

The Role of Communication Support for Electronic Negotiations

Mareike Schoop^(✉)

Information Systems I, University of Hohenheim, 70593 Stuttgart, Germany
m.schoop@uni-hohenheim.de

Abstract. Each (electronic) negotiation consists of communication and decision making. We will discuss relevant theories for a strong communication support, in particular for electronic negotiations. To this end, we will look at the research area of communication modelling that has provided the Language-Action Perspective (LAP) with its underlying theories. We will show how LAP can be operationalised for e-negotiations using the negotiation support system Negoisst as the one example having implemented these concepts. In general, we will argue for the vital role of communication support in e-negotiation processes.

Keywords: Negotiation support systems · Communication support · Theory of communicative action · Speech act theory · Negoisst

1 Introduction

Electronic negotiations have been defined as having additional potential compared to traditional face-to-face negotiations due to the usage of information and communication technology (cf. [1]). The potential can be exploited for various types of support such as communication support, decision support, document management, and conflict management [2, 3].

Whilst decision support has been the core of most negotiation support systems and indeed was the historic basis for such systems [4], communication support has long been neglected [5].

The few dedicated approaches to communication support for e-negotiations range from structuring different types of communication in a negotiation [6] to complete support on all semiotic levels [7, 8].

Outside of negotiation research, the research area of communication modelling deals with supporting organisational communication. The so-called Language-Action Perspective (LAP) argues that language does not only have a descriptive but also a performative role, hence its name indicating that language can be action [9]. In particular, the Speech Act Theory of John Searle [10] has served as the theoretical foundation for LAP approaches. Later approaches have also used the Theory of Communicative Action by Jürgen Habermas [11] as their underlying theory.

We will revisit the key elements of both theories and apply them to electronic negotiations in the remainder of the paper concluding that dedicated communication support is a key element of success in electronic negotiations.

2 Theoretical Foundations of Communication Support

There are many communication theories that can be relevant to supporting complex interactive communication processes. The two theories that we will discuss for e-negotiations stem from philosophical-political linguistics. The goal of these theories is to answer the question as to what constitutes understanding. In general, the goal of each communicative act is to create mutual understanding. This overall goal is relevant for negotiations as well. However, negotiations also consider individual goals represented by the desired negotiation agreement.

2.1 Speech Act Theory

In his Speech Act Theory [10], John Searle argues that understanding is achieved if and only if the communication partners understand what the utterance is about and understand the way the utterance is meant. This leads to a distinction between the *propositional content* (i.e. the content of the utterance) and the *illocutionary point* (i.e. the mode of communication). Taken together, they must be understood in order to achieve understanding for each utterance which is called a speech act.

The illocutionary point serves as the basis for a classification of speech acts. The *assertive illocutionary point* (present e.g. in statements or reports) represents facts of the real world. The *commissive illocutionary point* commits the author to the action described in the propositional content, e.g. used in promises. Using the *directive illocutionary point* (e.g. in requests or questions), the author tries to get the recipient to perform the action represented in the propositional content. The *expressive illocutionary point* represents the author's psychological states or feelings as in, for example, apologies, anger, or praise. Finally, the *declarative illocutionary point* is the archetype of a performative speech act as its mere utterance leads to factual changes. Prominent examples include the declaration of marriage by a registrar or a priest, the proclamation of guilt of an accused, or the final acceptance of an offer in a negotiation process. All of these latter examples clearly show that declaratives (short for speech acts with a declarative illocutionary point) are also uttered against an existing normative background regulating the author's professional role and the context of the exchange. For example, only a judge can pronounce the guilt of a person accused of a crime.

2.2 Theory of Communicative Action

Jürgen Habermas has published his Theory of Communicative Action more than a decade later than Speech Act Theory [11]. Whilst he agrees on the distinction between the propositional content and the illocutionary point, he does not agree that understanding both leads to mutual understanding between the communication partners. Rather he argues that even if content and mode are understood, understanding might not be achieved since the recipient might not agree with certain claims by the author. Habermas argues that the recipient must say "yes" to the so-called validity claims that the author implicitly or explicitly raises with each utterance.

The validity claim of comprehensibility means that the recipient must understand the speaker and no terminological or language problems exist. Furthermore, the author's intention as represented by the illocutionary point must also be understood. If truth is fulfilled, then the recipient agrees with the author in the *truth* of the statement and can thus share the speaker's knowledge or experiences. If the claim of truthfulness is fulfilled, then the speaker believes in the sincerity of the expressed feelings or psychological attitudes. The fourth claim of appropriateness is closely related to underlying norms and values. If the recipient agrees on this claim, (s)he acknowledges that the author has the relevant role to make such a statement. If any of the claims is not fulfilled, the author must initiate reparative actions to overcome these disagreements as they represent communication problems which prevent mutual understanding.

Habermas' theory consists of additional elements which we will not discuss for the present context.

3 Speech Acts and Communicative Action in Electronic Negotiations

Since negotiation consists of communication and the main goal of the current paper is to show how dedicated communication support for electronic negotiations can work and which positive effects it has, we will now apply the theoretical constructs to the domain of electronic negotiations. We focus on electronic negotiations since the threat of misunderstandings and miscommunication is much more severe without the additional help of gestures, mimics, tone of voice, signs etc. We will illustrate the implementation of the theory using the negotiation support system Negoisst which is one of the few systems offering complex communication support and the only system using such support on all semiotic levels (i.e. syntactic, semantic, and pragmatic level) [2, 7, 8].

To enable complete understanding, the distinction into propositional content (represented by the message content) and illocutionary point (represented by the message type) is vital.

The illocutionary point is relevant for both the syntactic and the pragmatic level of support. The intention of the author is represented by the message type which shows the context of the message and is equivalent to the illocutionary point. The recipient can directly interpret the mode and thus the pragmatic aspect of the message is conveyed. This method is called *pragmatic enrichment* of the message in Negoisst. The illocutionary point is also the basis for the negotiation protocol which regulates message exchange, communication roles, order of messages etc. This *syntactic enrichment* is implemented in Negoisst.

The propositional content of an electronic negotiation utterance is equivalent to the message content, i.e. what the negotiation partners write in their messages. In Negoisst, messages are written in natural language to enable the richest form of expression. In order to avoid the disadvantage of natural language which is its ambiguity and missing structure, the rich language content is linked to the structured negotiation agenda representing the issues under negotiation. This means that particular words are tagged with a clearly defined semantics to avoid misunderstandings about the content of an

offer or request. Thus, *semantic enrichment* is performed in Negoisst. This structure that is added to the natural language message also enables automated document extraction, i.e. each message leads to a contract version that is automatically created from the messages preventing later editing and enabling transparency and traceability.

The validity claims as introduced by Habermas are also operationalised in Negoisst. Comprehensibility is represented by the fact that a message can be of message type “question” or “clarification”; both of which enable comprehensibility problems to be addressed. Discussions about facts (i.e. validity claim truth) or about sincerity of the negotiation partner (i.e. validity claim truthfulness) are enabled likewise. Finally, the validity claim of appropriateness is dealt with by defining clear roles for all participants in a negotiation process and by choosing the right negotiation protocol that only allows appropriate message exchange. If the content of a message is deemed to be inappropriate, the discussion function can help to solve this issue.

4 Discussion

This paper argues for a strong communication support that is as strong as the decision support present in most negotiation support systems. Whilst decision support is quantitative and thus highly structured, communication support deals with the rich content of natural language that can be extended ad infinitum. Therefore, a strong theoretical basis is even more vital. The role of communication support for electronic negotiations is the prime one. If communication does not go smoothly, it will affect the decision making, ultimately leading to sub-optimal agreements [12].

Nevertheless, communication support, decision support, and document management are all interwoven and need to be supported as a whole [2].

The negotiation support system Negoisst has been in use for trainings and international negotiation experiments for the past 15 years. It provides a holistic support as described above and has provided a rich database of over a thousand negotiations. This data is the basis for our research into communication quality, decision support for incomplete preferences, document-centred negotiations, conflict management, and blended learning approaches to e-negotiations to name but a few.

An electronic negotiation that fulfils the relevant validity claims, that creates understanding on the content as well as on the mode and that supports the right decisions has the ultimate potential to lead to a successful agreement.

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