

A Discourse-Based Meta-Communication Model for Collective Sense-making

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Abstract

This paper describes a meta-communication model and illustrates its applicability. The model integrates previous discursive approaches to reflective practice and extends them with additional relevant concepts. The concepts of the model are mainly based on Habermas' discourse theory. By means of case examples, this paper also illustrates how the model can be used for collective sense-making, i.e. the articulation and contesting the meaning and relevance of ideas. This paper argues that the model provides a way for systematically and meaningfully structuring and organizing meta-level conversations. Thus, it is applicable in several domains.

Keywords: Discourse Theory; Meta-Communication, Reflective Practice, Intercultural Communication; Information Systems Development; Discourse Ethics

1 Introduction

There is a widely accepted view that information systems entail a multitude of assumptions and claims, and that they serve some interest at the expense of others. Therefore, discussions among all stakeholders for reaching mutual understanding about the desired features of systems are viewed as essential. For example, by regarding an information system in principle as a complex communication tool, several authors in the Language-Action Perspective used the notion of meta-communication to refer to communications about system's communication concepts (Goldkuhl & Lyytinen, 1982; Winograd & Flores, 1986; Hoppenbrouwers & Weigand, 2000; Yetim, 2001). They emphasized that many areas of information systems from specification to design, implementation and use involve meta-communications. Others, without using the notion of meta-communication, emphasized the importance of discourses and reflections (e.g., Klein and Hirschheim, 1993/2001; Arias et al. 2000; Ulrich, 2001), whereby Ulrich's (2001) conceptual framework theoretically provides wider discursive concepts for reflective practice. Still others suggested further extensions of discursive approaches in order to deal with global challenges (Yetim, 2002 & 2004).

The purpose of this paper is to take the conceptual development of the research on reflective practice in information systems one step further. Previous discursive approaches have made valuable contributions by the application of Habermas' ideas. However, they mainly used concepts from Habermas' (1984) Theory of Communicative Action and have not fully integrated the further developments of Habermas' discourse theory, including his discourse ethical deliberations (Habermas, 1993 & 1996). This paper describes a meta-communication model which integrates previous approaches and extends them with additional relevant concepts from discourse ethics and information systems literature. It thus provides a wider spectrum for reflective practice. The model can be used for collective sense-making, i.e. the articulation and possible contesting the meaning and significance of ideas. It allows

systematic and meaningful structuring and organizing of meta-level conversations, in order to enable effective meta-communication processes.

This paper is organized as follows: Section 2 briefly introduces what we mean by discourse-based meta-communication. Section 3 describes the scaffold of a meta-communication model for reflective practice. Section 4 illustrates its usage with examples. Additionally, section 5 presents further reflections on the model. Finally, section 6 provides some conclusions.

2 From Communication to Discourse-Based Meta-Communication

Habermas (1984) distinguishes between communication action and discourse. He argues that, when communicating, actors raise validity claims and that communication breaks down when any validity claim becomes problematic. This leads to a reflective mode of communication, i.e. to a discourse about the controversial validity claim. Depending on the validity claims challenged, the validity basis of communication can be made thematic at the discourse level in different types of discourses, in which participants reflects on contested validity claims and attempt to vindicate or criticize them through arguments.

Actions can be communicative or non-communicative. Accordingly, reflections can refer to communicative as well as non-communicative actions. Reflections can take place in an individual's mind, but also be dialogical. The term 'meta-communication' used here implies dialogical reflections among actors about communications.

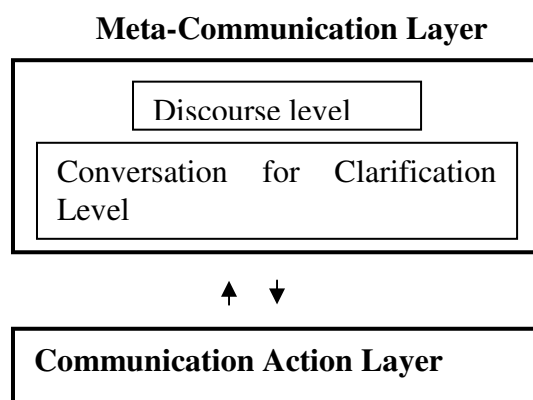


Figure 1: Two levels within the meta-communication layer

In Habermas' discourse theory, the discourse level is entered to reflect on the communication action level. In our case, the meta-communication level (i.e. the second level) is entered to communicate about the communication action level (i.e. the first level). Communications at the meta-level themselves can raise validity claims, which can then become controversial and lead to discourses (see also Hoppenbrouwers and Weigand, 2000). Accordingly, in the general architecture of the meta-communication layer, two levels are distinguished (Figure 1): the *conversation for clarification level* for communicating about the communication action level, and the *discourse level* for argumentative examination of controversial claims. Thus, in the model, discourses are viewed as part of the meta-communication layer.¹

¹ It should be noted that Hoppenbrouwers and Weigand (2000) paid explicit attention to meta-communication and distinguished three layers of communication (based on the work of Van Reijswoud (1996): (1) the success layer where the communication takes place, (2) the discussion layer for the clarification of communication

This differentiation allows us to place various types of discourses proposed by Habermas into the discourse level. Discourses provide a structure and orientation for disputing controversial validity claims raised at the lower level(s). However, they do not structure the conversation for clarification level. Hence, the questions arise: Can the conversation for clarification level also be structured – like the discourse level - to ensure that conversations take place systematically? In the case that conversations deal with the communication and action aspects of information systems, then what are the basic issues that need clarification and explicit attention at the meta-level?

3 The Concepts of the Meta-Communication Model

Figure 2 presents the concepts that we place in the conversation for clarification level as well as at the discourse level. In the following, we will briefly explain them and their relationships.

At the **conversation for clarification level**, we use the extended version of the *philosophical staircase* for reflective practice suggested by Ulrich (2001). Using the staircase metaphor, Ulrich provided an arrangement of several basic issues and validity claims involved in information systems definition, design, and development. They are originally called semiotic steps (syntactic, semantic, and pragmatic clarity), epistemological steps (expressive, empirical, and normative validity) and practical-philosophical steps (instrumental, strategic, and communicative rationality). In Yetim (2002), the staircase has been reviewed and two additional steps added, i.e. the physical clarity and aesthetic rationality. These steps are relevant especially in designing international user interfaces (Smith & Yetim, 2004). A detailed description of the steps of the staircase will be provided later on. The idea is that the staircase organizes basic issues and can thus support researchers and practitioners in the process of identifying and scrutinizing diverse issues they face in any information systems development project. It provides a way of sorting and structuring conversations at the conversation for clarification level. At each step of the staircase conversations for clarification can take place and the discourse level is entered when controversies arise, which require argumentative examination.

The **discourse level** contains several types of discourses and reflective media proposed by Habermas (1984 & 1993 & 1996). The types of discourses are: *Explicative discourse* where the comprehensibility (or well-formedness) of symbolic expressions is thematized as a controversial claim; *theoretical discourse* for disputing truth claims of expressions and the efficacy of actions; and *practical discourse*, which is further differentiated in Habermas later works: Pragmatic, ethical, and moral discourses (Habermas, 1993) as well as legal discourse (Habermas, 1996). *Pragmatic discourse* is concerned with the justification of technical and strategic recommendations, i.e. with the purposiveness of choices. *Ethical discourse* refers to individuals or communities with differing value systems, and is concerned with the justification of regulations from a cultural perspective, i.e. from the perspective of what is ‘good’ for them. However, duties of justice, i.e. whether the corresponding practice is *equally good for all*, can be rationally justified in *moral discourse*. In this discourse the ethnocentric

breakdowns, and (3) the discourse layer for the clarification of general norms (see Yetim 2001 for a discussion of some differences).

Meta-Communication Layer

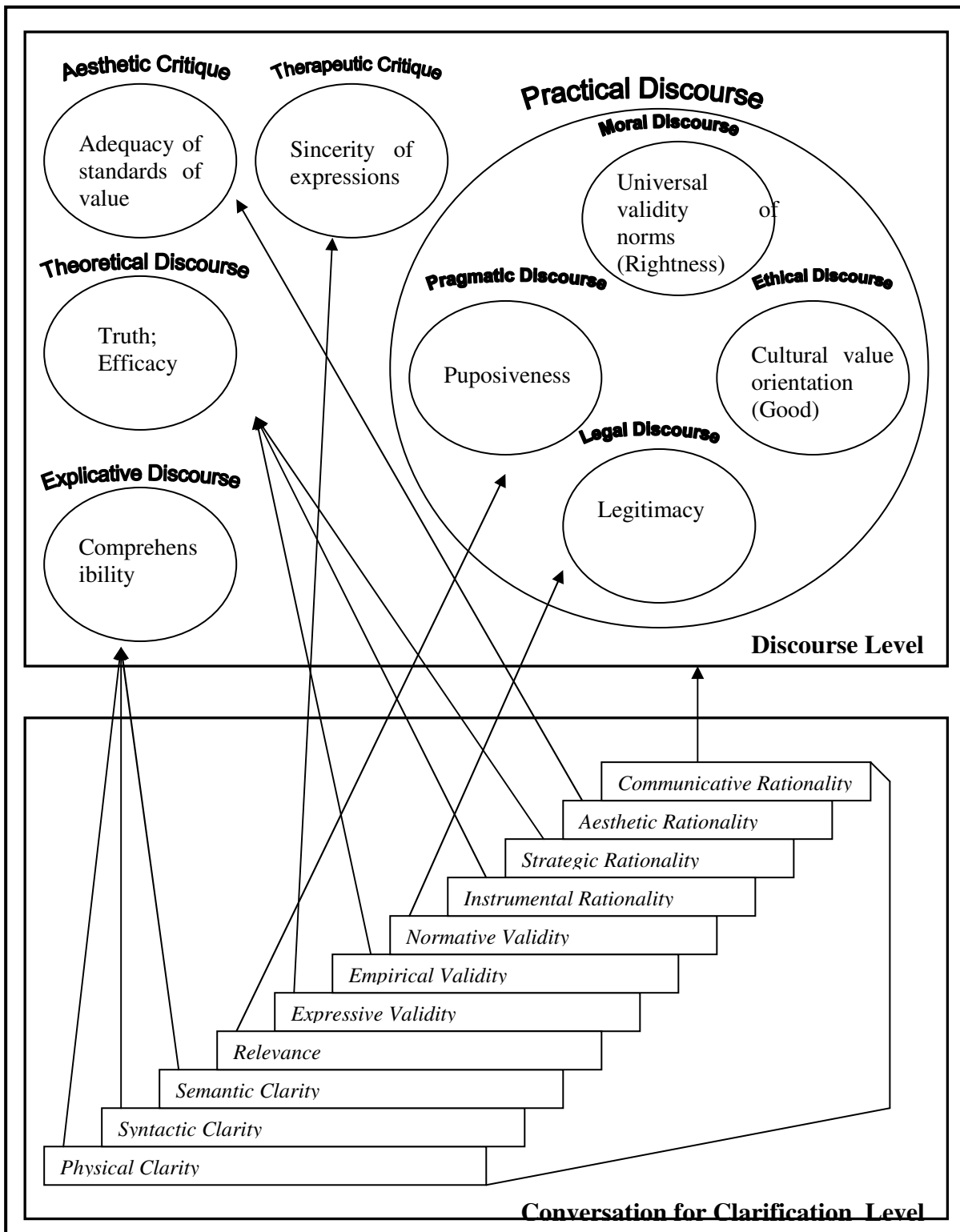


Figure 2: Concepts of the meta-communication model

perspective of a particular group expands into the perspective of an ‘unlimited communication community’. *Legal discourse* deals with grounding of legitimacy of legal norms of a community. In addition to these discourses, Habermas (1984) introduced two further reflective media for problematic expressive and evaluative expressions. These are *therapeutic critique*, which is related to the validity claim of truthfulness or sincerity of expressions, and *aesthetic criticism*, which is related to the adequacy of value standards as a controversial claim.²

Let us briefly describe the **steps of the staircase and their relations to the discourses** in more detail. The steps of the staircase themselves are concepts borrowed from semiotics, e.g., Stamper (1996) and Habermas’ (1984) concepts of validity and rationality.

1. *Physical clarity* is strongly related to the media. It deals with the clarification of the perceptibility or visibility of signs (e.g., “Can you see the new pictures on my homepage?”).
2. *Syntactic clarity* refers to structures and rules for composing complex signs. Different rules and syntactic conventions may cause breakdowns or misinterpretations, which require the clarification of syntactically correct formulations of signs (e.g., “Should we use the ‘day/month/year’ or the ‘month/day/year’ format?”).
3. *Semantic clarity* deals with the clarification of the meanings of signs, i.e. of a word or a complex sign (e.g., “What do you mean by ‘meeting time: 8 o’clock’? 8am or 8pm?”).

When controversies arise at any of these three steps, actors can enter *explicative discourse*, to argumentatively examine the comprehensibility, well-formedness or rule-correctness of symbolic expressions.

4. *Relevance* (an aspect of pragmatics) deals with the clarification of whether a sign (or the content) of a design is relevant (e.g., “What fields do we need in a résumé template?”). Controversies in the relevance of the content have to take place in *pragmatic discourses*, in which the relevance of choices with respect to their purposiveness is justified.
5. *Expressive validity*, i.e., whether it reflects sincere pragmatic intentions (e.g., “Do we really mean that?”). If the expressive validity of an expression becomes controversial, the reflective medium *therapeutic critique* can be entered for challenging and argumentatively defending.
6. *Empirical validity*, i.e., whether it refers to the true (commonly believed) state of affairs (e.g., “Does this message agree with the fact?”). The *theoretical discourse* serves as the related forum for disputing and grounding contested truth claims.
7. *Normative validity* (or appropriateness), i.e., whether it is communicated in accordance with accepted social norms (e.g., “Is it appropriate to say that?”). In his earlier work, Habermas regarded practical discourses as the place for testing “both the rightness of a given action in relation to a given norm, and, at the next level, the rightness of such a norm itself. This knowledge is handed down in the form of legal and moral representations” (Habermas 1984, p.334). Following his later differentiation, we regard the legal discourse as the place where the rightness of an action/expression in relation to a given norm or rule is examined, whereas the rightness of a norm itself remains a matter of moral discourses.

² The concepts of discourse theory leave room for a number of philosophical challenges and further issues, which cannot be addressed in this work entirely. Readers may consult Honneth & Joas (1991) and White (1995).

8. *Instrumental rationality* refers to means-end rationality. That is, it deals with the efficient use of means, the choice of the most effective means or the effective planning of the application of means for a given purpose (e.g., “Do we need to design so many pages to communicate this content?”). Social aspects are not considered here.
9. *Strategic rationality* is a purposive but also a social concept of rationality. That is, the behavior of other rational actors is taken into account. It involves egocentric calculation of success, deception, and power. Its validity is determined by the effectiveness in influencing others for achieving a given purpose. A design can be assessed according to its efficacy in influencing social actors to do what is desired (e.g., “Should we disable the page numbers in order not to put readers off?”).

When the empirical basis or effectiveness of an instrumental or strategic rationality becomes controversial, actors can enter the *theoretical discourse*.

10. *Aesthetic rationality* of a design can be judged according to its aesthetic beauty, i.e., whether a design is in accord with or deviates from culturally established standards of aesthetic value (e.g., “isn’t it too white?”). This type of rationality is added to three ideal types of rationality proposed by Habermas (1984). The place for reflection on aesthetic experiences is *aesthetic critique*.

11. *Communicative rationality* refers to the communicative achievement of mutual understanding among actors. This step allows actors to reflect retrospectively on what they have achieved so far and to seek mutual agreement with respect to the content and normative basis of an information system (e.g., “Does everyone agree with what we have achieved so far? Any further comments?”). Finally, when a communicatively achieved consensus with respect to one or several aspects of a communication action is challenged, actors can enter corresponding discourses.

Note that the discourses are interrelated and that there are not only the explicit paths from the staircase to discourses as shown in Figure 2, but also multiple (implicit) paths among discourses themselves. Actors can go back to earlier steps in the staircase in need of further clarifications or switch between discourses when in a discourse issues arise that require argumentative examinations in other discourses (e.g., a moral issue in pragmatic discourse requires entering moral discourses). Finally, discourse is not just talking, but rather argumentatively examining validity claims. In the network of different types of discourses, different types of reasons can be brought to justify the corresponding claims.

4 Illustrative Examples

Let us first illustrate by means of a simple case example how the staircase can be used, and then discuss more controversial issues using two additional examples.

(a) Example 1: Collaborative construction of a syllabus

Table 1 shows a conversation of a team of instructors about the syllabus of a course that has to be offered in different countries. Since the purpose of a syllabus is to communicate the information about the course, the communication of instructors about the “syllabus’ communication” can be viewed as a kind of meta-communication.

Entering Meta-Communication

1. A: "I have just finished the first draft of the syllabus (see at: <http://www.../syllabus.htm>)". Do you have any comments?"

Physical Clarity

2. B: "I doubt that the "hyperlinks" in the syllabus will appear clearly on all computers. I myself can hardly select and activate them."
A: "OK. I will change the format."

Syntactic Clarity

3. C: "Should we really use "month/day/year" format to express the assignment due dates?" The "day/month/year" format seems to me more logical.
A: "Why is that more logical? I don't think so"

...

Semantic Clarity

4. B: "What do you mean by "reflection on 9/11" in the course content?"
A: "I mean "the event of September 11th". Everybody can talk about how they experienced this historical event."
C: "I don't think that the reference of the expression "9/11" is clear in the most countries except the USA."

...

Relevance

5. B: "Actually, I don't feel that this is relevant for the course. Can we discuss on that day "the impact of 9/11 on information technology" instead?"
C: "I'd rather suggest that we exclude this topic from the course"

...

Expressive Validity

6. C: "Regarding the presentation of the teaching team, admittedly, I am not so comfortable with the exaggeration: "Our team enjoys being online and available seven day a week for your questions".
A: "Why should we be honest here instead of excited?"

...

Empirical Validity

7. B: "The list of grades for each assignment is not complete. We have more than three assignments."

...

Normative Validity

8. C: "Concerning the assignment submission guidelines, I think we have to prescribe the submission of works to plagiarism check software as well"
A: "I don't think that there is such an institutional norm."

...

Instrumental Rationality

9. B: "Don't we loose too much time if we plan the first week for team building? Why don't we randomly build teams and assign articles to the teams before the class?"

...

Strategic Rationality

10. C: "I think we should give two weeks time to students to know each other before building teams, which may improve overall course effectiveness."

...

Aesthetic Rationality

11. B: "Our Chinese students might like the color 'red' for the whole page. It appears to me a

<p>little bit 'aggressive'. ”</p> <p>...</p> <p>Communicative Rationality</p> <p>12. A: “Here is the summary of our agreements. Do you have any further comments before I revise it”</p> <p>B: It’s OK for me.</p> <p>C: It’s fine</p>

Table 1: An illustration for the usage of the staircase

The example shows that meta-level conversations can be complex and thematically diverse. In this particular case, after entering the meta-communication (#1), actors question the perceptibility of the signs (*physical clarity*; #2), express the need for the clarification of a syntactically common convention for date formats (*syntactic clarity*; #3), challenge the understandability of the meaning of “9/11” in global contexts (*semantic clarity*; #4), and the relevance of the suggested topic for the course (*relevance*; #5). The conversation continues with expressing a doubt about the sincerity of the expression of feelings for the whole team (*expressive validity*; #6), questioning the correctness of the description of assignments (*empirical validity*; #7), and disputing the appropriateness of the submission of assignments with respect to institutional rules (*normative validity*; #8). In the subsequent parts of the dialog, actors challenge the efficiency and effectiveness of the planning of course activities (*instrumental and strategic rationality*; #9, #10) as well as the aesthetic appearance of the syllabus (*aesthetic rationality*; #11). Finally, actors reflect on what they have achieved so far and assure themselves of their mutual understanding with respect to the changes needed (*communicative rationality*; #12).

The example also shows that the conversation consists in diverse types of contributions, such as clarifications, questions, position statements, etc. and that not all of the contributions necessarily lead to controversial debates (e.g., # 2, #12). As mentioned before, places for disputing controversial issues are the corresponding discourses. While this example is chosen to be best to illustrate the concepts of the staircase, in the following, other more controversial examples will be used for the illustration of some aspects of discourses.

(b) Example 2: Designing a global application form

Consider the next example in figure 3, dealing with the design of electronic application forms. As in the previous example, conversations for clarification can take place with respect to several aspects of the application form. However, in global contexts, most interesting and conflicting conversations may arise at the *normative validity* step of the staircase. This is because the Date of Birth and the Nationality can or need to be required in some countries, whereas it cannot be required in others (e.g., in the USA).

In this case, the justification of the controversial positions takes place in *legal discourse*. Justification by referring to existing laws in corresponding communities may lead to the awareness of the existence of incompatible rules in different communities, i.e. requiring these fields is in accord with existing institutional rules in some communities and thus legitimate from their perspective, and not in others. By entering moral discourse, actors can examine the normative rightness of existing legal norms in order to find a common norm that is acceptable to all.

Personal data (* indicates a required field!)

Name*: _____
Address*: _____
Phone*: _____
Fax: _____
e-mail*: _____
URL: _____
Date of Birth*: _____
Nationality*: _____

Figure 3: A fragment of an electronic application form

(c) Example 3: Standardization of global communication patterns (e.g., letters)

Consider the English and Chinese request letters in Figure 4, which differ regarding their internal elements as well as their sequential organization (Kirkpatrick, 1991). In contrast to English letters, the Chinese request letters generally reveal a preference for providing reasons first, before the main point (the request) is stated. Chinese also engage in extended facework which forms an integral part of their requests. Changing the order, by moving the request to the beginning, results in a letter or request marked as direct and possibly impolite (Günthner & Luckmann 2001).

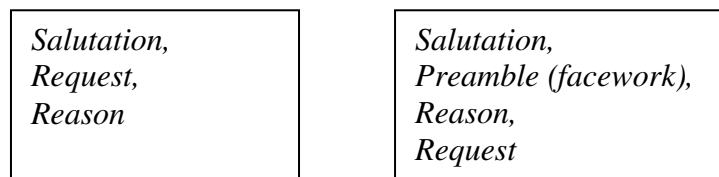


Figure 4: English and Chinese request letters

As actors become aware of the diversity of conventions in letter-writing and of its possible negative implications for their relationship, they may regard it as “good for all” to establish a common convention for intercultural correspondence.

Since actors are not concerned with concrete data, they do not need to consider the first three steps of the staircase, dealing with the comprehensibility of the content at the physical, syntactic, and semantic level. Actors can start on the “relevance” step of the staircase and first clarify what is needed for the purpose of a request letter. Argumentative justification of controversial positions on the relevance of suggested elements is to take place in *pragmatic discourses*. While justifying the relevance of an element, e.g., the relevance of a ‘preamble’ in a request letter, actors may refer to values, e.g., to politeness or face-saving. Others may question its relevance or purposefulness by referring to a different value such as sincerity; and they may, for example, argue that the more information provided before the request, the more it is at risk of being interpreted as a sign of insincerity within their cultural contexts (e.g., Clyne 1994).

When such value-related conflicts occur in pragmatic discourses, which need to be resolved, actors have, in principle, the following options to continue the debate (Figure 5):³

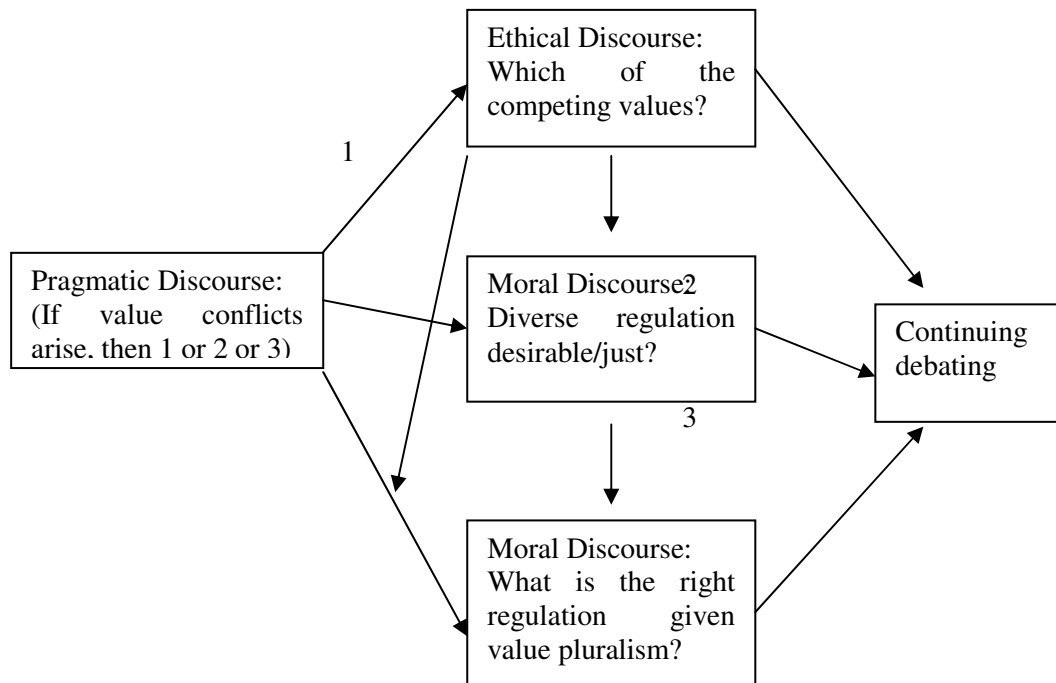


Figure 5: Options for dealing with value conflicts in discourses

(1) *Conducting rational discourses on competing values in ethical discourses:* This suggests a kind of rational value choice as proposed by Klein and Hirschheim (2001). It can help to clarify values. However, as the authors also remark, it does not guarantee resolving of value-conflicts at the organizational level, not to mention at the global level. Thus, even after a value-related discourse, actors may still have to deal with remaining values, and thus may pursue options 2 or 3.

(2) *Conducting moral discourses on the acceptability of diverse letters.* Whether diverse orientation is obligatory, permissible or forbidden is a basic moral issue. Actors can test the acceptability of such a regulation by examining its consequences and side effects for those affected. In case of non-acceptance, actors can exploit option 3.

(3) *Conducting moral discourses for finding out the right/just solution under conditions of value pluralism:* While cooperatively searching for a regulation of an intercultural request letter, actors suggest solutions (e.g. concerning the required elements of a letter, their sequencing, etc.), which they regard as good for all and thus just, given the diverse value orientations.

In summary, the examples illustrate how the steps of the staircase and the related discourses can be used for conversations and discourses on different issues. By providing these

³ Note that actors need to make a procedural decision about which of the three options should first be exploited when value related conflicts occur in pragmatic discourses.

structures, the proposed model also enables the capturing of human knowledge in a structured way.

5 Further Reflections on the Usage of the Model

5.1 Situations for Entering Meta-Communication

So far, we have introduced and illustrated the concepts of the meta-communication model. In fact, the model can be used in different action situations for reflective practice. Reflections can take place before, during, and after an action. Accordingly, taking action as a basis, we can distinguish between three types of meta-communication:

- 1 *Ex ante meta-communication*, taking place before an action;
- 2 *Meta-communication-in-action*, taking place during an action; and
- 3 *Ex post meta-communication*, taking place after an action

Hoppenbrouwers and Weigand (2000) distinguished between *ex post* meta-communication (taking place when breakdown occurs) and *ex ante* meta-communications (referring to proactive discussions about future communication). However, breakdowns can occur during and after an action. Thus, the action-oriented characterization of meta-communication types can do more justice to describe the situations for reflections. We therefore introduce the *meta-communication-in-action*, in the sense of “reflection-in-action” (Schön, 1982). The continuous reflections taken place in three different action situations can support the continuous co-evolution of the communication action concepts.

5.2 Using the Staircase for Conversations and the Discourses

The staircase used at the conversation for clarification level suggests that the basic issues represented as steps of the staircase need to be clarified step by step, from the lowest step up to the highest step. Ulrich (2001) justifies the arrangement of the steps of the staircase, among others, also with the argument that the clarification of one step may require the clarification of previous steps, for example, the issue of relevance may require semantic clarity.

On the other hand, in many cases, the relevance or normative validity of the signs needs first to be established before the clarification of its physical, syntactic, and semantic aspects. Thus, it may not always be efficient to use discourses along the staircase and to carry longer controversial disputes on the comprehensibility of a sign in explicative discourses before examining its relevance or normative validity in practical discourses. Since previous discursive approaches considered only one or two discourse types, the sequence of discourses has not been discussed. For the meta-communication model with several discourses, this issue gains significance. Depending on the purpose and objects of meta-level discussions, the priority of discourses may change. But, from the perspective of discourse-ethics, the practical discourses have the highest priority.

Thus, participants may communicate along the steps of the staircase, and at the same time, put controversial issues in related discourses, but leave them undecided until they have stepped to the highest step ‘communicative rationality’. They can then retrospectively clarify open issues, starting from practical discourses (e.g., pragmatic or legal discourses as illustrated using examples 2 and 3 in section 4).

5.3 Implementation Options

The model can be implemented in an online environment to support computer-mediated discourses. In its realization, two versions are possible:

- (1) the implementation of only the discourses as discussion spaces and the integration of the steps of the staircase into related discourses; or
- (2) the implementation of both levels of the meta-communication layer so that the discourses and the steps of the staircase can be used as separate ‘discussion spaces’.

In the first case, actors can reflect within each discourse on related aspects of an issue (e.g., in explicative discourse on the comprehensibility of signs with respect to their physical, syntactic, and semantic aspects).

In contrast, the second option allows actors the separation of “just talking” from argumentative disputes and thus can reduce the information overload for those who are only interested in controversial positions on specific issues rather than in conversations for clarifications or vice versa. In addition, the separation of the clarification level allows actors and moderators (if any) to use this level for facilitating discourses. For example, when the abstract concepts and their interrelationship may become confusing for the actors, supportive conversations for orientations can take place at this level. In addition, actors who prefer expressing views in their culturally preferred forms, e.g., using narratives, rather than providing confrontational arguments, can use this level. The narratives can be ‘translated’ by others (or mediators) into ‘confrontational arguments’.

The model can also be realized as a functionality of user interfaces, e.g., in form of pop-up menus, which can open spaces for discourses on selected user interface objects. This option would provide users with means to articulate the breakdowns and problems experienced during the interaction with the system, and thus to initiate further discussions for the improvement of the system functionalities.

6 Conclusions

In this paper, we have described a meta-communication model, which extends the spectrum of earlier discursive approaches to reflective practice by integrating discourse-ethical concepts as well as additional relevant insights from information systems literature. As illustrated, the model deals with issues of ambiguity and conflict in general, and therefore it can support collective sense-making both in local and global contexts. The network of different types of discourses allows actors to bring different types of reasons and to argumentatively examine and to justify controversial claims.

It should be noted that the model cannot overcome some difficulties that the realization of discourse theoretical concepts face, especially in global contexts. Its application requires a minimum of value congruence or openness to discursive resolution of conflicts. Communication in global context remains a challenge and the value-consensus formation nearly impossible in the short run.

Yet, we argue that the model provides a way for systematically and meaningfully structuring and organizing meta-level conversations. Thus, it can be used in several application domains,

in order to enable effective meta-communication processes. It also provides structures for capturing human knowledge.

Once implemented in an online environment, empirical work needs to be conducted for testing the usability of the abstract concepts of the model. This can include, for example, investigating how naive users translate the breakdowns occurring in their use context into the abstract concepts of the meta-communication model and exploring whether a human facilitator is needed for enabling the use of the model, in the sense of technology use-mediation (Orlikowski et al., 1995) as well as for enabling discourses through structuring of communication processes (Yetim & Turoff, 2004).

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