on the context for determining the meaning of expressions and actions occurs in all conversations. However, the ratio of explicit messages (top of the iceberg) vs. implied messages (bottom of the iceberg) may vary from situation to situation and from culture to culture, see Figure 6.2. The conversational context provides each communicator with a reference point for assessing the extent that implied (implicit) messages are being inferred as expected. On one hand, to the extent that conversational responses indicate uptake of implied messages, the communicators can 'take-for-granted' some degree of overlap in their fields of cultural experience. On the other hand, if implied messages are not being responded to appropriately, both communicators must use more explicit messages to establish a shared ground of understanding. Because many times implied or inferred messages are meta-communicative in nature, misinterpretation or ignorance of these messages can quickly sour the relationship between the conversational partners. Hence, the burden of rectifying misunderstood or discounted meanings falls on both communicators. Competence within a conversation is jointly achieved.

6.4.2. Elements of the model

Following the lead of Berlo's adaptation of the Shannon-Weaver model, the proposed model incorporates a sender and receiver (Smith, 1962). When applied to a communication event, the model includes Berlo's five channels - sight, sound, touch, taste, and smell - in two directions to accommodate the concurrent, two-way nature of interpersonal communication (Berlo, 1960; Smith, 1962). However, when used to analyze specific aspects of a communication, the model can show activity in a single one-way channel.

Communication channel

The model is visualized in Figure 6.3 and it shows a channel between sender and receiver which is one of five which may be active in any communication session. This channel may carry messages in several modes. For example, the sound-channel may carry, in addition to words, varying degrees of loudness, pauses, intonations, and inflections, all of which will add meaning to the denotations and connotations of the words. The content of the channel is the focus of the model.

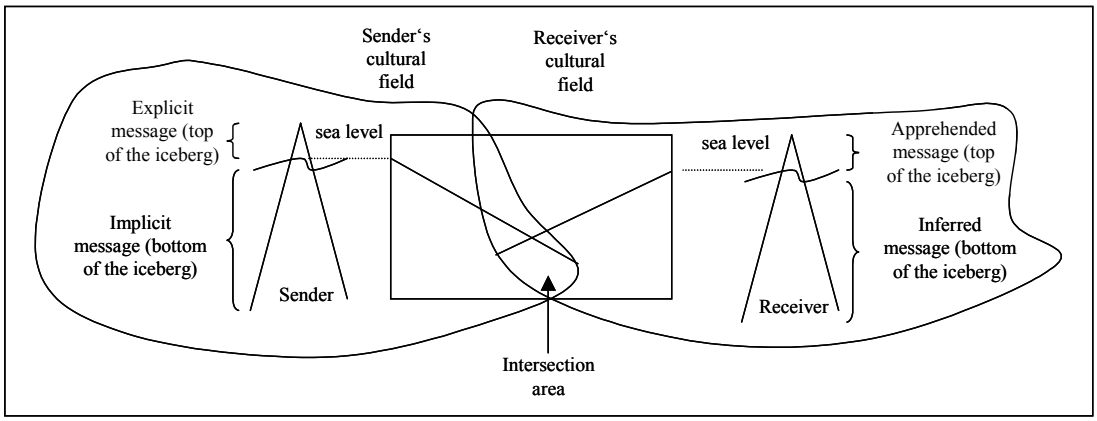

Figure 6.3: Channel model of inter-cultural communication

The model makes again use of the iceberg model of culture that has already been introduced in Section 1.1 and it shows the sender's coded message, or part of a message, in a channel. The message in the channel contains an explicit component and an implicit component which is shown by the division of the channel and indicated by the iceberg metaphor. The explicit contains both purposive and expressive behavior, the implicit component is made up of behavior which is absent but which conveys meaning within the conversational and cultural context. On the receiver's side, the channel is divided to show part of the total channel message is inferred and part is a portion of the explicit message apprehended by the receiver. As used in this context, 'apprehended' means the message is received, interpreted, and assimilated by the receiver. When a message is apprehended in this sense, it influences the receiver's behavior.

Cultural field

The cultural field is the ongoing combination of conscious and unconscious influences on the individual's communication behavior. The cultural field includes the own culture and knowledge of the other negotiation party's culture. The cultural field is influenced by the individual's culturally conditioned perception of "the subject or

activity, the situation, and one's status in the social system" (Hall, 1976, p. 87). For this model, the influence of the cultural field is a major factor. As discussed previously the cultural field provides the 'broader context' for implying and inferring meanings. The first and most obvious influence of culture is on the sender's choice of symbols. The sender-encoder is a key for understanding semantics in inter-cultural communications. The selection of the correct codes is paramount if explicit messages are to be interpreted as intended. An example concerning the FTF negotiations of the RadioTech case (as introduced in Section 5.1.) would be a negotiator from the Latin cultural cluster often touching his Nordic negotiation partner in order to show goodwill and friendship, whereas the Nordic negotiation partner might misinterpret this as an unpleasant or even aggressive behavior. When the sender chooses to encode the message in native symbology, additional consideration must be given to choose symbols likely to be understood by the receiver. On the receiver-decoder side, similar care is necessary; although the code may be familiar, meaning should be ascribed only tentatively and verified through subsequent interaction.

Intersection area

The model shows an overlap in the cultural fields of the sender and receiver. This overlap area is intended to show the amount of knowledge common to both sender and receiver. Such common knowledge includes sets of symbols and meanings appropriate to the subject of the communication, specific knowledge about the topic, general background knowledge, cultural similarities, cultural awareness, information from previous interaction with the other party, and situational and environmental information. The overlap or intersection area is dynamic in any communication episode. As the topic of the conversation shifts, as the communicators develop an understanding of each other, and as the situation and environment change, the overlap area may increase or decrease. The dynamic intersection area gives the model its usefulness.

6.4.3. Dynamics of the model

The division of the channel is not constant. As an example, consider again the model shown in Figure 6.3, typical of the sound-channel. The division begins nearest the sender, with the channel divided so that the amount of explicit information is small relative to implicit information - a low E/I ratio. Moving away from the sender, the division is sloped so that the amount of explicit information increases and the amount of implicit information decreases. At the point when the channel crosses the boundary of the sender's cultural field, the E/I ration reaches a maximum. A similar division occurs in the receiver's channel except the division is between apprehended explicit

information and inferred information which will be called the A/I ratio. Through the varying division of the channel, the model achieves its ability to accommodate dynamic interaction.

Communication episode

Within a communication's episode, the point where the sender's channel enters the intersection area determines the E/I ratio on which the sender is attempting to communicate. Likewise, the point where the receiver's channel emerges from the intersection area determines the A/I ratio on which the receiver is trying to operate. Because of the way the sound-channel is divided, a sender and receiver with a large intersection area are able to engage in low E/I oral communication. With a very small intersection area, the sender and receiver must resort to a high E/I ratio, see Figure 6.4.

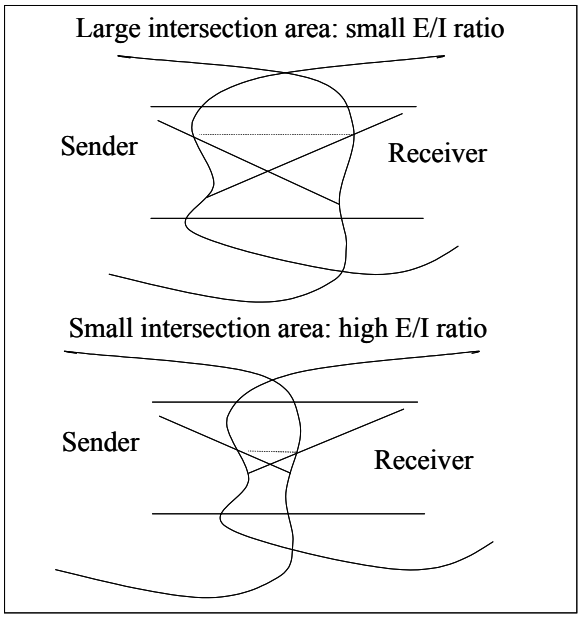

Figure 6.4: Large and small intersection areas

When a communication episode is initiated, typically there is a relatively small intersection area. In the model, the boundary of the intersection area is far from the participants, and the channel division indicates a high proportion of explicit information is required. As the episode continues, the communicators typically build mutual understanding, and the intersection area grows. This increasing overlap causes the boundary of the intersection area to move closer to both sender and receiver. This action results in the channel's crossing the boundary at a place where less explicit information is required, the messages have a lower E/I ratio, and the perception is at a lower A/I ratio.

Should the subject matter change, the communicators may find the intersection area suddenly smaller and higher E/I communication required. Failure to follow shifts of this nature leads to miscommunication. It is easy to visualize the sender who has failed to recognize a decrease in intersection area suddenly being the recipient of a relatively large number of explicit messages in the visual channel (also consistent with the high E/I requirement) for more information, a wrinkled brow, more attentive posture, an upward open palm, or other culturally appropriate signals for more explicit information.The sender must be sensitive to these messages, interpret them appropriately, and adjust the E/I ratio in the oral channel. There are two cut-off points which can be described as two extremes of the intersection area. One extreme is its maximal expansion and the opposite extreme is that the intersection area almost disappears. Skilled negotiators would try to expand the intersection area as much as possible. This means that those negotiators would be familiar with their opponent's culture (the programming of the mind, as defined in Chapter 3). The extreme would be that both negotiators are familiar with each other's culture so that (almost) no explicit information would be necessary to understand each other. The opposite extreme happens if the negotiators are not familiar with each other's culture at all. This means that the intersection area is so small that everything the negotiators want to express has to be presented in a very explicit way because the opponent otherwise just would not understand. In such a situation, communication becomes troublesome and negotiations are in danger to fail.

Cultural influences

The interpreted size of the intersection area is a critical element in any communication episode. It is subject to continuous change and may be misinterpreted by either party. An example of such an error would be a sender who believes the intersection area is large attempting to communicate at a lower E/I ratio than the receiver is expecting. Such errors aggravate the problems rising from culturally based differences in the channel ratios of the sender and receiver. The magnitude of E/I ratio changes depends on the culturally determined division of the sender's and receiver's channels. Some cultures use subtle implication and inference - based on a shared context of experience and interaction - to exchange messages. These high context (HC) cultures, as Hall (1976) has termed them, can be contrasted to low context (LC) cultures which rely more on explicit and less on implicit messages to communicate. The division for a participant from an HC culture may appear like a step function. According to Hall, in a familiar situation, someone from an HC culture (low E/I ratio) relies more on the context (lower E/I ratio) to convey meaning than someone from a LC culture. However, in an unfamiliar topic area, the person from an HC culture requires more explicit information and may rely less on the context (higher E/I ratio) than someone

from a low context culture. Among people from a low context culture, Hall (1976) suggests a relatively constant ratio is at work. In a familiar area, the person from an LC culture will operate at and require a higher E/I ratio than someone from an HC culture; however, in an unfamiliar area, the LC person will require and operate at a lower E/I ratio than someone from a HC culture.

7. Possible implications for modelling computer-mediated negotiation

As mentioned in Chapter 1, this PhD thesis deals with the interaction between the three factors of medium, innovation context and culture. Based on the hypotheses formulated in Chapter 5, the previous Chapter 6 dealt with the third dimension – culture – and proposed a model of intercultural communication which takes into consideration the explicit and implicit components of a message. This Chapter 7 tries to link the first two factors of medium and innovation context by applying the negotiation principles presented in Chapter 2 to the use of innovative (computer-based) media. This will be done by using the experiences gathered with the RadioTech case and which were presented in Chapter 5. How to apply those negotiation principles to computer-mediated business negotiations is an important topic for both negotiation research and e-business research. Automation of computer-mediated negotiation is even more challenging due to the inherent complexity of business negotiations. Weigand and De Moor (2002) argue that most of the theories about negotiation are descriptive and not prescriptive, which, among other things, prevents their use as a basis for negotiation support. A negotiation process consists of several distinct stages, each with its own characteristics. To provide adequate support for these stages, a set of tools needs to be available. To ground the development and application of these tools in different scenarios of use, an integrated framework is required. Weigand and De Moor (2002) propose directions for the construction of a formal theory of business negotiation support which contains the construction of a business negotiation support metamodel for NSS analysis, see Figure 7.1. This model contains more or less explicit norms which govern acceptable behavior of the negotiators. Based on these norms, protocols can be defined, which prescribe acceptable negotiation steps, communication moves, and decision making process procedures. The negotiation process itself consists of a sequence of stages, in which the participants play different negotiation roles and they interact in a communication process. Embedded in this communication process are one or more individual or group decision making processes.

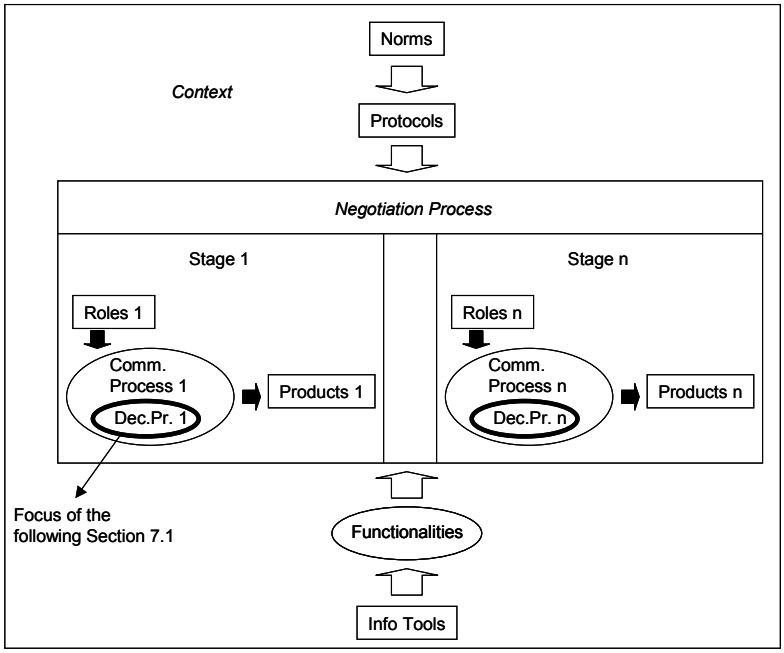

Figure 7.1: Business negotiation support metamodel (adapted from Weigand and De Moor, 2002)

The following section focuses more on this sub-division of Weigand and De Moor's metamodel and presents a comprehensive negotiation decision model. To complete the description of Weigand and De Moor's metamodel, they state that the communication processes lead to one or more intermediate and final negotiation products in each stage. The negotiation sub-processes are enabled by the functionalities of the NSS, and the system itself can be constituted by a set of dedicated negotiation tools.

Furthermore, existing work in this area does not consider the negotiation process from a full life cycle perspective; therefore valuable information from a previous negotiation is not properly used for the future negotiations. This chapter discusses two important issues related to NSS as a tool to automate e-business: model and life cycle. The negotiation model captures the key concepts and elements involved in automated negotiations. Since the negotiation model is an abstract of an NSS that implements the business negotiation process using computer networks, it is natural for the model to include different negotiation roles played by different people (see Figure 7.1). Moreover, the model needs to formalize some human activities usually only kept in negotiators' mind. As already indicated above, this PhD-study focuses on two important aspects of negotiation: the negotiation decision model and the negotiation life cycle model. As experienced in both the RadioTech negotiations and the Data Printer negotiations (see Chapter 5), negotiators have to deal with concepts such as negotiation goals, policies, strategies, plans of decisions and actions, and their inter-

relationships. The negotiation decision model proposed in this chapter captures these concepts. The negotiation life cycle model proposed in Secthion 7.2 divides the whole negotiation process into four phases: analysis, design, execution and post-negotiation analysis. The results from the upstream phases are used as inputs into the downstream phases. Since business negotiation is an iterative and continuous process, a feedback mechanism from the post-negotiation analysis phase to previous phases is included. The life cycle model presented in this Chapter 7 covers life cycle models that have been surveyed.

7.1. A model of computer-mediated negotiation

In this section, a general model of e-business negotiation is presented, which captures the key concepts and elements involved in business negotiations. The model is an abstraction of an automated negotiation system (December, 2000). It is intended for serving as the framework for R&D efforts in the area. First, an overview of the key concepts of the negotiation model is given before going into a more detailed discussion on each key concept (Lam et al, 2001). The discussion comprises an application of the model to the RadioTech company that has been introduced in Section 5.1. The decision model comprises the following six components:

- *The enterprise's mini-world, which represents the information, material, financial, and other resources that the enterprise has access to*: RadioTech provides a broad case of communications customers with a wide variety of energy and microelectronics solutions.
- *A set of negotiation contexts specified by an enterprise*: RadioTech has problems of timing the introduction of its new RF power transistor.
- *A set of negotiation goals of the enterprise:*RadioTech is interested in a quick introduction of the RF power transistor into the market and in keeping the good business relationship with Ericsson.
- *A set of plans of decision and actions proposed by a NSS:*For instance the initiation of a negotiation transaction, the modification of a proposal, the generation of a counter-proposal, see Chapter 2.
- *The negotiation policy, which maps a negotiation context to a negotiation goal:*For example IF RadioTech has problems with timing the introduction of its new RF power transistor THEN it is RadioTech's goal to start negotiating with Ericsson about a quick introduction of the RF power transistor into the market.
- *The negotiation strategy, which maps negotiation goals to plans of decision or actions:*For instance IF RadioTech is interested in a quick introduction of the RF

power transistor into the market THEN a computer-mediated negotiation should be initiated and a certain proposal be created.

Figure 7.2 shows the inter-relationship of these key concepts. The figure will be explained progressively in the following subsections.

Enterprise mini-world, negotiation context and negotiation goal

Every business enterprise operates in a **mini-world** of business, in which the enterprise has access to some of the information, material, financial, and personnel resources that exist in the real world (Jost, 2001). These resources may be available in-house or in other enterprises but accessible to the enterprise. They represent the internal and external conditions and states that the enterprise's business is in. The mini-world of one enterprise can be expected to be quite different from that of others. The mini-world changes constantly and reflects the dynamic nature of an enterprise's business. An enterprise usually conducts different types of negotiations with many different counterparts under different negotiation conditions or situations. Information about the counterparts and different types of internal and external conditions or situations is important for defining the specific goals of negotiations. For example, information about what types or sizes of companies it deals with, the credit ratings of these companies, the current market conditions, its own inventory, internal and external business events, or other accessible information in the enterprise's mini-world, are all important for setting the goals of negotiations. RadioTech's mini-world of business would be the fact that key players in the communications industry rely on RadioTech to provide the latest high-tech products, coupled with considerable expertise in application and design support. RadioTech provides a broad base of communications customers with a wide variety of energy and microelectronics solutions. RadioTech's products include integrated circuits, fiber optic modules, RF power transistors and DC (direct current) to DC power modules, as well as a full portfolio of energy solutions, from DC power plants and energy management systems, to innovative cooling solutions for demanding applications. Some of the information may be stored in the enterprise's local database and/or application systems. Others may be accessible from remote databases or application systems by, for example, calling the methods of remote objects that encapsulate these databases and application systems. Based on the accessible information, an enterprise can define a set of **negotiation contexts** (see Figure 7.2). These contextual expressions capture the typical negotiation conditions and situations that the enterprise encounters, for which negotiation goals can be specified (Benyoucef and Keller, 2000). For RadioTech, such a typical negotiation condition would be the problem of timing the introduction of its

new RF power transistor. The development of the new product had been undertaken by RadioTech in response to a request from Ericsson Radio, a manufacturer of radio base stations for mobile telecommunication and an important customer of RadioTech.

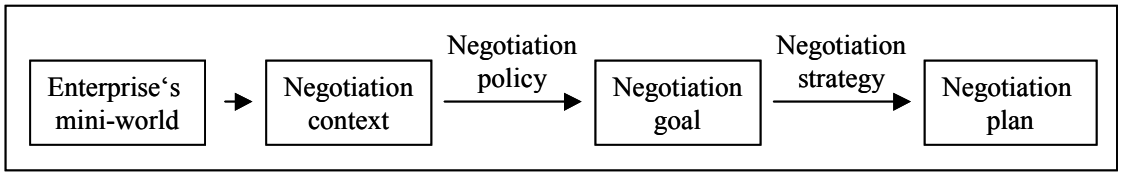

Figure 7.2: Negotiation model

The **goal** that the enterprise wants to achieve in a particular negotiation can be different from one negotiation context to another. For example, the goal of RadioTech as a supplier of RF power transistors may be to achieve the maximal profit and to reach an agreement at a short time in a negotiation, if the buyer is a small company, without a good credit, and ordering a small quantity of a product. On the other hand, if the buyer such as the Ericsson company is a very reputable company with good credit and the order is large, the goal may be to take the minimal profit for the purpose of establishing a quick introduction of the RF power transistor into the market and a business relationship with Ericsson without any concern over the length of time needed in a negotiation to reach an agreement. The if-conditions in the above examples are negotiation context specifications and negotiation goals are specified in terms of profitability , desire-for-relationship , and time-to-agreement where those three dimensions are different aspects of a negotiation goal. These different aspects of a negotiation goal shall be called the goal dimensions. An enterprise can define any number of goal dimensions that are deemed necessary to express its goals (Lam et al, 2001). It is desirable to have a quantitative way of specifying negotiation goals with respect to a set of defined goal dimensions. For the above purpose, the concept of goal space will be first introduced. The goal dimensions defined by an enterprise form a multi-dimensional goal space as shown in Figure 7.3. Each dimension may have an index with a value in the range between 0 and 1 to serve as a specification of the degree of importance for a company to achieve the negotiation goal in a specific goal dimension. The profitability index is used by the policy maker to specify the importance of one dimension of a business goal, namely, monetary gain (Jost, 2001). The profitability value indicates the minimum level of profit that must be made on a deal. It will influence the "bottom line" and the decision-action rules used in a negotiation process. A profitability index that is close to 1 indicates that a high profit must be made before the deal is accepted. If the negotiation party is a supplier, such as RadioTech, a high value for profitability indicates the supplier prefers a high price. If

the negotiation party is a buyer, a high profitability value indicates the buyer prefers a low price. A low profitability value indicates that, in order to satisfy other goals, the policy maker is willing to make a lower profit.

Time is an important factor in most business activities and negotiations (for the role of time in business negotiations see Section 2.3.4). Thus, time to reach an agreement should be considered as an important dimension of a negotiation goal. In most business negotiations, if the time to reach an agreement is too long or passes a deadline, the final result of the negotiation is no longer relevant. For example, RadioTech produced the new RF power transistor in order to introduce it to the market in April. In February, Ericsson executives were forced to postpone plans for use of the new RF power transistor eight months, from April to December. Thus, RadioTech is interested to sell the product already in April because waiting would mean a loss of money. Another example would be a company that produces a product suitable as Christmas gifts and requires 25 days to manufacture the product, the company may have no interest in any negotiation on raw material purchase if the delivery day is after the first day of December. This goal is represented in the goal space by the time-to-agreement index. If a quick resolution (either agreement or termination) is desired or required, then the value for the time-to-agreement index should be specified closer to 0. An index T = 1 indicates that there is no time limit that the enterprise wants to set for a negotiation. The desire-for-relationship index represents how strongly the policy makers want to establish a business relationship with the counterpart through this negotiation (Bronner, 1998). A desire-for-relationship index equal to 1means it is a "must have" deal, for whatever the reason. For example, a start-up company is eager to establish a long-term relationship with a Fortune 500 company for future credit reference. Its policy maker would most likely set the desire-for-relationship value close or equal to 1. A desire-for-relationship index value that is close to 0 means that a business relationship with the company is not at all important.

A negotiation goal is therefore a point in the multi-dimensional goal space, which can be quantitatively represented by a triplet (in the presented three dimensional example) where the values are corresponding to the goal dimensions profitability, time-to-agreement, and desire-for-relationship, respectively. It should be noted that profitability, time-to-agreement, and desire-for-relationship are only examples of goal dimensions (Bronner, 1998). Different enterprises can have different types and numbers of goal dimensions.

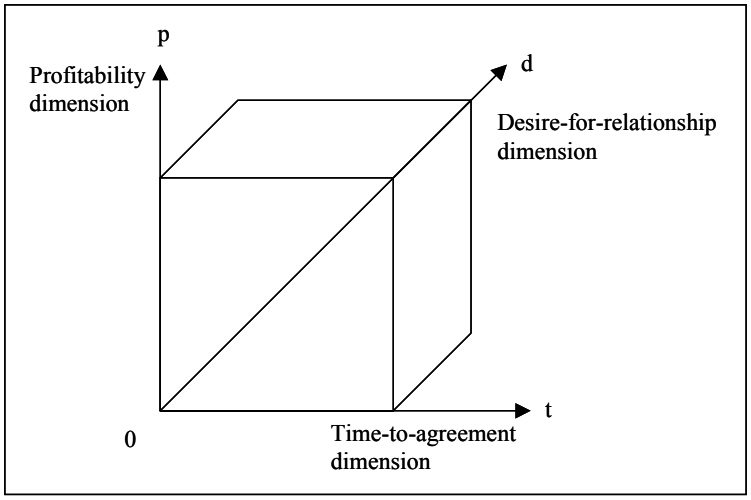

Figure 7.3: Example of a 3-dimensional goal space

If the 3-dimensional goal space is applied to the situation of RadioTech, we find that profitability is in a middle position as profit is relevant, but not the main topic of RadioTech's negotiation situation. Time-to-agreement is rather high because the whole deal is about time and RadioTech would like to introduce their new product as soon as possible. The desire-for-relationship value is again low because there are other customers to RadioTech who are interested in the innovative product, although one should not forget that Ericsson is one of the most important customers of RadioTech. In summary, the triplet (profitability,time-to-agreement, desire-for-relationship) might be (0,5; 0,9; 0,3).

Negotiation policy

The term **policy** in English has different meanings in different contexts. In the American Heritage Dictionary of the English Language (American Heritage Editors, 1996), policy has two entries:

- The first entry has three definitions. The first one is "a plan or course of action, as of a government, political party, or business, intended to influence and determine decisions, actions, and other matters." Example policies are American foreign policy and the company's personnel policy. The second one is "a course of action, guiding principle, or procedure considered expedient, prudent, or advantageous." One example is "Honesty is the best policy." The third one is "prudence, shrewdness, or sagacity in practical matters." This definition is often used to modify another noun, such as policy statements and policy issues.
- The second entry has two definitions. The first one is "a written contract or certificate of insurance." An example of such policies is the "return policy" or "refund policy" of purchased goods. This definition of policy is essentially the

"terms and conditions" usually specified in purchase contracts. In the author's opinion, they are a part of the attribute set to be negotiated. For example, "return policy" and "refund policy" can be represented as attributes associated with a negotiation transaction (i.e., transactional attributes instead of product/service attributes). The second one is "a numbers game."

The definition of business negotiation policy is based on the concepts and terms given in the first two definitions of the first entry. A business negotiation policy is a general guiding principle for achieving a business negotiation goal under some specified conditions. It is intended to influence and determine the decisions or actions to be taken in a business negotiation. A negotiation policy is a high-level specification of some specific goals that a business enterprise intends to achieve in a negotiation under a specific condition or situation. It is intended to influence and determine the decisions and actions to be taken in a business negotiation process. It does not specify what specific decisions and actions should be taken to achieve the goal. The specifications of decisions and actions for implementing negotiation policies are called negotiation strategies. The negotiation strategies will be addressed below.

To the best of the author's knowledge, there is no existing work on the formal specification of negotiation policy and its relationship with the concepts of negotiation context, goal, strategy, and plan of decision or action, as applied in e-commerce. Negotiation policies are specifications, which relate specific negotiation contexts to specific goals. The negotiation contexts, goal dimensions, and policies specified by one enterprise can be different from others. It is the responsibility of the people who play the role of policy maker in an enterprise to define them. Formally negotiation policy may be defined as a function, which maps from the set of negotiation contexts to a set of goal points in the goal space (see Figure 7.2). For example, a general policy defined by a medium-size company such as RadioTech might be as follows:

IF (the counterpart is a Fortune 500 company) AND (the counterpart is a company with which this company has previous business relationship) AND (the monetary value of the deal to be negotiated is large) THEN profitability = 0,3, time-to-agreement = 0,9, desire-for-relationship = 0,9. The business goal represented by (0,3; 0,9; 0,9) specifies that the company is willing to take less profit for the purpose of establishing a long term relationship with the Fortune 500 company. It is also willing to spend time in a negotiation to reach a deal. The above policy specification is not in a formal language.

Figure 7.2 shows the formal model that captures the relationships among the concepts of negotiation context, policy, goal space, goal, strategy, plan, and decision-action rule. The last two concepts are introduced in the next several subsections.

Decision-action rule

In order to ensure effective and meaningful communication between negotiation partners in an automated negotiation system, the NSS must follow a well-defined protocol to exchange negotiation primitives and data during a negotiation process (Benyoucef and Keller, 2000). At each state, the negotiator needs to make a decision or to take some action based on some conditions before transiting to the next meaningful state. The specification of that conditional decision or action can be in the form of a **decision-action rule**. Generally speaking, there are alternative decision-action rules that can be used by a negotiator in each transition of a protocol. For example, at the state that a negotiator receives a proposal from its counterpart, a number of alternative decision-action rules can be defined and used for guiding the decision to accept a proposal. Another set of alternative decision-action rules can be defined and used for the decision to reject a proposal. The experiments presented in Chapter 5 are based on bi-lateral negotiations. For a possible protocol in such bi-lateral negotiations, the transitions in various states of the protocol are shown below:

- The initiation of a negotiaiton transaction
- The acceptance of a proposal
- The rejection of a proposal
- The termination of a negotiation transaction
- The modification of a proposal
- The withdrawal of a proposal
- The generation of a counterproposal

Negotiation strategy

Business negotiation strategy was defined in Section 2.1. as a plan of decisions or actions for accomplishing a business negotiation goal. Thus, having formally defined negotiation goals above, one can formally define a negotiation strategy as a function which maps a set of goals in the goal space to a set of negotiation plans in the plan space. Conceptually, strategies are mappings from some points in the negotiation goal space to some points in the negotiation plan space, as illustrated in Figure 7.2. Each mapping can be either one-to-one, many-to-one, many-to-many, or one-to-many (Jost, 2001). In the case of a one-one mapping, a person who plays the role of the negotiation expert in a business enterprise has identified a specific goal to achieve and

knows a specific plan of decisions or actions, which can be used by a negotiation server to achieve the goal. In the case of a many-one mapping, the expert specifies that a number of goals can be achieved by a negotiation plan. Let us remember again RadioTech's examplary triplet (profitability,time-to-agreement,desire-for-relationship) which might be (0,5, 0,9, 0,3), as stated above. If RadioTech's strategy specification states that if the profitability dimension in the goal space is in the range of 0,4 to 0,7, time-to-agreement in the range of 0,7 to 0,9, and desire-for-relationship in the range of 0,3 to 0,4, then the negotiation plan should use for example the decision-action rule R1 for the initiation of a negotiation transaction, parameterized rule R5 with parameter value set to 0,05 for the acceptance of a proposal, R11 for the termination of a proposal, etc. Figure 7.4 applies the negotiation model to the specific situation of the RadioTech company. The range specifications for the indices of profitability, time-to-agreement, and desire-for-relationship allow a number of goals to be mapped to a specific negotiation plan. In the many-to-many mapping case, multiple negotiation plans can be applied to achieve multiple negotiation goals. In the one-to-many mapping case, a goal can be realized by multiple plans.

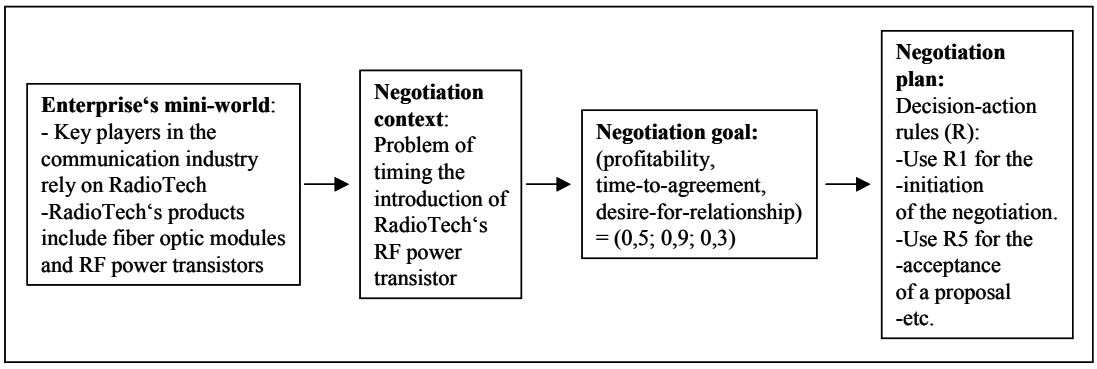

Figure 7.4: Negotiation model as applied to the situation of RadioTech

This represents the case that different negotiation experts have different opinions on how to achieve a specific goal. Although the specification of a negotiation strategy can be one of the above four types, when a business enterprise enters into a particular negotiation, the enterprise's mini-world is defined and the negotiation contexts specified in policy rules can be verified against the mini-world. A specific goal will be selected based on a selected policy, which maps the verified negotiation context to the goal. A strategy specification may map the goal to one or multiple plans. In the latter case, the negotiation server would need the input of a human to select one from the alternative plans because a single plan with a combination of decision-action rules should be used for driving the negotiation process of this negotiation transaction in its initiation, rejection, termination, etc. At run-time, if the enterprise's mini-world has

been changed, new policy and strategy may have to be applied to determine a new plan of decisions or actions. A negotiation system and its architecture should support such dynamic changes.

7.2. Negotiation life cycle

The concept of life cycle is not new. Life cycles have been introduced for product development and software development. Software development life cycle goes through phases such as requirement analysis, design, implementation, testing, and deployment. Computer-Aided Software Engineering (CASE) tools are programs that aid or automate these phases. Software development in the 1940s and 1950s was like a craftsman's work whose major task was to code using a programming language (Wurman et al., 1998). As software development became more and more complicated, the craftsman's approach to software development became obsolete. In the author's opinion, the current status of computer supports for negotiation is very much like the early stage of software development. The main focus has been on the development of a monolithic execution engine capable of generating and exchanging negotiation proposals following a hard-coded negotiation protocol and hard-coded negotiation strategies. The analysis of negotiation contexts, goals, policies, product/service requirements and constraints, and the design of negotiation strategies, plans of decisions or actions, product/service evaluation methods, etc., have not been incorporated in the design and implementation of the existing automated negotiation systems (Lam et al, 2001). Also, a post-negotiation analysis to provide feedback to different phases of the negotiation life cycle has not been considered (December, 2000). The state of the art of negotiation life cycle is represented by the two models to be explained below. In this work, some of the concepts presented in these models are adopted and extended to form an own model of negotiation life cycle. Three phases are discussed in the life cycle presented in (Robinson and Volkov, 1998), as shown in Figure 7.5: analysis, interaction design and negotiation implementation. The task of the analysis phase is to describe and formalize the negotiation goals. The task of the interaction design is to plan for achieving the negotiation goals by interactions with the counterparts by using appropriate techniques. The task of the negotiation implementation is to engage in the interactions by using appropriate negotiation protocols and tools. The results from the upstream phases are fed into the downstream phases as the input.

The paper discusses the similarity and difference between negotiation life cycle and software life cycle. It also points out that generally, more automation is provided for the "downstream" stage of negotiation design and implementation. In other words,

there is little work on the analysis phase, which roughly corresponds to what has been discussed in Section 7.1 about negotiation policies and goals. Chapter 2 discussed negotiations in the context of game theory and social sciences, and no effort was made to implement an automated system to support the negotiation life cycle. The conflict resolution methods discussed so far are largely based on alternative searching, instead of mutual concession, which is frequently used in e-business negotiations. Robinson's model will now be extended in two ways. First, it is understood that reaching the agreement state or entering the termination state of a negotiation protocol is not the end of a negotiation process. This may be understood as an extension to Section 3.1 that argues that the closure phase of a negotiation is essential to ask for the contract, the order, or the next appointment (Stalpers and Ulijn, 1984). Inexperienced negotiators who forget this final step fall into an abyss after having climbed to the top of their agreement. By giving negotiations a more explicit structure, NSSs may support the negotiators to successfully close their deal. There is a need to analyze the outcome to prepare for future negotiations (failing to prepare means preparing to fail, see Section 2.1). A phase called "post-negotiation analysis" is needed after the implementation phase. If an agreement is reached successfully, it needs to be analyzed whether a better deal for both negotiators is possible, and to identify the possible weakness in the negotiation policy and strategy. If a negotiation is terminated unsuccessfully, we need to figure out what factors contributed to the failure. Is it because the price of the RF power transistor is too high for Ericsson or too low for RadioTech? Is it because the delivery date is too soon (for Ericsson) to meet the problems of acquiring the machinery and manpower necessary to begin full-scale production, or too late (for RadioTech) to wait for that? Second, some output from the downstream phases should be fed back into the upstream phases. The purpose of the feedback is to influence future negotiations. Most NSSs are constructed based on a phase model of negotiation (Kersten and Noronha, 1999; for the structure of the NSS used in this study see Figure 1.4). The phase model divides the negotiation into three phases: pre-negotiation, conduct of negotiation, and (optional) post-settlement.

The phases of the above two models will be combined and a four-phased negotiation life cycle model will be introduced, as shown in Figure 7.5. The figure also shows how the four phases relate to those of the two models. The presented model divides the negotiation process into four phases: analysis, design, execution, and post-negotiation analysis. The analysis phase mainly deals with the specifications of negotiation contexts, policies, and goals by people who play the role of the policy maker (see Section 7.1). In this phase, the requirements and constraints associated with the products or services that an enterprise purchases or provides are also defined.

The design phase deals with the design and specification of alternative decision-action rules to be used by a negotiation system and strategic rules for mapping negotiation goals to plans of decisions or actions (Figure 7.2). This phase also involves the specification of preference scoring and aggregation methods to be used for cost-benefit analysis, evaluation, and selection of alternative data conditions found in a negotiation proposal. The activities in this phase are to capture relevant rules and evaluation methods to be used by a negotiation system in the next phase. The execution phase deals with the processing of negotiation transactions in an automated negotiation system by following the negotiation protocol, the selected decision-action rules that form a negotiation plan, the requirements and constraints associated with a product or service specified by a business enterprise, and information obtained from the enterprise for cost-benefit analysis purposes. The outcomes of negotiation processes are gathered and used in the post-negotiation analysis phase to provide feedback to all the preceding phases. Thus, the outcomes (i.e., statistical and historical information of negotiations) may change the policies, strategies, plans of decisions or actions and, therefore, the behavior of the negotiation server in subsequent negotiation processes.

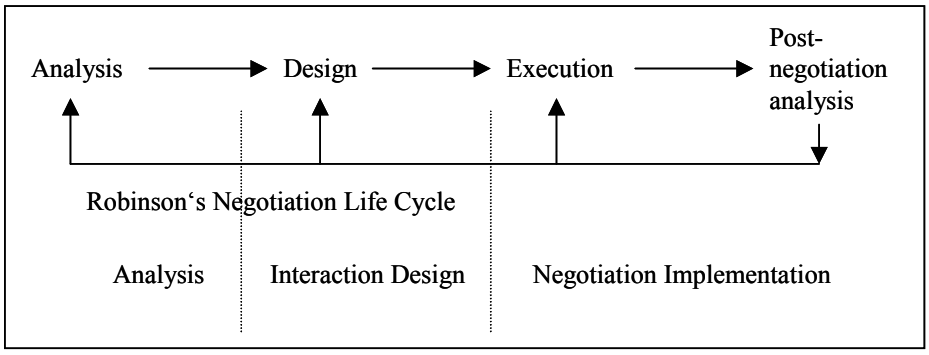

Figure 7.5: Negotiation life cycle and its relationship with two existing models

People who play different roles are responsible for different phases of the life cycle model. Three roles have been identified in the model (see Section 7.1): the policy maker establishes policies and goals, the negotiation expert designs decision-action rules and strategies, and the user of a negotiation system is responsible for monitoring and interaction with the negotiation system during a negotiation process. These roles can be played by individuals or groups of people. In general, corporate executives would play the role of the policy maker. Negotiation practitioners, purchase managers, and sales managers would play the role of the negotiation expert. Sales persons and purchasers would play the role of the user. A person may play multiple roles. For example, a corporate executive may be the policy maker, the negotiation

expert, as well as the user. Figure 7.5 also shows the approximate correspondence among these models. The presented negotiation life cycle model is the only one that includes feedback mechanism. Robinson's negotiation life cycle model does not have a phase after negotiation implementation. Part of the reason is that Robinson's life cycle mainly focuses on each independent negotiation. The Pre-negotiation phase in NSS deals with preference solicitation and utility construction. It covers only part of this study’s analysis and design phases.

8. Concluding remarks and questions for future research

Starting with the image that business people find themselves today with an ever-increasing array of technologies for communicating and initiating relationships, this PhD study started with the general question: when am I better served by a FTF meeting, and when by an email exchange? This question becomes especially important when one considers that the Internet becomes the common vehicle (95 % of the business have access today) and that this new force demands an adaptation from traditional commerce to electronic commerce, including all the tasks that were previously conducted in a traditional fashion. Thus, this study explores the implications of electronic-based media such as email and NSSs on cross-cultural business negotiations. The purpose in writing this thesis about electronic business negotiation was to link the three factors of media, innovation context and culture. This was done by comprising both a theoretical approach of investigating the current literature and an empirical approach of conducting several experiments with international student negotiators. In Chapter 1, an introduction is presented that shows a general research gap that exists with respect to the interrelation between the three factors of media, innovation context and culture.

On the one hand, CMC can equalize people (e.g., it is more difficult to express status using standard forms, as required in some Latin contexts, over email), but such equalization may contradict Latin and Oriental cultural values which have higher Power-Distance values. The degree of context required is culturally sensitive, ranging from low context cultures, such as Anglo and Nordic, to medium context cultures, such as Latin American, to high context cultures in Far East cultures. Chapter 1 argues that possible consequences for communication behavior have been outlined by various authors, but we do not, however, know the impact of context levels on CMC. The literature survey also showed that there exist studies which support the empirical evidence that an email interaction requires more context (as measured via concrete, personalized style using politeness markers and metalanguage) to get the other party involved than FTF or even telephone interaction. Again, the effect of missing context in CMC negotiation is uncertain. In order to answer those questions which might serve to fill the above mentioned research gap, Chapter 2 proceeded with viewing negotiation theory from different perspectives. When trying to get to know more about the relationship between media, innovation context and culture, it is necessary to view negotiation theory from more than one perspective. Thus, Chapter 2 deals with the behavioral perspective, the communicative perspective, the computer-support perspective (email and NSS), the economic perspective and discusses business

negotiations from an IM and OM perspective. Next to win-win and win-lose negotiation strategies, there exist also lose-lose and lose-win negotiation strategies. The choice of such a strategy partly depend on the negotiation style. An explorative negotiation style in relation with a cooperative negotiation strategy as suggested by Mastenbroek (1989) may well serve Fisher and Ury's (1991) advice to be *tough on the issues and soft on the people*. The general negotiation model which Mastenbroek suggests can be applied universally; it does not refer to a specific context nor a specific medium or culture. Therefore, this PhD study tries to take this general model as a basis to investigate how several cultures succeed in being such an ideal negotiator, using several media such as email or NSS. Talking about negotiation automatically involves talking about communication since communication is at the heart of the negotiating process. Although planning, preparation, and strategizing are all key negotiation elements, communication is the central process by which these elements are enacted. However, the most commonly cited model, developed by Shannon and Weaver (1949) and presented in Chapter 2, has its drawbacks which were investigated in Chapter 6. Similarly, game theory (which may be seen as an extension to classical economic theory), when applied to business negotiations, may have its drawback if game theory abstracts from communication. The communicative game approach of Chapter 6 does not make this fundamental assumption of abstracting from communication and it thus can explain why or where the traditional game-theoretical analysis fails.

The core of the empirical study is presented in Chapter 5. Together with the theoretical explanations in the Chapters 1 to 4, it allows to formulate the foll hypotheses:

H1: *FTF contributes more to a win-win strategy in negotiation than CMC does.*
H2: *FTF affects the participant's ability to empathize with each other more than CMC does.*
H3: *There are cultural differences in negotiation strategy.*
H4: *There are cultural differences in the negotiator's ability to empathize with each other.*

Those hypotheses serve to investigate the use of NSS in comparison to FTF in an inter-cultural setting including Anglo-Nordic and Latin cultures. In addition, two hypotheses were posed that focused on a comparison of IM and OM settings in a Dutch-German context:

H5: *German negotiators are more cooperative in the OM context than in the IM context.*

H6: *Dutch negotiators are more cooperative in the IM context than in the OM context.*

In contrast to Anglo-Nordic culture clusters, Latins seem to have problems with finding the right (cooperative) strategy in negotiations that are conducted by an NSS. Dutch negotiators acted more cooperatively in an IM setting whereas German negotiators were more cooperative in the OM setting. The emprical study proffered in Chapter 5 serves as a first step in the research cycle presented in Figure 1.6: The focus of this PhD study is in hypothesis formulation, which implies that future studies may apply both qualitative and quantitative methods of testing those hypothesis. There are two issues which may show the limitations of the empirical study and which may be considered in future studies of testing the hypotheses: one refers to the research form of lab research (as explained in Figure 1.5) and one to the selection of student negotiators. Section 4.4 argued that simulations might not be valid for real business life, because they use artificial settings, students who have no or limited work experience, and limited issues and options in a compressed time. The advantage of field research over lab research may be the greater representativity of test persons who participate in the experiment. Thus, it would be interesting to record or video-tape negotiations of experienced negotiators in real-life negotiations concerning IM/OM or FTF/CMC negotiations. In addition to the research methodology, future studies may take into consideration the following research questions that were not investigated in this PhD study:

- **Media effects**: In Chapter 2, it was argued that email is a basic technology of all current groupware-products, having advantages over the traditional postal mail regarding the speed and the telephone regarding the availability of the communication partner. Computers and networks are used in the form of NSSs to support (aid), or even automate the negotiation process. Thus, the focus of this PhD study was on email and NSS as opposed to the FTF condition. Future studies may deal more specifically with the following question: Is the ability of Dutch and German negotiators to empathize with each other differently affected by other media than email or NSS, such as IRC, telephone or fax?
- **Context**: In Section 2.5, the general ideas of OM and IM were presented in order to give a clear basis for the experiments. It was said that IM is concerned with the planning, administration and evaluation of all activities directed to the successful introduction of an innovation into the market place, whereas OM is concerned with the design and the operation of systems for manufacture, transport, supply or

service. Future studies may deal with the quesiton if Dutch or German negotiators are more cooperative in other contexts than IM or OM, such as Finance, Marketing or Organization?

- **NC**: Concerning NCs, the focus of this PhD study was on the Dutch versus the German culture. Chapter 3 compares those cultures according to Hofstede's dimensions and draws the conclusion that the Dutch culture may be more related to IM, whereas the German culture may be characterized more by OM. This study's hypotheses also comprise this finding. What has not been researched in this study is the following question: Do Far East cultures such as Chinese or Japanese use different negotiation strategies in different contexts, such as Finance, Marketing or Organization?
- **Gender**: As mentioned in Section 1.4, this study's moderating variables (see Figure 1.8) were kept in a balance as much as possible with respect to gender. This means that it was the aim to have as many mono-gender interactions as inter-gender interactions (and possibly an equal number of man-man and woman-woman interactions). However, Chapter 5 argues that no strong conclusions are drawn on differences in male and female negotiation behavior, what may be done in future studies: Is the negotiation strategy of male and female negotiators differently affected by the medium?
- **Methodology**: In the experimental methodology presented in Chapter 5, international student negotiators were negotiating in IM and OM settings. The same negotiators were acting in both the IM and OM situation, negotiating the IM case first and the OM case second, which relates to the natural order of the product life cycle which considers the innovation of the product earlier than operative actions. The following research question may be interesting for future studies: Would the results differ if the order of negotiation would not follow the natural flow of the supply chain with IM first and OM second, which means that the participants would negotiate the Data Printer case before the RadioTech case?
- **Speech acts**: Section 4.3.1 argues that the sentence is used as the unit of measurement by which to define speech acts because sentences are the unit most germane to understanding language use and social interaction. However, basing the definition of speech acts on units of language use such as sentences may be problematic. Specifying for any speech act the range of utterances through which it can be realized is a notoriously difficult task. Not only are there many speech acts which have neither direct performative verbs nor easily specified felicity conditions, but what is heard as performance of a particular speech act may be so sensitive to local conversational context, and so dependent on speaker/hearer shared knowledge, that specifying such a range may be impossible both in

practice and in principle. Furthermore, not all units of language use are coterminous: speech acts are sometimes accomplished in less than a sentence, in a single sentence, in a series of sentences; a speech act may occupy more than one turn at talk, just as a turn may contain more than one speech act. A unit which focuses on how linguistic structure, meaning, and act are phonologically realized in speech might seem to be a more promising basis for the definition of the unit of measurement for speech acts. Many efforts to find such a unit have settled on what has been variously referred to as a phonemic clause, tone group, tone unit, or idea unit. Future studies may discuss speech acts in relation to such a unit because the transcripts presented in Chapter 5 seem to be sensitive to their boundaries and thus assign them (at lease implicitly) some analytic importance. Future studies may also deal with the term *utterance* as the unit of speech. In Harris' (1951) definition, an utterance is "*any stretch of talk by one person, before and after which there is silence on the part of that person".* According to this definition, an utterance as a unit of measurement for speech acts could vary in size (from a single lexical item to a political speech), structural complexity (from a simple to a complex sentence), content, and so on, since the only defining feature was surrounding silence.

These six questions/proposals all deal with differences and/or similarities in the processing of intranational and international mediated messages. Each, however, may be influenced by the degree of similarities/differences in the NCs under consideration. If both systems are high on Hofstede's masculinity dimension, for example, content of intranational and international mediated messages regarding sex role differentiation may be processed similarly. If the originating system is high on masculinity and the receiving system is low, the processing of messages dealing with sex role differentiation may be different. National cultural variations related to the content of the messages, therefore, must be taken into consideration. In addition to NC, PC may be investigated in future studies as well: In Section 5.5, it was argued that, according to the experiment's results, those students with a technical/engineering background seemed to be more eager to negotiate in a computer-mediated way, still not more successful in their computer-mediated negotiations. However, it was not the aim of this empirical study to analyse PCs in detail. In future studies, the impact of PC on negotiation strategy may be examined in sophisticated qualitative and quantitative studies. The image of a PC group may then be that of a homogenous group of specialists where the members share values and interests and identify with one another. Such professional groups may be compared then in the light of their ability to successfully negotiate with each other in OM and/or IM settings.

Chapter 6 contributes to negotiation theory and culture by modeling a communicative game and explaining how effective negotiation behavior can be reached in this context. In addition, a practical model of inter-cultural communication is proposed that takes into consideration the explicit and implicit messages the inter-cultural business negotiators may exchange., whereas Chapter 7 develops a negotiation model for computer-supported negotiations and takes into consideration a negotiation life-cycle perspective. The framework proffered in Chapter 7 is applicable across the areas of inquiry in the study of cultural systems and communication (for instance inter-cultural, cross-cultural, international and comparative mass communication). The applicability to cross-cultural communication is most direct, as indicated throughout this thesis. To understand similarities and differences across cultures, researchers cannot simply compare different systems; rather, the cultures studied must be selected because of specific cultural variations. These variations, in turn, should be linked theoretically to the dependent variables being examined (see Figure 1.8 for this study's variables). Communication between members of ingroups and outgroups, for example, might be hypothesized to vary systematically as a function of the individualism-collectivism dimension (as discussed in Chapter 3); The applicability of the framework to inter-cultural communication is also relatively straightforward. The study of communication between members of different cultures also needs to be based on cultural similarity/ dissimilarity on specific dimensions and these dimensions must be linked to the other variables in the theory. The formulation of the above mentioned hypotheses proves that communication between members of collectivistic and individualistic cultures, for example, might be hypothesized to be different than communication between members of two different collectivistic or two different individualistic cultures.

H3, H4, H5 and H6 indicate that people from different cultures appear to negotiate differently. In addition to behaving differently, people from different cultures may also interpret the fundamental processes of negotiations differently (such as what factors are negotiable and the purpose of the negotiations). People in some cultures seem to approach negotiations deductively (they move from the general to the specific) whereas people from other cultures are more inductive (they settle on a series of specific issues that become the area of general agreement). In some cultures, the parties negotiate the substantive issues while considering the relationship between the parties to be more or less incidental. In other cultures, the relationship between the parties is the main focus of the negotiation, and the substantive issues of the deal itself are more or less incidental. Clearly there is a large challenge negotiating across borders when the fundamental beliefs about what negotiation is and how it occurs are different. The question remains what the individual negotiator should specifically *do*

when faced with negotiating with someone from another culture. The advice, either explicitly or implicitly, has been: "*When in Rome, act as the Romans do".* In other words, negotiators are advised to be aware of the effects of cultural differences on negotiation and to take them into account when they negotiate. Much of the material discussed in this PhD thesis reflects this tendency. Many theorists appear to assume implicitly that the best way to manage cross-border negotiations is to be sensitive to the cultural norms of the person with whom you are negotiating and to modify your strategy to be consistent with behaviors that occur in that culture. Contrast this with the less culturally sensitive view, "*Business is business everywhere in the world*", which suggests that the other party can adapt to your style of negotiating, that style is unimportant, or, more arrogantly, that your style should dictate what other people do. Although it is important to avoid cultural gaffes when negotiating, it is not clear what the best approach is to modify your strategy to match the other person's approach. Several factors indicate that cross-border negotiators should not make large modifications to their approach:

1. Negotiators may not be able to modify their approach *effectively.* It takes years to understand another culture deeply, and you may not have the time necessary to gain this understanding before beginning negotiations. Although a little understanding of another culture is better than total ignorance, it may not be enough to let you make effective adjustments to your negotiation strategy.
2. Even if negotiators can modify their approach effectively, it does not mean that this will translate automatically into a better negotiation outcome for their side. It is quite possible that those on the other side will modify their approach too. The results in this situation can be disaster, with each side trying to act like the other "should" be acting, and both sides not really understanding what the other party is doing.
3. This PhD research suggests that negotiators may naturally negotiate differently when they are with people from their own culture than when they are with people from the other culture. The implications are that a deep understanding of how people in other cultures negotiate, such as two Anglo-Nordic people negotiating with each other, may not help a Latin negotiating with an Anglo-Nordic.

H1 and H2 indicate that one can differentiate among different types of communication channels in terms of their capacity and characteristics. FTF communication provides the "richest" form of communication, while other mediated channels are relatively "leaner" due to the limitation that each medium places on the full scale of communication behaviors. The hypotheses seem to imply that the fewer the number of verbal and nonverbal cues in a message, the lower its informational level. The

channel model presented in Chapter 6 suggests that if the number of usable cues diminishes, the psychological closeness between sender and receiver decreases. Thus, communication channels can be distinguished in terms of their relative cuelessness. The hypothesis seem to suggest that people prefer more usable cues and minimal psychological distance for the communication situation investigated in this PhD study, and they tend to select those media that provide the most cues, and avoid "poor" media that display greater psychological distance. The richness of a channel refers to its ability to transmit multiple communication cues, provide instant feedback, and offer a personal focus to the communication. Media choices of CMC versus FTF seem to be related to both work-related and communication needs. Managers in organizations may be more likely to choose a rich medium such as FTF communication when dealing with "high equivocality" or ambiguous communication situations. The ambiguous situation requires managers to exchange more information with their colleagues in order to define and interpret the situation. When dealing with routine or unambiguous situations, managers may feel comfortable using a lean medium. Thus, it seems as if more effective communication should occur when the richness of the media is matched with the level of message ambiguity. Rich media seem to be vital when relationships between people are significant; leaner media are more appropriate for less significant relationships. Thus, channel preferences can be predicted by characteristics of a task (such as IM or OM) or situation which predispose the manager to select one medium over another. However, this concept of media appropriateness assumes that the range of media is fairly well defined, with either rich or lean characteristics.

When computer-based media such as email are introduced, though, the communicative attributes of the channel can become less clear. Email users who participated in the experiment presented in Chapter 5 reported that they deliberately inserted descriptive terms and pictographs in their messages to simulate non-verbal behaviors, replacing the loss of such cues. Email, although great for transmitting factual information, is not very good for conveying tone and attitude. An email intended to be direct can come across as rude; one intended to be humorous can come across as hostile, as a "flame". At this point, the budding relationship between the two negotiators disintegrates and the prospect of a settlement is lost. So how do email negotiators avoid the problem of flames? Success depends on how people use email. Successful negotiators add relationship-building content to their messages. They punctuate their messages with signals of positive emotion and intent and make statements referring to the relationship, such as: "*Thanks for your flexibility in working with me on these points*," or "*We have been making great progress together in this negotiation*". Statements about emotions and the emerging relationship would

be superfluous in a FTF conversation, but in a CMC interaction they do the important communicative work that is done by nonverbal expressions and tone of voice during a personal encounter. Skilled email negotiators benefit from some other properties of email, such as the fact that it gives people more time to think before reacting. FTF negotiators often become committed to hastily constructed, less than optimal settlements. When things start moving too fast in FTF negotiations, negotiators are well served by taking a break, stepping away from the table. Email makes this easier to do. A practical implication is that enhancing email with voice and video connections may improve long-distance negotiations. As organizations find it necessary to communicate around the world, electronic communication will play an increasingly important role. Clearly, email works better to sustain relationships than to initiate them. Email negotiators should remember that the role of human psychology and the exchange of social, emotional information is as important as the swap of hard facts. Every day, more and more business managers are using email to help speed up the negotiation process. This creates new conflicts and challenges the traditional ways of FTF or over-the-telephone negotiating. The following issues will give implications for successful email negotiations:

- The most important strategy is to know *when* to use email, and *when* to pick up the phone or arrange a face to face negotiation. Email negotiating can be very powerful when the negotiation party works with someone who can relate and communicate effectively via email, and it can be a disaster if the other party isn't comfortable with this medium. Also, if the email negotiating even begins to get a hint of negativity, or that one party feels that it is being misunderstood or can't understand the end outcome of the party it is negotiating with, the phone should be picked up and the email silence should be broken by calling.
- The power of email to ask questions one might feel squeamish to ask in the FTF setting should be leveraged. In order to be successful, the negotiation parties should dig deeper for other areas of common interest, and speak to the ego of the person they are negotiating with. Those students who praised him or her works or efforts, and most of all, those who were humble via email got the highest return. The parties should be taking an interest in the other person via email. This can be done by getting the negotiation partner to talk more about himself and asking open ended questions.
- Emoticons like :-), ;-), :/, :-| etc. should be used to develop a friendly email relationship. Once the opposite’s interests have been found out, it is helpful to send URLs or gifts of information that might add value to his or her life.

- Many times when negotiating via email, one can look at the headers of the email to learn about relationships, systems, vendors of choice and other vital info that is the unspoken message that one's email communicates. This should be used to one's advantage or to make conversation via email to learn more of each other. One should be careful not to use this as a weapon, but more to show interest in the other party.
- Sometimes, not replying very fast can be used to indicate dis-interest by oneself. But email negotiators should not be caught in not replying quickly to the point where the other party feels like one does not care, and the opponent need to move on. A fast response can indicate that one party is either respecting the other's time and wants to help move the deal along because it is important to him or her or it can also mean that one wants this deal *more* than the other party does, which is why one responds within minutes instead of days, and it may weaken the own negotiation position.

The flexibility inherent in CMC can provide an outlet for a person to introduce new variations in the types of communication cues available. Email combines many of the low-involvement attributes of writing with high-involvement attributes such as the speed of interactivity. Because of this fusion of attributes, CMC might become a preferred channel of communication in the future. For example, the preference for using email in routine negotiation tasks such as the OM (Data Printer) negotiation can increase when its ease of use and efficiency become paramount. Other task factors can also contribute to the preference for email, for example the type of task presented to a person or the user's satisfaction in using the email system to accomplish his/her organizational tasks. In summary, the results of linking the three factors of media, innovation context and culture, which was the purpose in writing this thesis, might help to increase the success and the satisfaction of international business people in negotiating their deals FTF or computer-mediated.

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Nederlandse samenvatting

to be done

Deutsche Zusammenfassung

Ein Geschäft mit einem neuen Kunden, Geschäftspartner oder Zulieferer zu verhandeln bedeutete traditionellerweise, sich persönlich zu treffen, was manchmal lange Fahrtzeiten mit sich bringt. Heutzutage befinden sich Geschäftleute in einer Situation, in der sie in zunehmendem Maße mit Informations- und Kommunikationstechnologien in einer globalisierten Geschäftsumwelt konfrontiert sind, von denen viele das Verlassen des Büros überflüssig machen. Die Vorteile computer-gestützter Geschäftsverhandlungen wie z.B. Zeit- und Kostenersparnis werden zunehmend genutzt. Wann jedoch ist der perlönliche Kontakt einem Email-Austausch vorzuziehen und wann trifft der umgekehrte Fall zu? Die Globalisierung der Weltwirtschaft erfordert es, daß sowohl gegenwärtige als auch zukünftige Manager ein Gespür für die Unterschiede in der Geschäftskommunikation zwischen verschiedenen nationalen Kulturen bekommen (im Folgenden wird unter "Kultur" stets die nationale Kultur verstanden). Im Blickpunkt dieser Untersuchung stehen die folgenden drei Kulturgruppen: Romanische Kulturgruppe (Frankreich, Spanien, Italien), nordische Kulturgruppe (die Niederlande, Schweden und Finnland) und anglikanische Kulturgruppe (USA und Kanada). Im speziellen werden die deutsche und die niederländische Kulturen – beide aus der Anglikanisch-nordischen Kulturgruppe – miteinander verglichen. Im Zentrum steht die Frage, welche Auswirkungen die geschilderten technologie-bedingten Änderungen in der Geschäftswelt auf die Effizienz interkultureller Geschäftsverhandlungen haben, die auf elektronischem Wege geführt werden. Diese möglichen Implikation berücksichtigen einen Innovationsmanagement-Kontext in zweifacher Weise: Zum einen untersucht diese Studie, wie innovative neue Medien wie Email und verhandlungsunterstützende Computersysteme in einem interkulturellen Verhandlungskontext eingesetzt werden. Zum anderen versucht diese Studie zu ergründen, wie ein innovativer Kontext die Nutzung innovativer Medien beeinflußt. Dabei wird versucht, die verschiedenen relevanten Konzepte auf ihr Minimum zu reduzieren, indem die klassische Metapher des Eisbergs verwendet wird. Dessen sichtbare Spitze repräsentiert die Fakten, die Technologie, den Preis, das Grundprinzip hinter den Dingen, den Kopf als "Hand des Ingenieurs", wohingegen der unsichtbare Teil des Eisbergs Emotionen, menschliche Beziehungen und unausgesprochene Verhaltensregeln repräsentiert. Diese Studie umfaßt sowohl einen theoretischen Ansatz – Auswertung der Literatur – als auch einen empirischen, indem verschiedene Experimente mit internationalen studentischen Verhandlern durchgeführt werden.

Im Rahmen einer Literaturübersicht wird die Verhandlungstheorie aus verschiedenen Blickwinkeln beleuchtet: Der verhaltensorientierten Perspektive, der kommunikativen Perspektive, der computer-unterstützten Perspektive (Email und verhandlungsunterstützende Computersysteme), der wirtschaftlichen Perspektive (Organisations- und Spieltheorie) und der Innovationsmanagement-Perspektive im Vergleich zur Operation-Management-Sicht. Die verhaltensorientierte Perspektive beschäftigt sich unter anderem mit zwei gegenüberliegenden Strategien: win-win und win-lose. Während die win-win Strategie beinhaltet, einen Konflikt als gemeinsames Problem zu definieren, nach kreativen Lösungen zu suchen, mit denen sich beide Verhandlungspartner identifizieren können und eine flexible Position zu kommunizieren umfaßt die win-lose Strategie, einen Konflikt als win-lose Situation zu definieren, den Verhandlungspartner möglichst den eigenen Interessen zu unterwerfen und Unbeweglichkeit der eigenen Position zu vermitteln. Die kommunikative Perspektive umfaßt das Modell von Shannon und Weaver (1949), nach dem die Nachricht vom Sender kodiert über einen Kanal zum Empfänger gelangt, der die Nachricht dekodieren muß, um sie zu verstehen. Im Rahmen der computer-unterstützten Perspektive stehen Email und verhandlungsunterstützende Computersysteme auf der einen Seite dem persönlichen Kontakt auf der anderen Seite gegenüber. Während es sich bei der Emailkommunikation um eine asynchone Form der Kommunikation handelt (zeitliche Verschiebung zwischen Erhalt der Nachricht und Lesen der Nachricht) ist der persönliche Kontakt eine synchrone Kommunikationsform. Verhandlungsunterstützende Computersysteme ermöglichen es, Geschäftsverhandlungen mit Hilfe von Computersystemen in strukturierter Art und Weise durchzuführen, an deren Struktur die verhandelnden Parteien gebunden sind: Die hier gewählte Struktur besteht aus den Schritten Problemdefinition, Definition des Verhandlungsgegenstandes, Prioritätenfestlegung, Festlegung der Verhandlungssequenz, Diskussion, Verhandlungsabschluß. Wie oben erwähnt, berücksichtigt diese Arbeit innovative Medien wie Verhandlungsunterstützende Computersysteme in einem umfassenderen Rahmen des Innovationsmanagement. Der Innovationsmanagement-Prozeß besteht aus den Phasen der Ideengeneration, Ideenbewertung und der Produkt/Prozeß-Entwicklung.

Dieser ideale Innovationsmanagement Prozeß ist nicht linear sondern beinhaltet Feedback-Rückschlüsse, wobei an den Schnittstellen der Ideengeneration/Ideenbewertung bzw. Ideenbewertung/Produktentwicklung Entscheidungen stehen, die entweder im persönlichen Gespräch oder computer-unterstützt verhandelt werden. Dem Innovationsmanagement wird en Operation-Management gegenübergestellt, das sich durch einen höheren Grad an kurzfristiger Planung und Routinecharakter vom Innovationsmanagement unterscheidet.

Verhandlungen, Innovationen und Kultur beeinflussen sich gegeneinander. Die Kultur, aus der Individuen abstammen, beeinflußt die Art, wie sie über Computer oder im persönlichen Gespräch verhandeln, und die Art, wie sie verhandeln ändert die Kultur, der sie angehören. Viele Studien über internationale Geschäftsverhandlungen ignorieren diese Beziehung und untersuchen Verhandlungen in einem kulturellen Vakuum, ohne mediale Effekte zu berücksichtigen. Ziel dieser Studie ist es, die Beziehungen zwischen Kultur und solchen Verhandlungen zu identifizieren, die sowohl im persönlichen Gegenüber als auch computer-unterstützt geführt werden. Diese Untersuchung basiert auf der Definition von Hofstede, nach der Kultur die "Software des Kopfes" bzw. die "mentale Programmierung" ist. Hofstede definierte anhand seiner empirischen Untersuchung 5 Dimensionen bzw. Indizes, an denen sich Kulturen messen lassen:

- Machtdistanzindex: Ein Gradmesser für Ungleichheit in der Gesellschaft.
- Individualismus und Kollektivismus: Ein Index, der angibt, inwiefern Menschen sich um sich selbst und die unmittelbare Familie kümmern (Individualismus) oder inwiefern sie sich als Kollektiv empfinden (Kollektivismus).
- Maskulinität und Femininität: Maskuline Kulturen bewundern die Starken und Reichen, feminine Kulturen hingegen sorgen sich um die Kranken und Schwachen.
- Unsicherheitsvermeidung: Ein Gradmesser für Risikoaversion.
- Langfrist-Orientierung und Kurzfrist-Orientierung: Ein Index, der die Rolle des Aufbaus startker, langfristig orientierter Marktpositionen angibt, im Gegensatz zu kurzfristiger Gewinnerzielung.

Hinsichtlich dieser Dimensionen lassen sich im Vergleich der deutschen mit der niederländischen Kultur Tendenzen feststellen, die die deutsche Kultur eher mit den oben schilderten Charaktereigenschaften des Operations-Management vergleichbar machen und die niederländische Kultur eher dem Innovationsmanagement angleichen. Zudem ergibt sich eine signifikante Differenz hinsichtlich der Maskulinität: Die deutsche Kultur ist tendenziell maskulin, die niederländische tendenziell feminin.
Bei der Untersuchung von elektronischen Geschäftsverhandlungen unter spezieller Berücksichtigung der Faktoren Medium, Innovationskontext und Kultur ist die Feststellung wichtig, daß solche Geschäftsverhandlungen nicht in einem Vakuum stattfinden, sondern von Menschen innerhalb von Geschäftsorganisationen ausgeführt werden, die sich in Wort und Schrift ausdrücken. Diskurs und Aktion innerhalb solcher Organisationen konstituieren soziale Strukturen und sind daher von zentraler

Bedeutung für Organisationen. Verhandlungen innerhalb und zwischen Organisationen finden durch den Gebrauch von Schrift und Sprache statt, sodaß es möglich wird, anhand von psycholinguistischer Methoden die Verhandlungsstrategie internationaler Geschäftspartner zu messen. Zwei dieser Methoden finden im Rahmen der empirischen Untersuchung Anwendung: Die Sprechaktanalyse und die Personalpronomenanalyse. Mit Hilfe der Sprechaktanalyse läßt sich die (Nicht-)Kooperation der Verhandlungspartner identifizieren und mit Hilfe der Personalpronomenanalyse wird der Grad an Empathie – das Einfühlungsvermögen in den Verhandlungspartner – gemessen. Die Experimente fanden innerhalb der Seminare von Prof. Dr. J. Ulijn statt und wurden von den teilnehmenden Studenten ausgeführt. Insgesamt wurden 4 experimentelle Studien durchgeführt, von denen die erste 24 Studenten umfaßt, die aus den oben erwähnten Kulturgruppen (anglo-nordisch und romanisch) stammen. Die restlichen 3 Studien fanden in einem deutsch-niederländischen Kontext statt, von denen eine Studie 10 ausschließlich deutsche Studenten, die andere 12 ausschließlich niederländische Studenten und die dritte 7 deutsche und 7 niederländische Studenten beinhaltete. Die Studenten verhandelten in Zweier-Gruppen vorgegebene Fälle zuerst im persönlichen Gespräch und dann mit Hilfe von Computern. Von den zwei zu verhandelnden Fällen war einer Innovationsmanagement-orientiert, der andere betraf ein Operation-Management Problem. Die persönlichen Verhandlungen wurden aufgezeichnet, so daß später eine Abschrift angefertigt werden konnte. Die Analyse dieser Abschriften und der Aufzeichnungen der computer-gestützten Verhandlungen wurden in dreifacher Hinsicht analysiert, und zwar mittels der Sprechaktanalyse, der Personalpronomenanalyse und einer qualitative Analyse. Ziel war die Formulierung von Hypothesen, also der erste Schritt im Forschungszyklus, so daß diese Hypothesen in späteren Phasen dieses Zyklus (d.h. in späteren Studien) überprüft werden können. Die folgenden Hypothesen wurden formuliert:

- Geschäftsverhandlungen mit direkten Blickkontakt führen eher zu einer win-win Strategie als computergestützte Geschäftsverhandlungen.
- Geschäftsverhandlungen mit direkten Blickkontakt beeinflussen die Fähigkeit der Teilnehmer, Empathie aufzubauen, mehr als computergestützte Geschäftsverhandlungen.
- Bezüglich der Verhandlungsstrategie existieren kulturelle Differenzen.
- Bezüglich der Fähigkeit der Verhandlungspartner, Empathie aufzubauen, gibt es kulturelle Differenzen.
- Deutsche Verhandlungspartner sind in einem Operation-Management-Kontext kooperativer als in einem Innovationsmanagement-Kontext.

- Niederländische Verhandlungspartner sind in einem Innovationsmanagement-Kontext kooperativer als in einem Operation-Management-Kontext.

Diese Hypothesen verdeutlichen, daß Kultur (unsichtbarer Teil des Eisbergs) eine (nicht-)kooperative Verhandlungsstrategie beeinflussen könnte. Diese Ergebnisse könnten in verschiedenen wissenschaftlichen Bereichen Anwendung finden: So wird in der Spieltheorie hauptsächlich das Ergebnis (Spitze des Eisgergs) betont, nicht jedoch die kommunikativen Prozesse (unsichtbarer Teil des Eisbergs), die zu einem Ergebnis führen. Spieltheoretiker machen eine präzise Unterscheidung zwischen der Phase der Modellkonstruktion und der Phase der spieltheoretischen Analyse, so daß sie sich gegenüber Kritik verteidigen können, indem sie sagen, daß mögliche Probleme nicht in der spieltheoretischen Analyse, sondern in der Modellkonstruktion liegen. Jedoch finden sich Anzeichen, daß die Analyse selbst problematisch sein könnte, da sie eine gemeinsame Wissensbasis beider Spieler annimmt. Mit dieser Annahme abstrahiert der Spieltheoretiker von Kommunikation (unsichtbarer Teil des Eisbergs). Ein kommunikativer Ansatz, der in dieser Studie vorgeschlagen wird, geht nicht von dieser fundamentalen Annahme aus. In dieser Art und Weise muß eine gemeinsame Wissensbasis erst während des Spiels aufgebaut werden, wobei die verschiedenen Schwierigkeiten des Mediums, des Innovationskontextes und der Kultur wie oben gezeigt berücksichtigt werden müssen.

Die Rolle interkultureller Kommunikation wird anhand eines Modells veranschaulicht, das als Ergänzung des oben erwähnten Shannon-Weaver Kommunikationsmodells gesehen werden kann, weil es den Austausch expliziter (Spitze des Eisbergs) und impliziter (unterer Teil des Eisbergs) berücksichtigt. Auf diese Art wird es möglich, die Probleme interkultureller Kommunikation zu berücksichtigen. Grundgedanke dieses Modells ist das Verhältnis expliziter- zu impliziter Nachrichten auf Senderseite und begriffener zu interpretierter Nachrichten auf Empfängerseite. Diese Verhältnisse werden beeinflußt vom kulturellen Verständnis und der Empathie beider Verhandlungspartner: Treffen beispielsweise zwei Verhandlungspartner aus völlig verschiedenen Kulturen aufeinander, deren kulturelles Verständnis und Empathie für die jeweils andere Seite gering ist, so ist eine Kommunikation auf hoher expliziter Ebene nötig. Umgekehrt sind wenig explizite Nachrichten dann angebracht, wenn beide Seiten aus derselben Kultur stammen bzw. die Kultur des Verhandlungspartners gut kennen. Sollten sich beide Kulturen nicht kennen – so daß explizite Nachrichten nötig wären – die Verhandlungen jedoch auf impliziter Ebene geführt werden, kann dies zum Scheitern der Verhandlungen führen.

Wie bereits mehrfach erwähnt, behandelt diese Studie die Beziehungen zwischen dem Medium, dem Innovationskontext und der Kultur. Nachdem der Faktor Kultur soeben im Rahmen eines spieltheoretischen Ansatzes und eines Kommunikationsmodells besprochen wurde, berücksichtigt diese Studie die Faktoren Medium und Innovationskontext, indem die Verhandlungsprinzipien auf innovative, computer-gestützte Medien übertragen werden. Im Rahmen eines integrierten Forschungsansatzes wird ein Modell entwickelt, das die Normen enthält, die akzeptables Verhandlungsverhalten bestimmen. So besteht das vorgeschlagene Modell aus den Elementen Unternehmensumwelt, Verhandlungskontext, Verhandlungspolitik, Verhandlungsziel, Verhandlungsstrategie und Verhandlungsplan. Verhandlungsunterstützende Computersysteme sollten in ihrer Architektur die Dynamik und die Interdependenzen dieser Elemente berücksichtige, deren Charakteristik und Verhältnis zueinander in dieser Studie näher erläutert werden. Zudem sollte Berücksichtigt werden, daß Verhandlungen einen Lebenszyklus durchlaufen, wobei in dieser Studie vier Phasen solch eines Zyklus' vorgeschlagen werden: Analyse, Design, Ausführung und Nach-Verhandlungs-Analyse. In der Analyse-Phase werden die Spezifikationen des Verhandlungskontext definiert, und die Design-Phase spezifiziert alternative Entscheidungsregeln, die vom Verhandlungssystem angewendet werden können. Die Ausführungsphase behandelt die Bearbeitung der Verhandlungstransaktionen innerhalb des automatisierten Verhandlungssystems, und die letzte Phase der Nach-Verhandlungs-Analyse umfaßt die Zusammenfassung der Verhandlungsergebnisse. Diese Zusammenfassung ermöglicht ein Feedback an alle vorangegangenen Phasen, so daß dadurch die Verhandlungsstrategien, die Entscheidungsregeln und das Verhandlungsverhalten insgesamt positiv beeinflußt werden kann.

Abschließend läßt sich sagen, daß diese Studie die Bedeutung des unteren, unsichtbaren Teils des Eisbergs bei internationalen Geschäftsverhandlungen hervorgehoben hat: *Sei sanft zu den Menschen aber hart in der Sache!* Die experimentell durchgeführten internationalen Geschäftsverhandlungen haben gezeigt, daß die Kulturen unterschiedlich erfolgreich in der Anwendung kooperativer Verhandlungsstrategien unter Benutzung innovativer Medien sind. Daher ist es wichtig, den interkulturellen Dialog voranzutreiben und gemeinsam voneinander zu lernen. Zukünftige Studien könnten sich mit dem Testen der in dieser Studie aufgestellen Hypothesen beschäftigen und den Forschungskontext erweitern, indem sie zusätzliche Medien wie Telefon, Internet-relay-chat oder Fax berücksichtigen. Zudem könnten geschlechtsspezifische Unterschiede in der Anwendung der hier besprochenen Verhandlungsmethoden untersucht werden oder der kulturelle Rahmen erweitert werden, indem z.B. ost-asiatische Kulturen mit einbezogen werden. Die

Resultate des Zusammenführens der drei Faktoren Medium, Innovationskontext und Kultur, was der Zweck dieser Arbeit war, könnte einen Beitrag dazu leisten, den Erfolg und die Zufriedenheit internationaler Geschäftsleute zu steigern, die ihre Geschäfte im persönlichen Gespräch oder mit Computer-Unterstützung verhandeln.

Appendix A – Detailed information about the subjects

Group number	**Country**	**NC: Cultural Cluster (A –** Anglo **N –** Nordic **L –** Latin**)**	**PC: Study Background (IE** - Industrial Engineering**)**	**Gender (m –** male**, f –** female**)**
1	Sweden	N	IE	m
	Spain	L	IE	m
2	Canada	A	Commerce with majors in marketing	f
	Sweden	N	IE	f
3	The Nether-lands	N	IE	f
	Finland	N	IE	m
4	Italy	L	IE	f
	Italy	L	IE	f
5	US	A	Communication Science	m
	Canada	A	Commerce with majors in marketing	f
6	France	L	IE	m
	Sweden	N	IE	m
7	Italy	L	IE	m
	Spain	L	IE	m
8	Spain	L	IE	m
	Spain	L	IE	f
9	Italy	L	IE	f
	The Netherlands	N	IE	m
10	Spain	L	IE	m
	France	L	IE	m
11	Spain	L	IE	m
	France	L	IE	f
12	France	L	IE	m
	France	L	IE	m

Appendix B –Instructions for the Negotiation Manager (Summary)

How does the Negotiation Manager work in general?
The negotiation manager is a software that allows us to conduct structured negotiations: Each of the following negotiation stages is a negotiation in itself:

- *Problem Definition*
- *Issue Definition*
- *Priority Definition*
- *Sequence Definition*

These phases serve to support the succeeding discussion, they can be summarized as the "framing" phase of a negotiation.

- *Discussion*. So to say the "body" of the negotiation.
- *Closure*. A final possibility to discuss the negotiation results.

Type: http://memo.kub.nl:2081, enter user name and password, click "login"
Click "Negotiate"
Under "current negotiations" click on the name of your negotiation. If there is no name, create a new negotiation ("dispute resolution")
Click on the message which is on the bottom of the "Received" box. If there is no message at all in the "Received" box, create a new message.
Read it **without changing anything in the textboxes**, then click "edit" (on the bottom) to answer**!** If both parties have activated "high" commitment, you cannot click "edit", but click "next phase" if you want to go to the next phase or "reply" if you want to stay in the current phase and give an answer.
As soon as you have arrived in the discussion phase, **do not immediately click "next phase",** because you first have to discuss all issues**!** Enter "Y" if you want to go to the next issue. Both parties have to enter "Y" to go to the next issue.
After having discussed all issues, click "next phase" to go to the final phase.

Appendix C – Example of a FTF transcript

Ericsson: played by a male negotiator from the US
RadioTech: played by a female negotiator from Canada

Ericsson: Hallo, nice to meet *you* again, *we* have met before (M). *We* are now here to discuss the transistor (G).
RadioTech: Yes, *you* know the problem is that *we* want to sell this product before because *we* can win a lot of money, because this is a new product and it is very cheap in comparison with the last one – the conventional one, so *I* am sure that *we* need to sell it now and *I* think that is because *you* need that product and *I* think that *we* developed it and must sell it now (C).
Ericsson: *I* understand that *you* want to sell this product and it is a good product but *you* also have to understand that it was our request to develop the transistor that is smaller and cheaper and *we* asked *you* to do that for us so that is why *we* do not want *you* to go out and sell it before *we* can start to produce our base station (N).
RadioTech: Yes, but *we* talk about a date to sell the product to *you* but there have been some problems in your company and because of that *you* need now more time than *we* talked about before (N).
Ericsson: *I* understand what *you* are saying but it is also just a matter of 3 months of delay (M). *We* had some problems in our company (G).
RadioTech: Yes, but 3 months can mean a very large amount of money for us because *I* think many companies will want this product (M).
Ericsson: *I* am sure, definitely (G). But cant *we* maybe talk about the price - *we* could raise the price a little and if *you* wait with the release of this transistor, maybe just those 3 months because it is very important for us to build this base station (C).
RadioTech: Yes, but *you* must understand that it is important for us that our earnings are basically based in this product so *you* must have some money for us in these three months (N). *I* understand that *you* think that concerning this product, *we* have to wait for *you* but the half of my company works for this product so if *I* am 3 months without selling anything, it is a problem for us (N).
Ericsson: Maybe *we* can compromise and *we* will help *you* a little if *you* do not release this product before our production starts (C). *I* also know that it's only the power transistors consist of only 50% of RadioTech's total sales (M). So *I* also know that *you* have other big products that *you* sell and *I* know that this is not your biggest product (M). For us, this is very important because the base stations are very important to us (G).
RadioTech: Yes, *I* know what *you* mean but *I* was confused with the 50%, it was a market sale (N). Half of our customers usually buy those products from us so *I* think that it is important to provide them with a new product which is cheaper than the other one so *we* are waiting 3 months for them. Maybe our market share will decrease (M).
Ericsson: *I* understand but *I* also know that the other companies they also want to see how it all works out in our base stations because *we* don't already know how your transistor really works so it would probably not be a problem for *you* (N). If the other company sees that it is

working good in our base station they would probably buy more so *you* would probably have an advantage with that (G). Do *you* see what *I* mean (G)?
RadioTech: Yes, *I* understand that idea, but *I* am not sure if that is really true (N). So ok, *we* can do a deal and compromise that *you* buy from me all that *you* wanted and with a bigger price (C). So *we* can wait until December but *you* must understand that *you* must pay us a bigger price than before because *we* lose money without selling it to other companies in these 3 months (G).
Ericsson: *I* understand (M). But *you* also have to understand that this was our idea from the beginning (M). *We* asked *you* to develop this transistor for us (M).
RadioTech: Yes, because of that *we* are going to compromise with *you* and wait for 3 months but *we* are losing money, so *I* think that it is half and a half: Win-to-win (M). So *I* suppose *we* both win here (C).
Ericsson: Yes, *I* think *you* are absolutely right about that, so what would *you* say if *we* pay *you* (G)…
RadioTech: *I* think *you* must pay me 5% more than the normal price (G).
Ericsson: 5%? *We* are going to pay 3% more (N).
RadioTech: *I* think that *we* are losing customers because of *you* and *we* respect the idea that *we* developed your idea but *we* can lose some customers *we* know – they are the most important (M). So *I* think that 3% is very low for us (G).
Ericsson: Would 4% be all right (G)?
RadioTech: Our company does not really want to wait for 3 months (N)…
Ericsson: But *you* compromise that it's not more than 3 months (N). *We* could wait for 3 months but not more than this (C).
RadioTech: No more than 3 months and 4% (C).
Ericsson: Ok, thank *you* (M).
RadioTech: Yes, thank *you* (M).

Total personal pronouns (in *italics*):

I:	27 times
We:	34 times
You:	38 times

Total speech acts (in parentheses after each sentence):

N (non-cooperative):	10
C (cooperative):	7
G (general):	11
M (meta-communicative):	13

Appendix D - Detailed information about the subjects – cross-cultural Dutch-German experiment

Country	**Group number**	**PC: Study Background (IE –** Industrial Engineering **TS –** Technology and Society **CS** – Computer Science**)**	**Gender (m – male, f – female)**
The Nether-lands	1	TS	f
		Mathematics and CS	m
	2	Biomedical Engineering	f
		Electrical Engineering, Microelectronics	m
	3	IE	m
		IE	m
	4	IE	f
		Architecture, Building and Planning	m
	5	IE and Management Science	m
		TS	m
	6	IE and Management Science	m
		IE	m
Germany	1	IE- CS	m
		IE- CS	m
	2	IE (mechanical)	m
		IE (mechanical)	m
	3	IE- CS	f
		IE- CS	m
	4	IE- CS	f
		IE (mechanical)	m
	5	IE (mechanical)	m
		IE- CS	m

Appendix E - Detailed information about the subjects – inter-cultural Dutch-German experiment

Group number	**Country (NL –** the Netherlands **G –** Germany**)**	**PC: Study Background (IE –** Industrial Engineering **S –** Sociology **CS** – Computer Science**)**	**Gender (m – male, f – female)**
1	NL	IE	m
	G	S	f
2	NL	IE	m
	G	S	m
3	NL	IE	m
	G	IE – CS	m
4	NL	IE (electrical)	m
	G	IE	f
5	NL	IE	m
	G	IE (mechanical)	m
6	NL	IE	m
	G	IE (mechanical)	m
7	NL	IE	m
	G	IE (mechanical)	f

Appendix F – Example of an FTF transcript

Ericsson: played by a male negotiator from Germany
RadioTech: played by a female negotiator from Germany

RadioTech: Hallo, nice to meet *you* (M).
Ericsson: Nice to meet *you* too (M).
RadioTech: Take a seat (M).
Ericsson: Thank *you* (M).
RadioTech: Did *you* have a nice trip (M)?
Ericsson: Yes it was a nice trip, the weather was nice and the sun is shining so it was a pleassure coming here (M).
RadioTech: Oh nice, where are *you* staying (M)?
Ericsson: *I* am staying in a hotel near the airport, it is very nice (M). *I* am always very pleased to come there and *I* am looking forward to coming back here (M).
RadioTech: Well, all right, *I* heard that *you* did some test on the performance of our product, how were the results of these tests (G)?
Ericsson: Well, yes, the results were very good, *we* would very much like to use it in our product - our base stations (G). *We* are very excited about this product and our engineers are pressing to use it but perhaps *you* heard that there are some problems with it (C).
RadioTech: Yes, *I* heard that (G).
Ericsson: Unfortunately *we* won't be able to use your power transistor in time (N). So *I* would like to ask *you* if *you* could delay the release of the product (G).
RadioTech: That is quite a problem because *you* know our competitors are strong and the market is also pressing, as *you* know it is quite a new technology (N). *I* was talking to some of our engineers about this and they would very much like to present our transistors to other companies in order to meet their request (G).
Ericsson: Yes, *I* understand that but maybe *you* can also understand our point (N): *I* mean *we* introduced this idea to *you* with our product and of course *we* don't mind if *you* would sell it to other companies, but as *we* worked together on this, *I* think it would be nice if *we* could finish it together because *we* had a very good relationship in the past and *we* would like to continue that (G). *We* used to be good customers in the past (M).
RadioTech: Yes, that is not the problem, *we* really want to continue the good relationship, but *you* have to understand that *we* do not talk about the product but the production technology (N). The product is not so unique but the production technology is what really counts and some of our experts think that your competitors might try to get this technology as well because it is quite impressing on the market (N).
Ericsson: Well, *we* are trying to expand and to get rid of all those competitors of course, but *we* have quite a big share in the market (G). Perhaps *you* could also profit because if *we* could increase our market share, *we* buy more of your products (C).
RadioTech: Yes, of course (C).

Ericsson: So *we* can both benefit, and if *you* have a lot of small companies that buy your product - perhaps they might lose the competition and *you* lose your customers (C).
RadioTech: Yes, that *I* understand, but isn't there any chance that *you* fasten your production and use our product (G)?
Ericsson: Well, December is the earliest date for us to create a reliable product (M).
RadioTech: But doesnt that mean that this is a really big delay (G)?
Ericsson: Of course *I* would like to introduce the product earlier as well but they told me that there is no way in getting the product already in April, so *I* guess *we* have to wait until December but *I* can also arrange or *I* will promise *you* (C): *We* already buy 30% of your production and as *I* told *you we* want to expand so *I* will try to increase this number, so perhaps *you* could arrange to start negotiating with our competitors lets say in October or so and tell them to give the product to them a little later (M); so *I* would arrange to buy at least 30% or even more (G).
RadioTech: So *you* would guarantee me the December date and *I* will start negotiating with other companies let's say at the beginning of December and they wont use the product let's say before March and if *you* get problems with the December date (N)- *I* mean *we* really cannot postpone the December date again, that is really impossible (N).
Ericsson: Ok (G).
RadioTech: But *I* can only agree to this if *you* take lets say 35 % of our production (N).
Ericsson: All right, but if *you* double your production next year, *I* wont be able to take that much (M).
RadioTech: *I* understand (G).
Ericsson: So *we* have to relate to absolute values (G). Let's say if *you* keep producing 100 till 105 thousand units, *I* will promise this to *you* (C). Are *you* positive with that (G)?
RadioTech: Yes, in principle yes, but maybe *we* can arrange another meeting tomorrow because *I* still have to talk to our production manager and our marketing manager so if *you* don't mind *we* can arrange another meeting tomorrow and start talking about the contract already and then *we* will also fix the number of transistors and that rate (C).
Ericsson: Ok well, *I* will call my engineers and tell them they are getting their transistors in December (C).
RadioTech: Yes (G).
Ericsson: All right, thank *you* very much, it was very nice to meet *you* (M).
RadioTech: *You* are welcome (M).
Ericsson: Bye (M).
RadioTech: Bye (M).

Total personal pronouns (in *italics*):

I:	26
We:	25
You:	33

Total speech acts (in parentheses after each sentence):

N (non-cooperative):	8
C (cooperative):	8
G (general):	15
M (meta-communicative):	17

Appendix G – Example of an FTF transcript

Ericsson: played by a female negotiator from the Netherlands
RadioTech: played by a male negotiator from the Netherlands

Ericsson: Hi, *you* are coming here today to Ericsson to discuss something about the RadioTech power transistor (M).
RadioTech: Yes, as *we* understood, *you* are not able to use the power transistors in the base stations in April, so *you* had to postpone it until December (G).
Ericsson: Yes, that is right (G).
RadioTech: Our problem is that *we* have developed this product (M). *We* have to sell it now because *we* have already started the production (M). This means *we* are going to start selling it on the market and this means that Ericsson will not be the first company on the market which can use these power transistors (M).
Ericsson: But *we* provided *you* with the idea and *we* made an agreement that *we* will be the first on the market with the power transistor (N). And now *you* are saying *you* will sell it first to other manufacturers (N). *I* don't see it – *we* wont agree on that because *we* gave *you* the idea (N).
RadioTech: Ah *you* gave us the order to produce the transistors – that's right (G).
Ericsson: No, *we* gave *you* the idea and *you* developed something and now *you* are going to produce it (N).
RadioTech: *You* want us in such a late moment that *we* already start the production, so *we* have the product right now and *we* cannot store it until December unless *you* can start using it because *we* bought machinery that started already producing the transistors (M).
Ericsson: *I* understand (G). What kind of ideas do *you* have so Ericsson can be the first on the market with the power transistor (G)?
RadioTech: The only solution *I* would propose is that *we* wait until Ericsson can use the transistor (C). *You* get the new transistor but at the price of the normal transistor (C). That's 370 dollars for the transistors (M). So *we* can use the rest of the money to pay the stock levels *we* have (G).
Ericsson: And when are *you* going to sell to us (G)? Are *you* also going to sell to other manufacturers (G)? Or are *you* only selling to us (N)?
RadioTech: From that moment after *you* have launched your product *we* will start to deliver it to other customers (M).
Ericsson: For the same price or will *you* ask the other manufacturers a higher price because they have a lot of advantages if they get the power transistor (G)?
RadioTech: *We* will ask a higher price, that's correct (C).
Ericsson: A higher price (M). What will the price be (G)?
RadioTech: Ah, that's competitive information (N).
Ericsson: But *we* can cooperate because *we* delivered the idea to *you* (C).
RadioTech: Now, *you* ordered it (N)!

Ericsson: Because if *we* did not say to *you* to make the radio frequency power transistor, *you* would have never developed such a power transistor (N).
RadioTech: Well, *we* are a company specialized in transistors (G). So our R&D department is always improving our transistors (N).
Ericsson: *I* understand, but *you* did not get the idea on developing a new transistor (N).
RadioTech: But that's not such a new idea (N). The transistor is not very different from a normal transistor (N).
Ericsson: It is not very different, but it has a lot of advantages (G). Production savings, reduced preparation time (M)…
RadioTech: Yes, but its such a small adaptment that *we* cannot even make sure the product will only be reproduced by us (M).
Ericsson: If *we* receive the power transistor first, at what time do *you* deliver to other parties (C)?
RadioTech: To other parties (N)?
Ericsson: To other manufacturers (G)?
RadioTech: The moment *you* start delivering your product to the shops, so *you* have enough time to make your product ready (M)– when *you* start selling the complete radios then *we* will start selling the product to other companies (C).
Ericsson: *I* can live with this (C).
RadioTech: So *we* have an advantage when your product gets to market (C).
Ericsson: *I* think *I* am going to agree with it (C).
RadioTech: OK (C).
Ericsson: OK so *you* will deliver first the radio power transistors to us (G)?
RadioTech: Yes (G).
Ericsson: When *we* go on the market with it (M).
RadioTech: When *you* start selling the base stations on the market, then *we* will start to sell the transistors to other companies (C).
Ericsson: *We* have to negotiate about the price *you* will sell them to other parties (G).
RadioTech: This will be a higher price because *you* are one of our biggest customers (N).
Ericsson: What will be that higher price (G)? *I* think it will be about 425 dollars (N).
RadioTech: *We* cant talk about the price to our other customers (C).
Ericsson: Ah, but otherwise, there is no big advantage for us (N).
RadioTech: *You* get it at a lower price, *you* get it first, *you* get it in large quantities (C).
Ericsson: Yes but a lower price which has a very low difference (N) – then the price is not that low, *you* understand (N)?
RadioTech: Yes (G).
Ericsson: That's why *I* want to know the price for the other manufacturers (M). So is 425 dollars a good price (G)? *I* think 425 dollars is a good price for the other manufacturers (N).
RadioTech: *I* am not sure if that is available for other customers (N).
Ericsson: But *we* have to get an agreement of that (C). What do *you* think another price could be for *you* (G)?

RadioTech: *I* can assure *you* the price for other customer of ours will be at least 10% higher (C).
Ericsson: 10% higher (N)?
RadioTech: Yes, that is about 407 (G).
Ericsson: Maybe *we* can say about 415 dollars at least for the other manufacturers (C).
RadioTech: Well, ok, 415 (C).
Ericsson: Ok, again, (C)…
RadioTech: *We* deliver in December, *you* bring your product to the market, then *we* start selling it to other customers, your price is 370 and for other customers, its 415 (M).
Ericsson: Ok, then *we* have an agreement (G).
RadioTech: Ok (G).

Total personal pronouns (in *italics*):

I:	12
We:	37
You:	41

Total speech acts (in parentheses after each sentence):

N (non-cooperative):	21
C (cooperative):	18
G (general):	23
M (meta-communicative):	14

Appendix H – Example of a CMC transcript

Adler: played by a male negotiator from Germany
Pufahl: played by a female negotiator from Germany

Pufahl:
Dear Mr. Adler,
after your lawyer called me yesterday and told me your point of view of the whole situation, *I* want to take the chance to set up a meeting between the two of us to get things settled in private (G).
First of all *I* want to apologize picking up the printer monday morning without paying it immediately (M). *I* needed it urgently and there was nobody in the office in charge of the printer (G).
Of course *I* want to pay for your repair service but as *you* might have noticed *I* am quite upset about the different invoices *I* received from *you* (N).
When your young repair man, Fred Gates, came to my office to repair the printer, he estimated the price for his repair $550 (M). The invoice *I* received afterwards was $647, which is $97 higher than *I* expected it to be, which *I* think is quite a lot (N).
When *I* tried talking to *you* about the invoice, *I* had the feeling that *you* were a little bit angry and therefore handed me the new invoice which was even higher, $774 (G).
I really dont't want this trifle to interfere our relationship, so *I* hope *we* can find an agreement that suits both of us (C). But *I* hope *you* can understand that it is not acceptable for me to pay such a higher price than the etimate for a siple repair work (M).
Thank *you* for your understanding (G).
I hope to hear from *you* soon (G).
Best regards,
Pat Pufahl

Adler:
Dear Mr. Pufahl,
I am very glad *you* finally realized your mistake which made me very angry indeed (N). But, what's done is done and *I* am willing to forget about this incident as you apologized for it (C).
As *you* stated we have a very good business relation which *I* would hate risk losing, but you have to understand that *I* was a little disappointed already when *you* chose not to buy the proper printer from us (C). After *you* brought the printer to us for repairs our technician called *you* and told *you* things were more complicated than he thought (meaning NOT simple!) and would therefore cost more (G).

In fact the second invoice was the invoice *we* would charge a "normal" customer, which is reasonable considering the amount of work and spare parts *we* put into it (N). The first one was a "good-customer"'s invoice which *you* should appreciate as really only our special customers get those (C).
Still *I* consider *you* one of our special customers and it would be ok if *you* just paid the first invoice (647$) as *I* do not want anything to stand in the way of our good relations, too (M).
Kind regards,
Robin Adler

Pufahl:
Dear Mr. Adler,
thank you for your email (M).
I am very happy to hear that *you* consider me one of your best customers (C). But *I* am afraid that *you* did not quite understand the point *I* made in my last email (N).
I already consider the first invoice *you* sent to me as too high compared with the estimate *I* received from your repair man Fred Gates (G). And *I* am afraid the phone call *you* are talking about in your email never reached me (N). So *I* never knew that the price Mr. Gates estimated would change (M).
I am also very sorry about that *you* don't understand my motives why *I* had to buy a printer with this capacity which *you* could not offer me (N). But as *you* can see *I* did not make a good expirience with this other printer company (M). And if *you* can offer me printers with a comparable capacity *I* would prefer to buy the next printers from *you* as we had very good expiriences with your products in the past (M). In fact *we* still need two more printers at the moment (G).
So *I* really hope we can settle this misunderstanding and go back to business again (C). *I* would suggest two things (M). First *I* would be very happy about receiving a new invoice from *you* that corresponds better to the estimate *I* received (C).
Second *I* would like to set up a meeting with *you* to talk about my new investment and to have a look at some of your printers (C).
Hope to see you soon.
Best regards
Pat Pufahl

Adler:
Dear Mr. Pufahl,
I am very pleased to hear that *you* are planning to buy your office supplies from us in the future and really would like to discuss the purchase of two more printers on your part (C). *We* really should arrange a meeting (C).
Concidering the invoice, *I* am very sorry that Fred's message did not get through to *you*, but from my point of view that really is a problem between

you and your secretary (M). But, as *we* both rely on second hand information, why not meet in the middle (600$) and settle this issue (G)?
I think this is a compromise *we* both can live with (C).
Regards,
Robin Adler

Pufahl:
Dear Mr. Adler,
I am very happy that *we* could find an agreement (C). As soon as *I* receive your new invoice *I* will transfer the money immediately (G).
Best regards
Pat Pufahl

Total personal pronouns (in *italics*):

I:	43
We:	11
You:	34

Total speech acts (in parentheses after each sentence):

N (non-cooperative):	7
C (cooperative):	12
G (general):	10
M (meta-communicative):	10

Appendix I – Example of a CMC transcript

Adler: played by a female negotiator from the Netherlands
Pufahl: played by a female negotiator from the Netherlands

Pufahl:
Dear Mr. Adler,
I 'm not happy with the situation as it is at the moment and *I*'m seriously wondering if *I* 'll go on doing business with your company (N). *We*'ve had a good relationship, but now things are running out of control (N)!
Although *I*'m very angry because *you*'re setting me up with the bill raising and raising and treating me like *I*'m a green kid, *I*'m prepaired to try to restore our relationship (C). But only with your help and cooperation of course (G).
The most important thing to do to reach this goal is trying to understand each other (M). Because of that, *I* have a few questions and *I* like *you* to answer them (G).
My first question is why the bill is raising every time (G). When *I* asked *you* about it, *you* didn't give me a proper explanation (M). *You* treated me in a derisive manner and so *we* come to my second question (N). Why are *you* treating me like this (N)? Is it because of resentment that *I* didn't buy your printer (G)? Because that's the feeling *I* get (M).
I hope *you*'re willing to cooperate and that *we* can find together a solution for our problematic relationship, which suits both of us (G).
with kind regards,
Mr. Pufahl

Adler:
Dear Pat Pufahl,
At the moment *I* can aim your words business are not going the way they should be (N). At this moment *I* am also upset about the way *you* treat me (N).
In order to answer your questions *I* will tell the story the way *I* view it (M):
Wednesday afternoon *you* called us *you* had a problem with your printer (M). *You* sounded like it was an urgent case (M). Because of the fact *you* are one of our best customers, *I* let my mechanic, Fred, drop all his work immediately and let him try to fix your printer on the spot (M).
At your company Fred examines your printer and at that moment he only can see a steel bracket has been broken down and damaged the printing head (M).
To repair this, the printer needs to be taken to our company (M). This will take a few days, but because of the fact *you* are a good customer, this is the first to handle (C). *You* asked Fred for an estimate of the costs, but because of the fact Fred could not see the problem clearly, he guesses the price at $250 for parts and $300 for labour (M).

At our company, Fred sees that more parts are damaged (M). He gives a call to your company to say the problem is more difficult and takes more costs and time to solve (M). *You* receptionist noticed that, because *you* could not answer the phone (M).
The new price will actually be (N):
20 hours (as specified in the Datronix repair manual @ $25/h = $500
Overtime premium, because of the evening work: 4h @ $12,50/h = $50
Parts: $247
Federal Express: $ 27
Long distance phone calls: $ 3.7
Totally makes that a bill of $828
Because of the fact *you* are a good client, *we* take some costs at our own charge, the overtime premium, 5 hours of work and the long distance phone calls are not charged (C).
So, because of the fact more repair was needed, *we* make our bill now at $647 (N).
We did the repair because it was very urgent and *you* did not call us back (G). This seemed the best way (G).
After *you* see the new bill, *you* totally go out of your mind, at the presence of new customers (N). We do not think this is a good way to treat long term relations (N). So, *I* got angry and was not willing to compensate your costs any more (M). That's why *I* rewrote the bill to $774 (G). In this bill *I* still charge not the full costs (G).
You apparently do not agree and take our printer, without paying, out of our shop (N).
Because of the fact, *we* handled this the best *we* could, *we* consider this as theft (N). That is why *I* see the solution to pay the bill, or *we* will have to press criminal charges (N). For this, *I* can still be loyal and can agree to the bill of $647 (C).
Furthermore, as *you* can see in our behaviour, *we* do not have any resentment *you* did not buy our printer (C). *We* treat as a good customer should be treated (C).
Hoping *you* will pay the bill and a good end after all (N),
Yours truly,
Robin Adler

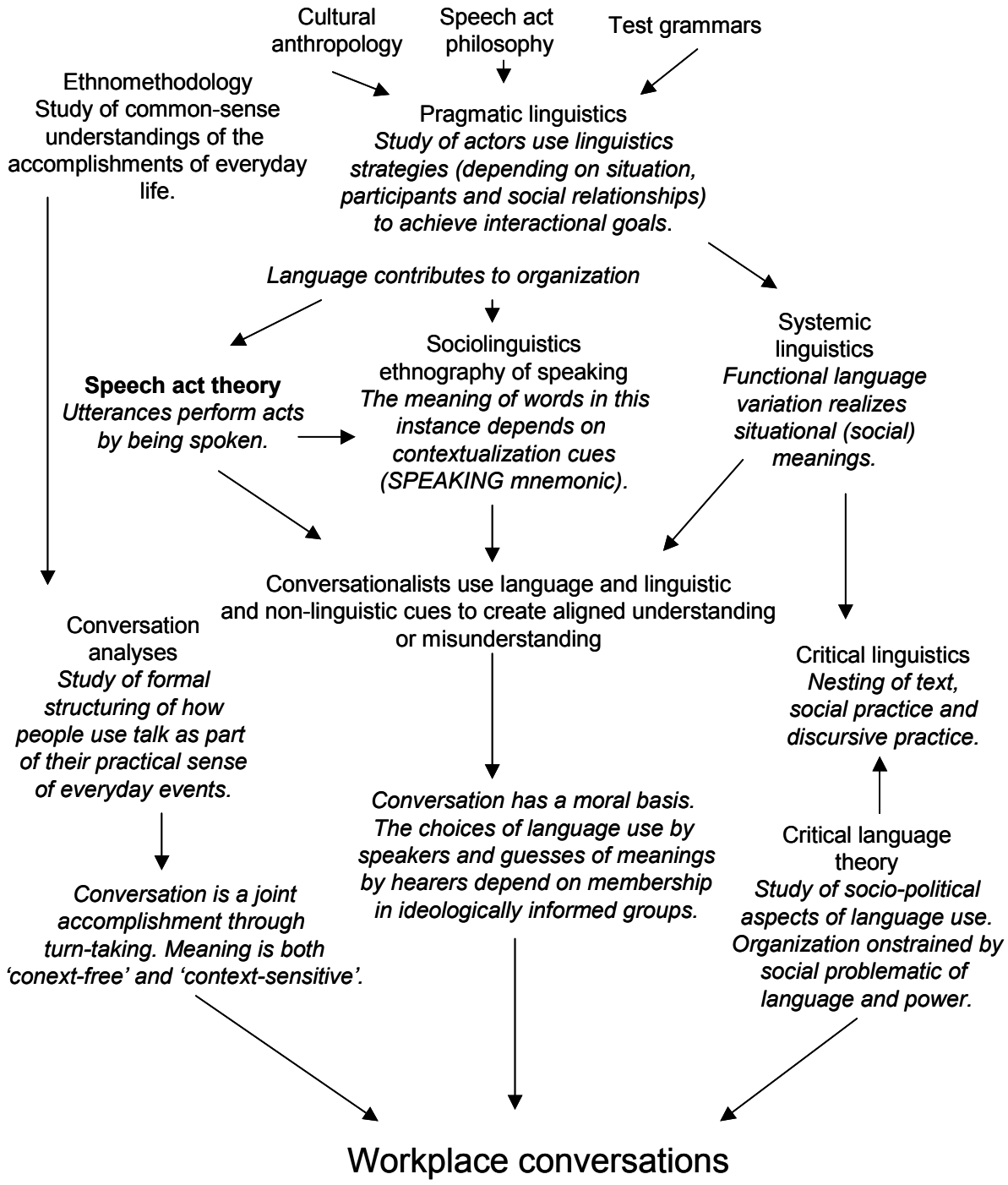
Pufahl:
Dear Mr. Adler,
Now *you* explained your actions, *I* can understand them better (G). *You* have proved to me *you* like to restore the good relationship our companies had in the past (C). So *I* agree in paying the bill of $647 (C),-. *I*'ll come by and pay the bill myself immediately tomorrow morning (C). Further more*, I* think when both of us try to communicate in a more clear and proper way, there'll be no more

misunderstandings or arguements in the future (C). *I* believe *we* can have a good businessrelationship and that's why *I* like to make a new fresh start from now on (C)! Well, *I* see *you* tomorrow (M)!
with kind regards,
Pat Pufahl

Total personal pronouns (in *italics*):
I: 29
We: 10
You: 28

Total speech acts (in parentheses after each sentence):
N (non-cooperative): 14
C (cooperative): 11
G (general): 10
M (meta-communicative): 15

Appendix J – Theoretical contributions to a description of workplace conversations (source: Woodilla, 1998)



Appendix K – RadioTech case: working with a customer on a new technical development

Following the development of a new type of radio frequency (RF) power transistor, executives of RadioTech were faced with a problem of timing the introduction of this new product. The development of the new RF power transistor had been undertaken by RadioTech in response to a request from Ericsson Radio, a manufacturer of radio base stations for mobile telecommunication and an important customer of RadioTech. In February, Ericsson executives were forced to postpone plans for use of the new RF power transistor eight months, from April to December. RadioTech personnel were thus faced with the question of whether they should introduce the RF power transistor immediately to other base station manufacturers or wait until the Ericsson Company was able to make use of the RF power transistor.

Development of the RadioTech RF power transistor

In September of the previous year, executives of Ericsson had asked RadioTech to attempt the development of a new RF power transistor designed especially for use in printed circuit boards[1]. They wanted a RF power transistor that could be seated in the board more easily than RF power transistors currently in use, in order to reduce the costs of PCB assembly. Ericsson executives made only a general request and offered no specific ideas for developing a new-type RF power transistor, nor did they offer to supply funds for its development.

RadioTech personnel agreed to attempt the development of a RF power transistor that would satisfy the needs of Ericsson. Engineers at RadioTech believed that it would be possible to develop a RF power transistor with a cover of ceramic compound which would meet Ericsson specifications. They had considerable experience working with the ceramic material used in the manufacture of various RadioTech products. In late October, samples of a new RF power transistor were supplied to Ericsson for testing and evaluation. Ericsson engineers had attended and taken active part in several meetings held by RadioTech engineers where the shape, size and strength of the new RF power transistor had been discussed.

By mid-December, Ericsson engineers reported that the RF power transistors had performed "exceedingly well" in tests that had been conducted. Ericsson executives then requested that production quantities of the RF power transistor be delivered prior to March 19. If quantities could be delivered on or before that date, Ericsson production executives believed that they

[1] A printed circuit board is composed of a thin, rigid sheet of dielectric (non-conducting) material which has component mounting holes in the proper locations. These holes are connected by copper conductors which are bonded to the dielectric sheet.

could include the RF power transistor in a base station which was scheduled to go into production. The manufacturing and engineering department of RadioTech, however, reported that it would be impossible to meet this request because of the problems of acquiring the machinery and manpower necessary to begin full-scale production of the RF power transistors. Thus, by mutual agreement, the target date was reset for April 30. On this date, Ericsson was planning to begin the production of a second base station design. In early February, however, Ericsson executives reported that technical difficulties in readying the base station for production had been encountered and that it would be impossible to include the new RF power transistor in the set scheduled to go into production on April 30. The earliest date, they said, that the new RF power transistor could be utilised in a Ericsson base station would be December.

Ericsson executives made it clear that they were quite anxious to be the first to use the new-type RF power transistor. They pointed out that since they had come to RadioTech with the request for a better RF power transistor, they had, in fact, given RadioTech the idea that had led to the creation of the new RF power transistor. Thus, they felt justified in asking the management of RadioTech to wait until after Ericsson's December model had made its appearance before they introduced this new component to other manufacturers of radio base stations.

It may be noted that there were approximately 30 large potential users, manufacturing base stations and other communication and broadcasting equipment. Another 40 or more small firms were also considered to be potential customers. RadioTech engineers were currently working with several large manufacturers on the design of printed wire circuit boards for their new base stations. By introducing the new RF power transistor at this time, RadioTech engineers would be able to incorporate the new product in their design work and could take orders for the new RF power transistors.

The product

A RF power transistor is a component that amplifies the radio signal transmitted from a radio base station. The new RF power transistor developed by RadioTech engineers consisted of different layers of silicones, gold wire bonding and a ceramic cover. The RadioTech RF power transistor was designed to replace the conventional RF power transistor offered by competitors. RadioTech pointed out that the new transistor would not affect the performance characteristics of the base station or other radio equipment in which it was used. The principal advantage of the new RF power transistor was that its use enabled various manufacturing savings. Executives indicated that by using the RadioTech RF power transistor, the customer would be able to reduce the non-productive preparation time required by the use of a convention RF power transistor[2]. Furthermore, since the new RF power transistor had

[2] Lead wires of the old transistors frequently became bent and tangled in packing, shipping and storing and required straightening or forming and spaclng before placement in a wire board. Furthermore, once the conventional transistor was soldered in the boards, the excess length of lead wire had to be trimmed off.

dimensional stability, it would now be possible to package these components for magazine feeding and thus enable manufacturers to replace what was now a manual operation with one which would be automatic.

Finally, they pointed out that the RadioTech RF power transistor could be purchased for $ 250 per thousand, compared to $ 370 per thousand for conventional RF power transistors. Usually, twenty-five PCBs with one power transistor each are used in a normal base station. In spite of their own enthusiasm about the RF power transistor, however, RadioTech's management realised that television and radio set manufacturers might be unwilling to design the RF power transistor into their base stations[3] until they had performed tests on the product and had assured themselves of its acceptability. The new RF power transistor had a patent pending. Some executives, however, anticipated a legal snarl in any patent litigation involving of the disc as a whole. The patentable features of the RF power transistors, they believed, were in the techniques of production, and they doubted whether the RF power transistor itself was unique except for its simplicity of construction.

RadioTech Company

RadioTech is a manufacturer of specialty electronic components. Key players in the communications industry rely on RadioTech to provide the latest high-tech products, coupled with considerable expertise in application and design support. RadioTech provides a broad base of communications customers with a wide variety of energy and microelectronics solutions. Products include integrated circuits, fiber optic modules, RF power transistors and DC to DC power modules, as well as a full portfolio of energy solutions, from DC power plants and energy management systems, to innovative cooling solutions for demanding applications. Sales of the company's products were expected to approximate $ 210 million in the current year. Through a program of basic research on materials and active application assistance, RadioTech has succeeded in establishing a good industry reputation. In the area of RF power transistors, RadioTech was estimated to have a marketshare of roughly 50 %. Power transistors constituted approximately 15% of RadioTech's total sales.

Ericsson

Among other things, Ericsson develops, assembles, sells and distributes base stations. All components are bought from external (or internal) suppliers. The cost of producing a base station is about $ 375; 40 % of which relates to material and components, another 40 % to assembly costs and the remaining 20 % involves R&D, logistics, marketing, etc. Profit margins are decreasing in this increasingly competitive market; currently some 5 % for Ericsson. The company is one of the most important manufacturers world-wide of radio base stations. The company has approximately a 15% share of the total radio base station market. Ericsson had long been a good customer of RadioTech and was expected to account for approximately 10% of RadioTech's total sales in the current year. Ericsson bought

approximately 30% of RadioTech's RF power transistor production.

[3] Ericsson engineers believed that only minor printed circuit bord redesign would be required to enable present boards to incorporate the new transistor.

Appendix L – Data Printer case

Information for Robin Adler, Proprietor of Adler Office Machines

You are the owner and operator of an office machine sales and repair service that has been in business for 25 years in a small town. Fred Gates, a young repair .technician, has been working with you for 2-1/2 years since his graduation from high school. He has proven to be reliable and resourceful, and has quickly. learned to do high-quality repair work. One of your oldest and steadiest customers had been the Pufahl Manufacturing Company, presently under second-generation management. Pat Pufahl runs the day-to-day operations as general manager, but still ultimately reports to the patriarch of the family and founder of the business (45 years ago), Otto Pufahl. Otto is' nominally the President but now .lives in Florida. He keeps in touch by phone: Otto has always been a little gruff, but you knew him well and respected and admired him. Beneath the crusty exterior was a warm, sensitive man whom you felt you could always trust. You're not so sure about the current generation of Pufahls. Pat is unpredictable, and seems to have an uneven temper. Business education did not seers to have been much of a maturing experience; Pat seems to look only at short-term costs and doesn't give much attention to the long-term business relationship. A good example of this myopic view was Pat's purchase of a printer for the company's mini-computer. The computer--a good one--was supplied without a printer or other peripheral hardware. However, the company needed a printer- primarily to print out inventory and payroll reports. Your company sells an excellent line of peripheral products that includes a good quality, reasonably-priced (about $6,000) printer. But the overly-educated and insufficiently experienced Pat went to the city and bought a used Datronix printer (probably for more than $7,000) with much more capacity than the company really needed. Worse, anyone who knew anything about peripheral equipment knew that the quality of that brand of equipment was untrustworthy; as evidence, Datronix has since gone out of business. You have to service the printer every time it stops working, which last year resulted in billings of $2,100. You have been quite willing to do the servicing, despite the headacies. After all, Pufahl manufacturing is currently your biggest single customer, and has been a major customer of yours since you started your business. Besides, it would be inconvenient for them to drive 35 miles (each way) to another town every time they needed service. Your last repair job led to an unfortunate dispute with Pat, which you have yet to resolve. Pufahl's printer broke down in the late afternoon of last Wednesday during an end-of-quarter inventory run. You told your repairman, Fred, to drop everything and go over to the Pufahl Company office to see if he could fix it on the spot. Pat's call sounded urgent; that Friday was the end of the fourth quarter and Pat wanted to prepare some figures for "the old man," Otto Pufahl. Fred found that a steel bracket had broken off the printer. He needed to bring it back to the shop to re-weld and replace the delicate printing head that had become damaged apparently as a result of the impact when it dropped. Pat had asked your repairman, Fred, for an estimate of the time and cost of getting the printer back

into service. Fred did a quick inspection of the obviously broken parts and gave Pat a ball-park estimate on a torn sheet of printout paper:

Parts	$250
Labor	$300
TOTAL	$550

Fred said he could probably use Federal Express to get overnight delivery of the replacement printing head, so that the printer should be back in service on Friday afternoon. Fred came back to get the service van, and drove to Pufahl Manufacturing to pick up the printer, which Pat had wheeled to the front lobby. Pat emphasized the urgency of getting the printer back in service as soon as possible, a point that had already been made quite obvious. The work took longer than Fred had thought it would. Before hitting the floor, the printing head had obviously jammed the paper-drive, shearing off a bolt and stretching out the toothed belt that advances the paper. This additional damage did not become evident until the printer had been disassembled. Fred called Pat Pufahl on Thursday afternoon and left a message with Pat's secretary. The message was that the replacement printing head had arrived but he had "run into some snags." With some extra effort, however, it would be fully repaired by the end of the next day (Friday). The work proceeded and Pat Pufahl stopped by on Friday afternoon at 4.45 PM to make sure the printer would be ready for pickup on Monday morning. You had just finished making out the bill:

Parts	$272
15 hrs. Labor	$375
TOTAL	$647

Pat read the bill and immediately became very angry, and in the ensuing tirade talked loudly about a "ripoff," a "fleecing," unethical business practices, and lawsuits. You became angry because these remarks were overheard by two of your staff and a new customer. Furthermore, you felt the tirade was particularly inappropriate since Fred had set aside his other work in order to repair the 'printer immediately and you had billed the job at a discount labor rate, charging only for the hours Fred had actually spent working on the printer. Had you followed standard practice in the office machines repair business, you would have charged for the (higher) standard labor hours established within the industry. You don't do this with customers as important as Pufahl Manufacturing because of the special relationship you have developed over many years. You explained this to Pat, who dismissed it with another insult about fictitious labor charges and unscrupulous business practices. So, in your anger, you re-wrote the bill using the standard rate of 20 hours (versus 16 hours of actual work) that appeared in Datronix repair manual:

Parts	$247
20 hrs. Labor	$500
Federal Express	$27
TOTAL	$774

Pat stormed out, both bills in hand, warning that you would hear more about this. You muttered something to the effect that "that's the gratitude you get for dropping everything and knocking yourself out to finish a job on Friday, when the customer doesn't even really need it

'til Monday."- Pat did not hear this. You figured that Pat would cool down over the weekend and be more reasonable on Monday morning. However, when you arrived at work at 9:30, after stopping at the bank, you were surprised to find that Pat had arrived at 9:00 AM and taken the printer out of the repair shop (the door had not been locked; Fred was momentarily across the street getting coffee; the young sales clerk, new on the job, was confused and didn't try to stop Pat). This time you became very angry. You called your attorney and told her you wanted to file criminal charges against Pat Pufahl. From the legal perspective, you had a mechanic's lien on the printer until the bill was paid, thus Pat's taking possession of it amounted to conversion of your property. Your attorney sympathized with your anger, but she advised against such hasty action and prevailed upon you to postpone pressing the charges. She offered to call Pat Pufahl and explain the legal ramifications of Pat's taking unauthorized possession of the printer. At this point, you went back into the repair area and had a talk with Fred. Your objective was to try to reconstruct what had happened. He told you that his first estimate was based on the eight hours of labor it usually takes to disassemble, replace, realign, and properly test the damaged printing head. The other two hours were an estimate of the labor involved in re-welding the broken bracket and then touching up the burned paint so that the repair job would not look unsightly. Fred said he had made some notes on a piece of scrap paper as he figured out a ballpark estimate, but expected that you would submit a formal estimate when the printer was disassembled. He did not expect Pat Pufahl to keep his working figures and consider them an official estimate. Certainly neither you nor Fred imagined that after all these years, Pat wouldn't realize that Fred's original "guesstimate" would have to be revised when the full extent of the damage became known in the process of fixing the printer. Fred actually spent a total of 16 hours working on the printer, as compared to his initial estimate of 12 hours. The additional time was needed because as the bracket broke and the head dropped, the paper advancer jammed, stretching out-the toothed belt and shearing off a bolt on the drive pulley. It was difficult to remove the broken part of the bolt, and after it was removed, the threads were damaged so the hole had to be retapped to accept a larger replacement bolt. It is possible that Fred's limited experience in removing broken bolts led to the need to retap the hole, but no more than an hour's work could have thus been wasted. In making out the bill, you shifted one hour of labor ($25) to the parts total to make the bill look more palatable. You had not charged Pufahl Manufacturing for the air-freighting of parts that was necessary to provide next-day repair service, nor for the (four hours) overtime premium you had to pay Fred so that he could finish another customer's job, which he had set aside to work on Pufahl's printer. (You were willing to absorb these costs from your margin of overhead and profit; you pay Fred about half the billed labor rate). Thus, in effect, you were giving Pat Pufahl a discounted labor rate beyond what you normally give to your special customers. The second bill, written when you were angry at Pat's public insults, included all our costs except the overtime premium of $50 to which you are properly entitled, and the long-distance telephone calls to obtain a replacement printing head. (You have been considering sending a third bill that includes these costs.) The second bill also charged Pufahl for the full labor costs, as specified in the 5 year-old Datronix repair guide. You

were thereby charging at exactly the same rate you would charge regular customers. Your total chargeable costs were as follows:

Labor	
20 hours (as specified in the Datronix repair manual) @ $25/hr.	$500
Overtime premium (4 hours @ $12.50)	$50
Total labor	$550
Parts, etc.	
Cost of replacement printing head, toothed belt, helicoil kit, bolt, paint, and new ribbon	$247
Federal Express Charges	$27
Long distance telephone charges	$3.70
Total parts	$278
Grand total	**$828**

The standard industry billing practice of charging a flat rate for labor is similar to the procedure usually followed in charging for auto repairs. If your car's generator fails, the garage will give you an estimate of the repair bill-total by including the retail cost of parts (the garage marks up its costs 10-30%, depending on the type of parts) Plus a predetermined number of labor hours (which are usually slightly more than the job normally takes). If there are complications or additional problems, such as burned-out wiring or a blown voltage-regulator, the mechanic is supposed to call the customer with a revised estimate. The customer can then authorize the mechanic to proceed, or can make other arrangements. If the mechanic does not secure the customer's approval to proceed despite the additional charges, the strict legal liability is limited to the original estimate. In the case of the data printer, Fred had called Pat and left a message that more work would be required than was at first envisioned. Pat had the chance to call back and hold up further work, but didn't bother to take this step. So you proceeded, using the same, favorable, cost-plus charging arrangements that you have used for 25 years.

You would like to continue to do business with Pufahl Manufacturing since the company is one of your best customers. However, you are not willing to do this at any cost. You draw the line at public insults and theft of property that is legally yours until it is paid for. You never had to put up with this sort of behavior when Otto Pufahl was running the business, and you have no intention of letting young Pat treat you -:his way. Your attorney called Pat and arranged a meeting for today, one week after the dispute. You and Pat will meet on neutral territory--in the Coffee Shop of the-local Holiday Inn--to try to work things out. Yol\ haven't pressed charges yet, neither have you been paid.

Information for Pat Pufahl, General Manager of Pufahl Manufacturing Co.

You are Executive Vice President and General Manager of a small manufacturing company that has been in business for forty-five years in a small town. The business was started by your father, Otto Pufahl. He has always been forceful and energetic, and is well-respected in town despite his being a little gruff at times. Three years ago, he moved to Florida after a heart attack. You had just completed your business education, and were familiar enough with the family business that you had no trouble stepping in to run it. "The old man," as you affectionately call him, didn't let go of the business completely, however. He still controls ownership and has retained the title of President. He receives copies of all the financial statements and keeps in touch by phone, but essentially leaves you alone to run the business so long as budgets, sales, and profit margins are satisfactory. You have excellent relationships with town officials, customers, and all of your -suppliers except one: Adler Office Machines. A problem arose one week ago (last Friday) with Robin Adler, the proprietor, which you have yet to resolve. In a nutshell, you were given an estimate for a repair job, then charged much more; when you questioned the bill, Robin got angry and rewrote the bill, charging you even more. Your company has been doing business with Adler Office Machines since Robin started the operation 25 years ago, and you are probably Adler's biggest customer. You are not totally dependent on Adler, but it-would be extremely inconvenient to go to the next town to get all your off ce machine service and supplies.

The situation arose when the Datronix printer connected to your mini-computer broke down during an inventory run late last Wednesday afternoon. The fourth quarter ended on that Friday afternoon and you wanted to close out some figures. You were under pressure from the old man because you and he have disagreed over the proper size of inventory safety stocks. You wanted to be able to prove to him that with good planning, inventory costs can be held down. You told him you would prove it to him by the weekend. You knew you would have to endure considerable ridicule (you can feel it in his manner even when the old man doesn't maKe any explicit comments) if you didn't come up with the numbers. You especially wanted to avoid telling him that the reason you didn't have the numbers was a computer-related prot)lem. He is "of the old school" and has steadfastly opposed, your increasing use of computers in the operation of the company. You went against his advice by bringing in a computer system that had more capacity than you needed in the shortrun, but which would allow for technological growth during the next several years.

Robin Adler has also been a subtle opponent rather than a supporter of your computerization of the company. Robin tried very hard to sell you a small-capacity printer for your mini-computer, and has never accepted nor tried to understand your need to build capacity for what the computer system is going to do in the future rather than what it needs to do right now. Robin supplied other. peripheral hardware, but couldn't supply an adequate printer from the line Adler carried. So you bought a used Datronix unit from a broker in the city for $7,500.

The unit hasn't been very reliable (service last year cost you $2,100) and Datronix has since gone out of business, but when the printer works, it is perfect for your needs. Robin has been making unwelcome remarks about your purchase ever since you bought it, and you're sick of this snide, "sour grapes" attitude. It's certainly no way to treat a good customer.

This history of opposition and unhelpfulness was the broad context of your dispute with Robin last Friday. The printer had broken down during an important run, and Robin sent a young repairman, Fred Gates, over to fix it. Fred is a well-intentioned and conscientious worker, but seems a little inexperienced. He came over immediately. You told him the printer needed to be repaired right away and that you had to have an estimate of the cost.. You had already gone way over your budget on the costs of servicing your computer system, and the old man has been very critical about it: you needed one more repair bill during the fiscal year like a hole in the head. But shifting the cost to the next year would be worse--you could just hear the old man: "That's nice; the new year has just begun and we're already up to our ears i n repair bills on that Buck Rogers computer system of yours." You didn’t need that aggravation”. Fred inspected the damage and made out an estimate for you. He didn't bring over the Adler standard estimate forms so he wrote it on a piece of scrap computer paper. It wasn't too professional, but it did the job:

Parts	$250
12 hrs. Labor	$300
TOTAL	$550

Fred pointed out what was wrong with the printer. A bracket holding the printing head had broken off, and the delicate printing head had become damaged when it fell. He said he would have to take it away to do the heliarc welding but believed he could get overnight Federal Express delivery of a replacement printing head. He went back to get the Adler van, and meanwhile you wheeled the printer to the front lobby to speed things up as much as possible. Fred called the next day (last Thursday) while you were in a meeting and left a message that the job had been difficult but that it would be ready by 5 PM Friday. You really wanted it earlier so you could finish printing the inventory data before the weekend. You resigned yourself to finishing the printing Monday morning, but stopped in at Adler Office Machines late Friday afternoon to see for yourself that the printer was certain to be ready for pickup first thing Monday morning. You arrived at the shop at 4:45. The printer was chattering away, and Fred was aligning the printing head. You were relieved-to note that the unit was obviously working again. Your mood changed quickly, however, when Robin handed you the invoice. It came out $97 above the $550 estimate:

Parts	$272
15 hrs. Labor	$375
TOTAL	$647

You immediately visualized the expression on the old man's face: that silent ridicule you had come to know so well over the years. You asked why the bill was so much higher than the estimate, since Robin stood there with a bland expression volunteering no explanation.

Incredibly, Robin denied that the job had even been estimated, saying that Fred had only made notes to himself. Robin also talked about other parts and work being needed, but didn't say why Fred couldn't have done a proper diagnosis before taking the machine away. What bothered you most, however, was Robin's derisive manner, treating you as if you were a green kid. You've experienced this derision from Robin before, and it seems to result from resentment that you didn't buy your printer from Adler Office Machines. In effect, Robin is trying to punish you by being difficult every time the printer needs servicing. Adler is the only repair shop in town, but it is not the_ only repair facility available if you are willing to have one of your workers drive 35 miles (each way) to another repair shop. You didn't have time to do this last Wednesday, so in a sense Robin had you over a barrel, and took advantage of that situation to squeeze more money out of your company. As a result of the mocking tone of his voice and being overcharged for the repair, you lost your temper. You told Robin that it was unethical to exploit the urgent needs of customers, that you wouldn't tolerate a rip-off from anyone, and that you planned legal action, if necessary, to force Robin to honor the contractual arrangements that had been made when you accepted Adler's bid to perform the repair for $550. Robin had become equally angry by this time, and since you saw no point in continuing the discussion then and there, you started to leave. The enraged Robin stopped you, saying that if you wanted the bill adjusted, that could be done immediately. The new bill was as follows:

Parts	$247
20 hrs. Labor	$500
TOTAL	$774

Robin showed you the 20 hours labor allowance for head replacement that appeared in a 5 year-old Datronix service manual, and made a point of telling you that the job actually took Fred only 16 hours. This behavior doubly surprised you since a customer had been in the showroom during the interchange: Robin was evidently so angry as to be unconcerned with the reputation of Adler Office Machines in'the business community. You took both bills and, shaking your head in angry disbelief, left the premises. You figured it would be more productive to let Robin cool down over the weekend. You took the Pufahl van over to Adler's when the shop opened at 9AM on Monday morning. Robin wasn't there, which was somewhat-of a relief to you. Fred wasn't there either, but the printer was ready to be loaded. You easily pushed it into the back of the van, and since neither Fred nor Robin had returned by the time you were ready to leave and the sales clerk was looking confused as usual, you drove away. You got some satisfaction from thinking of the expression on Robin's face upon discovering the printer gone. You received a telephone call from Robin's attorney about 1 PM on Monday. The attorney explained her interpretation of your legal position, adding that Robin was even more angry and wanted to press criminal charges. She said she hoped that the matter could be settled amicably and would call you later in the week after the two of you had."had 'a chance to put things in perspective." You understood the issues well enough that you didn't feel the need to get your attorney involved at this stage. You knew that Robin's second bill was not actually inconsistent with industry practice. The standard industry billing practice of charging a flat rate for labor is similar to the procedure usually followed in

charging for auto repairs. If your car's generator fails, the garage will give you an estimate of the repair. total by including the retail costs of parts (the garage marks up its costs 10-30X, depending on the type of parts) plus a predetermined number of labor hours (which are usually slightly more than the job normally takes).

If there are complications or additional problems, such as burned out wiring or a blown voltage-regulator, the mechanic is supposed to call the customer with a revised estimate. The customer can then authorize the mechanic to proceed, or can make other arrangements. If the mechanic does not secure:-the customer's approval to proceed given the additional charges, the strict legal liability is limited to the original estimate. However, while the flat rate charge on the second bill would not have been inappropriate had the contractual relationship been based on flat rate from the start, the flat rate is irrelevant in that the deal was based on the written estimate by Fred--a representative of Adler Office Machines--on the basis of actual labor hours. You don't need your attorney's advice to realize that it was inappropriate to take possession of the printer without paying foF it. Adler had a mechanic's lien on the printer so long as the bill was unpaid, thus your taking it could be construed as conversion of "Adler's property." It's hard to believe any such charges would stick, in that neither Robin nor Fred was around when you stopped by to pick up the printer at the arranged time. Even if the charges were pressed, you would probably not face serious consequences. However, getting dragged into court could result in some embarrassing publicity and it would certainly consume an enormous amount of your time and energy (the same is true of Robin Adler). Furthermore, there's no telling how the old man would react. On the other hand, you don't intend to bear the brunt of Robin's temper fits and thoroughly unprofessional behavior, especially when these occur in public. You are one of Adler's most important customers and deserve to be treated as such. Robin had better look to the future--and back down and honor the transaction originally agreed to. Robin's lawyer called you yesterday to set up a meeting between you and Robin to try to work things out. The meeting will be held today, one week after the dispute occurred; it will be held in the Coffee Shop of the local Holiday Inn--on neutral territory.