

## Conflicts and Conflict Resolution Mechanisms in Remote Collaboration via Videoconferencing

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### Abstract

*Globally active organizations and many virtual team based work structures are facing the challenge of a physically distributed workplace despite the necessity to closely interact among team members. While videoconferencing (VC) promises to replace the need for face-to-face meetings, this new medium also implies new cultural challenges. But what are the problems inherent to the social dynamics of videoconferencing usage in remote collaboration and what are mechanisms to overcome such conflicts? Based on an intense review of literature as well as a total of three case studies with multinational enterprises we identify nine major problems in VC and propose an adopted conflict management method for videoconferencing.*

### 1. Introduction

Until the mid 1990s, virtual team meetings were restricted to audio communication (i.e. telephone conference) complemented by a few face-to-face meetings. With maturing information and communication technologies and infrastructure availability, audiovisual communication, i.e. videoconferencing (VC), has gained importance. Driven by increasingly global work teams and competitive pressure, the main advantages expected from VC usage are cost reductions from less travelling and reduced out-of-office time of employees [23]. And despite initial doubts, Bos found that concerning the social aspect of virtual teaming the level of cooperation or trust in videoconferencing is as high as in face-to-face meetings [2].

However, the field of conflicts in e-collaboration and especially in videoconferencing still merits detailed specific research. For example Rutkowski et

al. identified conflicts for virtual team members [22]. Vreede et al. used a multi case study approach to point out five major problems which can occur in video-mediated communication [32]. Other research strands deal with their decision processes in remote collaboration and its implementation within the entrepreneurial processes [8].

Based on research by Weinig on the differences between face-to-face and video-supported conferences, in this paper we develop an approach to identify typical videoconference conflicts [33]. Thus our research question is:

Are there social conflicts particular to videoconferences which do not exist in face-to-face conferences?

To answer this question the remainder of this paper is organized as follows: in Section 2, a critical review of the literature is used to systematically identify conflicts in remote collaboration via VC. In Section 3 we then present a multi case study with three multinational firms from three different industries and with different history and corporate culture. Using the conflict taxonomy developed before, we group the findings and try to determine their original cause. In Section 4 we derive solutions for the identified problems and discuss implications for theory and practice.

### 2. Review of Literature

In this section, we review in the IS field literature to identify problems of videoconferencing usage in virtual teams. Based on this review, we then propose a categorization scheme that is later used as part of the case study analysis.

## 2.1. Conflicts in collaborative work

The concept of “conflict” can be traced back to the Latin word “confligere” which means to “collide”. In this literal sense conflicts are fights or collisions that arise from the connection of something contradictory or from the insuperability of differences [29] [19]. Kreyenberg finds that conflicts emerging in VC originate from insuperable differences between face-to-face and video-supported conferences [12]. Daft et al. explain these differences using the theory of media richness [6]. Media richness is defined as the capacity to transfer information. Five different communication channels are separated. Muehlenfeld uses the media richness approach and identifies three new channels: the linguistic (i.e. verbal and written signs), the paralinguistic (i.e. speech break, accentuation) and the non-linguistic communication channel (i.e. gestures, miming, and posture). The non-linguistic channel in videoconferences is occasionally distorted by technical problems (low quality picture and voice transfer) [16]. Furthermore, media richness theory is also the basis for the advanced research of Dennis et al., Carlson et al. and Robinson-Staveley et al. [5] [7] [20]. Because of the combination of all possible communication channels the information transfer capacity in face-to-face conferences is clearly higher than in any other type of conference. In order to analyze the conflicts with regard to their origin in theory we divide them into three different groups: conflicts based on organizational causes, on personality-related causes as well as on hybrid causes.

**2.1.1 Organizational conflicts:** These problems occur due to organizational changes (i.e. cancellation of business trips or the inflexible booking of rooms and video lines).

**Social Convention Problem:** The range of possible contents in videoconferences is wide. Schlobach in his multi case study research identifies seven different types of content in VCs. These different types often contain potential for conflicts as information asymmetries caused by hierarchy or negotiation power might appear. Even more, in inter-organizational VCs during negotiations between different enterprises there is often no possibility for short breaks or for considerations of one negotiation party outside the room [19]. Sensible adjusted microphones transfer every spoken word and disturb the other side. Extraneous noise makes the reception much more difficult and leads to time-consuming inquiries and rising stress [21].

**Attention Span Problem:** Through the fewer activated communication channels, the ability of perception in videoconferences is limited compared to face-to-face conferences. As a result all participants are sensitive for distractions from aspects not directly related to VC. For example, such distractions can emerge from showily clothes, extraordinary accessories, happenings in the background of the video screen, or incoming telephone calls and faxes [23] [21].

**2.1.2 Personality-related conflicts:** These problems occur due to discrepancies in intrapersonal and interpersonal behavior, such as delays of participants.

**Thin social pipeline problem:** A survey by Rangosch-du-Moulin shows that often users feel face-to-face contacts more intimate than VC-contacts [19]. This is due to the fact that there is no occasion for polite gestures like a regular salutation (i.e. handshake) and that interpersonal communication is more difficult to conduct because of the missing immediacy in videoconferences [19]. The impossibility of establishing personal social and informal contacts (i.e. during a coffee break or conversation outside the conference room) is mentioned as a major disadvantage of VC by Schlobach [10] [23]. There rarely are any emotional relationships between both sides and for that reason it is difficult to perceive if anybody feels emotionally hurt by the statements of another person [8] [1]. In order to prevent such hurting, many users behave in non-authentic ways during the conference. This lacking authenticity limits the mutual possibilities for trust and leaves bad impressions so that some participants think they cannot handle important issues during videoconferences [19]. Also, this lack affects the process of leading the conference to the degree that there rarely is an accepted leader of communication for both sides [30].

Trust building measures like a face-to-face kick-off-meeting hardly exist in videoconference relationships. Generally, the first meeting takes place as part of the conference itself and users therefore start working without having a common trust base [11]. A survey by Roessner among IT executives showed that all members of a VC regretted the lacking of off-topic conversation and the humourless interactions in their virtual meetings [21].

**Postcommunicative Isolation Problem:** The postcommunicative stage starts after the end of the conference. It is characterized by a summary of results, a coordination of further actions and especially the possibility to establish social and informal contacts [23]. This postcommunicative hardly exists in videoconferences so that only mailing and phoning offer to build up a common relationship. Often, there remains a feeling of frustration to the conference due to the sudden disconnection without saying goodbye [21]. Also there is no chance for a common business lunch to build up a partnership and strengthen trust. The personal inspecting of a factory or project lacks as well as the possibility to see behind the conference contents (i.e. project status) [14]. Furthermore, it is hard to observe the actual working process of the other side. This intensifies distrust within the team and users feel more like being a single worker than a team member [19].

Conflicts in the postcommunicative stage can also be caused by a delay in answering emails or telephone calls. Often, users blame the other side for such delays [11]. Kubicek described this form of perception as "second-hand reality" [13]. Mettler-Meibom and Schulz mentioned that the more communication is reduced to the exchange of business-like aspects has neglecting social aspects, the more the isolation and loneliness of the single user is expected to increase [15] [27].

**Thinking Distance Problem:** This problem emerges from the fact that only two communication channels are activated in videoconferences. Thus, it is much more difficult for persons in video-supported conferences to respond to delicate situations and to influence their interlocutor [19]. Braun therefore concludes in her case studies on videoconferencing that technological communication is an in-deficit form of regular communication [3]. This is approved by Dennis et al. who found out that the use of communication technology leads to slower decisions and less communication satisfaction [7].

**Preoccupation Problem:** This problem is based on the fact that individuals participating in video-supported conferences fear to loose privileges or to reveal deficiencies. An exemplary privilege nowadays for many employees is a business trip. Rangosch-du Moulin in her survey with the Top 100 Swiss companies confirmed the role of business trips as an incentive and as a status symbol [19]. Especially frequent videoconferencing users fear the partial or complete loss of this privilege. Therefore, they refuse to accept videoconferencing as an adequate

communication method and also refuse to participate as a user [25]. An inquiry of top managers of European enterprises undertaken by Lautz confirms this observation. Many managers confirmed the barriers of videoconferencing if the consequence of its usage was the loss of an attractive business trip [14].

The other reservation comes from the fear to reveal deficiencies. This means that some people fear to appear incompetent to use the necessary technical infrastructure such as PCs, webcams and VC systems. This fear applies to many people above the age of thirty as described by Guenther in his analysis of the "tertiary illiteracy" [10].

**Stage Actor Problem:** The above mentioned reservations already affect the users prior to the conference and leads to behaviours of camera and microphone aversion during the videoconference [26].

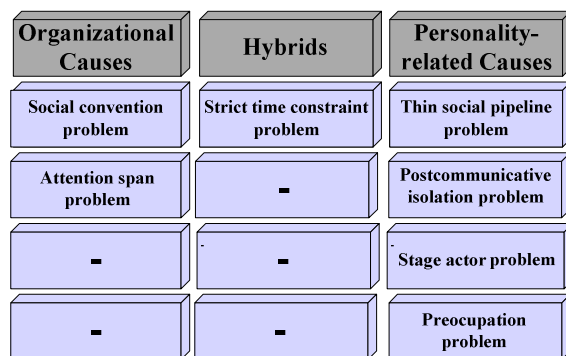
Varied operating functions of the video system and the self sight on the screen lead to an overstimulation during the conference. The continuous observation by others and oneself produces an uninterrupted stress situation [19] [32]. Users therefore feel not only just to talk with each other, but to "perform live on stage". Robinson-Staveley et al. proofed that the presence of other people affects individuals in human-computer-interaction [20]. People who are accustomed to present themselves are in advantage compared to individuals who are not familiar with such kind of situations [21]. Hence, it follows that people accustomed to presentations appear more dominant in VC compared to other participants. This is a remarkable problem in conflict situations as shy characters are more likely to leave the floor than to start a new confrontation [21]. Also, the new situation provokes an unauthentic behaviour of the shy and unconfident participants. Usually they just talk a little and are continuously quiet [19]. The loss of authenticity is caused by the adopted behaviour to the new situation. This misleading verbal and nonverbal expression causes heavy reception problems for the other participants [18]. A simultaneous recording of the conference would offer the participants the possibility to correct eventual misunderstandings but often is refused due to the potential supervision by senior managers after the end of the conference [23]. Besides personal inhibitions an intercultural barrier often exists in videoconferences. The video transfer supports the rather practical-minded western decision making interacting styles. In eastern cultures (i.e. in Japan) however inhibitions are likely for most users due to a completely different way of decision making. Generally spoken, Japanese act quite person-related. They try to recognize carefully the mood and body

language of their interlocutors which is hard to do in video-supported conferences because of potential technical problems and the speaker-focused camera [19].

**2.1.3 Hybrid conflicts:** These problems contain both discrepancies in intrapersonal and interpersonal behavior and also changes in the organizational structure.

**Strict Time Constraint Problem:** Video-supported conferences typically require a lot of preparation due to their strong practical-minded task orientated work processes [19]. Thus, immediate information exchange gains importance and only little room is left for unstructured discussions. The expenditure of preparation also includes the early supply of information material of the upcoming topics in order to guarantee the same state of knowledge for all participants. If this information supply fails for some reasons, the strict time constraint problem increases [10]. Vreede et al. described a similar situation of unrest caused by a bad prepared videoconference convener. They named this conflict as “problems with goals” [32]. In order to resolve a situation of disinformation at the beginning of the VC, the first meeting-period has to be used to make the information required available to all participants. Therefore, the participants are under pressure in order to reach their objectives. Thus, they feel that there is time wasted in a meeting like this. This pressure can also appear in case a participant is delayed or data are corrupted [14]. As a result Rangosch-du Moulin mentions that the conference atmosphere deteriorates and that misunderstandings might not be cleared up due to a situation of high pressure [19].

Figure 1 illustrates the three different kinds of conflict causes. The “strict time constraint problem” lies in the middle because one of its causes is organization-related (i.e. inflexible booking of rooms and video lines) and the other is personality-related (i.e. delays of participants).



**Figure 1: Problem causes in VC identified in research**

### 3. A Multi Case Study Approach to Conflict and Conflict resolution in VC-based collaboration

To verify the problem causes found in theory, and find new fields for further research, a multi case study with three multinational enterprises from different industries and of different corporate culture was conducted.

#### 3.1. Description of research methodology applied

In order to answer our research question, we analyzed the VC-based collaboration of three multinational firms with headquarters in Germany. Throughout a period of five months we participated in different projects in these firms from mid December 2004 to the beginning of May 2005. A total of eleven people (nine men and two women) were questioned on their VC-experience. For this purpose, a questionnaire containing open as well as closed questions was elaborated. Also, standardized questions concerning videoconferencing as a usage method in remote collaboration were asked. From the eleven persons interviewed, seven belonged to the top management level; four were from the mid management level. All interviewed managers were regular videoconferencing users having a minimum experience of several years in remote collaboration.

#### 3.2. Summary of Cases

The enterprises were chosen because of their importance for Germany’s economy, their international focus and their successful approaches to

implementing virtual collaboration platforms for their own employees.

**3.2.1 A Multinational Power Supplier:** This company is one of Germany's largest multi-business firms. The analyzed branch builds up power plants, gas turbines and refineries worldwide and is organized in a decentralized team structure. The leading team is located in the company's headquarters in southern Germany, several satellite teams are spread worldwide. Almost all videoconferencing users are engineers and financial advisors discussing the realization and financing of a specific project.

The videoconference attended connected the leading team with the American satellite team in Florida, four people on every side. The meeting took exactly two hours without any break. All eight participants knew each other quite well due to a project kick-off-meeting and several face-to-face conferences regular intervals. The conference was structured in three different intervals: warm-up phase including small talk and salutation, meeting phase including lectures and on-topic-discussions as well as a cool-down phase including regular jokes and saying goodbye. The whole conversation can be described as friendly and interaction focused. After the meeting, the four German male participants were questioned this specific conference and the communication methods used in general.

**3.2.2 A Global operating Automobile Company:** The concerned company is one of the largest automobile manufacturers worldwide. The department in consideration is the global corporate auditing unit. The members of this department audit all subsidiary companies worldwide each year. All conversations concerning the audit are held by using videoconferencing technology. Corporate audit is represented by its responsible chartered accountants; the subsidiary companies are usually represented by their executives. Typically, the participants have never seen each other before such a videoconference.

The analyzed virtual team meeting was carried out between the company headquarters in southern Germany and a sales unit in Far East with altogether eight persons (three on the German side and five on the Asian side) participating in the conference. The virtual meeting lasted about three and a half hours and included one short break but with open line after the first ninety minutes. The conference was unstructured despite a conversation leading on each side. The process of becoming acquainted with each other took nearly a quarter of the entire conference time. The participants finished the meeting without a regular

goodbye. The whole conversation can be described as neutral and focused on target.

The analyzing process was closed by the questioning the German side (one man, two women) on their conversation with their Asian counterparts, their feelings and potential fields for conflicts.

**3.2.3 A Multinational Telecommunication Company:** Being one of Germany's most important producers and sellers of mobile telecommunication products, this company started to implement e-collaborative work structures during its internationalisation process. Especially the internal sales training department used VC technology from the early beginning on to hold workshops and seminars on a regular base despite the physically distributed workplaces. Sometimes lectures are given to an auditorium of 200 sales persons but also in small groups of up to six people, if a specific topic is discussed. In this case the sales people send their training objectives to the internal training department in company's headquarters. Usually the person in charge of the internal training is supported by up to four assistants in this sort of e-collaborative work. However, he remains as conversation leader in order to guarantee smooth changes of floor taking.

The team meeting observed, by ourselves was asked for by members of the Austrian sales department and was held between the chief of the internal training department as well as three of his assistants, all located at the company's headquarters in Germany and six sales people of the Austria branch, all located in Vienna. The training session took about two hours and included several short coffee breaks. The executive trainer disciplined the team meeting by using strict guidelines, in the sense of speakers order, duration of contributions or VC etiquette. He divided the conference in five parts: salutation, problem definition, lecture, discussion for feedback and goodbye. This sort of VC usage was characterized by a one-dimensional way of communicating but also by an active feedback on the original demands. The chief of the internal training department and his three assistant trainers were questioned after the VC by means of a questionnaire on the achieved VC results.

## 4. Findings

In analogy to the results of the literature review we categorize the findings with regard their causes: Altogether six groups of conflicts with different origins were identified in this multi case study. The six conflicts were exactly the same as identified in IS science.

Only the preoccupation problem we found in literature doesn't exist in our cases because of different circumstances.

**4.1. Organizational conflicts:** These problems occur due to organizational changes (i.e. cancellation of business trips or inflexible booking of rooms and video lines).

**Social Convention Problem:** The chance to retire for deliberation is nonexistent in videoconferences because of the already mentioned time constraint problem. Some users try to deliberate during the conference while their microphones are switched off. All users questioned mentioned this procedure as extremely negative and impolite. "Never switch off the microphones otherwise you insult the other participants", described one of the participants. Two employees of the power supplying company recognized the necessity of internal deliberations, too, but suggested that this had to be done in a different way. A short withdrawal by one party left the impression on the side of the other party of being the subject of this deliberation. Just the impression was efficient to hurt the team unity persistently.

Another form of withdrawal often used in such international conferences was the return to the respective mother tongues or any form of spoken dialect by one side in order not to be understood by the other side. This leads to a forming of blocs as perceived one participant.

**Strict Time Constraint Problem:** All questioned users were members of intercontinental VC-teams. Users in the U.S. came to their conferences right after the beginning of work in the morning while this corresponded to a time after lunch time in Germany. The power supplying company implemented an online-tool in order to give all participants the opportunity to supply their colleagues with information on their upcoming topics for the following conferences. However, the tool was only rarely updated early enough for all participants because of delayed updates by the users and due to technical problems. Therefore, the American users had a temporary lack of knowledge to the beginning of the conference. As a result, there were several misunderstandings because the Americans just had the time to go through the headlines but not into the contents. "If anybody is not prepared during the conference, our time is wasted", stated one of the employees. Through the necessary rectifying of these misunderstandings the participants were pressed for time during the entire VC.

**Postcommunicative Isolation Problem:** The questioned videoconference users didn't miss in particular interpersonal contacts in the postcommunicative stage but wanted to stay in touch via mails and regular calls. Some users complained about the postponing of topics into the postcommunicative stage. Most of these topics were never dealt with afterwards. "From time to time we do not reach our set goals in the conference and have to discuss them later on even though all of us are very busy", complained one of the regular videoconference users.

**4.2 Personality-related conflicts:** These problems occur due to discrepancies in intrapersonal and interpersonal behavior (i.e. delays of participants).

**Attention Span Problem:** The questioned users regarded showily clothes and ostentatious jewellery as an unacceptable outfit for videoconferences. Another disturbing element was the sudden or unexcused exit by one participant. A further remarked impoliteness was a ringing cell phone or a participant taking a meal during the conference. The breach of videoconferencing-etiquette heavily disturbed the user's perception.

An additional cause for less attention was the tiredness in extended conferences. Therefore the conference leader had to take care and appoint breaks in order to prevent the conference loss quality and to prevent bad general feeling.

Side works stand for tasks which do not belong to the discussed topic during the video-supported conference but do belong to the specific sphere of work of a single participant. Side works are a common practice during videoconferences but are strongly criticized by the questioned users. One of the questioned users confessed to switch off his mind and stop concentrating occasionally in videoconferences of up to seven people in case an issue out of his responsibility was discussed. "Sometimes when a topic out of my field is discussed I switch off my mind and do some regular work", he described the situation. In his opinion no members would stop concentrating if all members were located with straight eye-contact in the same room. It was seen as a sign of impoliteness and lacking appreciation because the lecturer expects the attention of all persons present during the videoconference and is not willing to answer inquires of absent-minded participants.

**Thin Social Pipeline Problem:** The thin social pipeline in the opinion of the questioned users of the automobile manufacturing and the telecommunication company represents the major problem in video-supported conferences. It is the basis of several misunderstandings, irritations and conflicts. Only the employees of the power supply company regarded their conferences as meetings of friends because of several earlier face-to-face meetings. All eleven users confirmed that personal face-to-face meetings prior to the first videoconference were essential to become acquainted with each other, strengthen the building of trust and develop interpersonal relationships. "If I've met these guys face-to-face before the first videoconference I feel much more comfortable during a videoconference", confirmed one of the questioned employees. If these processes were not carried out, the odds for growing conflicts were in favour. All users missed the pre-stage of a regular salutation such as a handshake or a personal introduction.

This salutation-ritual sustains the whole relationship in face-to-face conferences. Because of the personal attendance the face-to-face conferences are characterized by a pleasant atmosphere. All eleven questioned videoconference users mentioned the lacking possibility to establish social contacts as a major disadvantage of VC compared to face-to-face conferences. There is no possibility to keep in touch with other participants besides the videoconference a little chat or a coffee break in face-to-face conferences. Also, the most mentioned disadvantage in VC was the lack of a small talk to lighten up the mood in a videoconference. One employee questioned confirmed that the personal contact besides face-to-face conferences was as much important to him as the conference itself.

Through the thin social pipeline there is always the possibility of misunderstandings because the participants don't know each other so well and as they cannot recognize stylistic devices like irony or sarcasm in spite of distorted miming and gestures. But if here is sure irony to all, the user-problem exists of not being authentic during videoconferences which can also influence communication in a negative way.

Social conflicts also were likely to emerge in cases if the participants had a different standing in the entrepreneurial hierarchy. Subordinate members didn't dare to lecture about their personal contribution during the conference when being under time pressure. An employee of the telecommunication company confessed to prefer to say nothing instead of being in danger to insult or hurt another participant.

**4.3 Hybrid conflicts:** These problems contain discrepancies in intrapersonal and interpersonal behavior and also changes in the organizational structure.

**Stage Actor Problem:** Although all questioned employees were frequent videoconference users they confessed to be inhibited when acting "live on stage" while seeing themselves "on TV". One user noticed a loss of self-confidence and communicative abilities as a consequence of this problem. "I am more inhibited seeing myself on TV - I did not have this during regular conferences", he explained the problem. This problem was increased as most participants behaved in such a manner that the conference could not be conducted in an unproblematic way. They also suffered from the two-dimensional picture of their interlocutor which looked more like a viewer than an interlocutor. One questioned user of the power supplying company criticized the seating plan of their videoconferences. He mentioned that users in the background were less visible and for that reason were inhibited in stating their ideas and comments.

The following Figure 2 maps these problems in practice identified in the same three categories previous by identified in IS-literature.

Organizational Causes	Hybrids	Personality-related Causes
Social convention problem	Stage actor problem	Thin social pipeline problem
Strict time constraint problem	-	Attention span problem
Postcommunicative isolation problem	-	-

**Figure 2: Problem causes identified in practice**

From the comparison of Figure 1 and Figure 2 we can conclude that the distribution of problems in VC in practice is quite contrary to what we expected from literature. Only two problems have their origin in personality-related causes. The "attention span problem" is caused now of bad behaving participants and not any more of inaccurately defined guidelines like in research. The "postcommunicative isolation problem" is more in practice a problem of organizational behaviour (i.e. delayed answered emails or telephone calls) than of cultural issues. An

interesting aspect remains the “stage actor problem”, because one of the questioned users mentioned the seating plan as a major cause for personal psychic barriers. Only the “social convention problem” and the “thin social pipeline problem” are always based rather on organizational causes than on personality-related causes.

### 5. Implications for Management and Further Research

Before you start to analyze potential conflicts in VC usage in remote collaboration in your company and adopt mechanisms to overcome them you have to see it more as an individual process in an e-collaborative relationship than as a time limited team meeting of physically distributed employees.

#### 5.1. Mechanisms to overcome conflicts

Through the comparison of the answers in the multi case study and the outcomes of the literature review some mechanisms to overcome conflicts in e-collaborative work based were identified. Figure 3 shows possible solutions successfully applied in research and VC-using companies.

Before the conference potential users refuse to participate due to the fear to loose the privilege of business trips. Lautz suggests the implementation of special incentives for VC-users such as the foundation of a VC-user club. Members of this club could collect bonus points for travels, further advanced training, etc. Special workshops about the whole VC-process ahead the first conference could prevent the participants of being inhibited. “They offered me a training session ahead the first conference because I don’t like to act in front of a camera and guess what, afterwards I’d never felt uncomfortable or confused during our meetings”, described one of the employees of the telecommunication company. As a conflict resolution for the “Strict time constraint problem” implemented the multinational power supplier an IT-tool to exchange important information and circulate the upcoming agenda. “If we use this tool frequently, all participants perform in a much better way, if not our performance is substandard”, insisted one of the belonging users. To solve the “stage actor problem” and the “attention span problem” Nahapiet et al. recommend the usage of behaviour guidelines in order to avoid disturbing through side working participants, ostentatious jewellery or clattering dishes [17]. These guidelines could also reduce the inhibitions of all stressed users to act on stage in front of the camera.

All questioned employees mentioned the need of short off-topic periods during the conference by means of small talk or jokes in order to relax up the atmosphere and make the perception of on-topic contents easier. After the conference the responsibility of every participant has to be fixed and written down in order to guarantee an immediate flow of information and to prevent the team of dividing in several small pieces.

One thing is important for the whole VC-process. Face-to-face meetings have to be a part of every e-collaborative relationship via videoconferencing. Only face-to-face conferences ensure reliable building of trust and a communication with high information transfer capacity [6] [17]. For further detailed information the table below offers proposed solving methods as mechanisms to overcome the conflict-effects as well in theory as in practice.

	CONFLICT	SOLUTION
<b>Preoccupation problem</b>	<ul style="list-style-type: none"> <li>- Inhibitions of camera and microphone</li> <li>- Potential users refuse to participate</li> </ul>	<ul style="list-style-type: none"> <li>- Special incentives for vc-users</li> <li>- Foundation of a vc-user club</li> <li>- Workshop for tertial illiteracy</li> </ul>
<b>Stage actor problem</b>	<ul style="list-style-type: none"> <li>- Reserved and anxious participants</li> <li>- Feeling of social exclusion</li> <li>- Potential loss of relevant info.</li> </ul>	<ul style="list-style-type: none"> <li>- Technical introduction ahead</li> <li>- Sample videoconferences</li> <li>- Preparation of guidelines</li> </ul>
<b>Strict time constraint problem</b>	<ul style="list-style-type: none"> <li>- Strong psychic and physical pressure</li> <li>- Enforced results</li> </ul>	<ul style="list-style-type: none"> <li>- Early circulation of the upcoming agenda</li> <li>- Intensive preparation</li> <li>- Care taking conference leader</li> </ul>
<b>Social convention problem</b>	<ul style="list-style-type: none"> <li>- Switched off microphones</li> <li>- Talking in mother tongue</li> <li>- Secretiveness on both sides</li> <li>- Irritation and incomprehension</li> </ul>	<ul style="list-style-type: none"> <li>- Postpone intimate details</li> <li>- Close-by installation of picture telephones</li> <li>- use of paper notices</li> </ul>
<b>Attention span problem</b>	<ul style="list-style-type: none"> <li>- Disturbance of concentration</li> <li>- Indignance of all participants</li> <li>- Breach of vc etiquette</li> <li>- Imitation by other participants</li> </ul>	<ul style="list-style-type: none"> <li>- More participation of distracted users</li> <li>- Set up of behaviour-guidelines</li> <li>- More work sphere relations</li> </ul>
<b>Thin social pipeline problem</b>	<ul style="list-style-type: none"> <li>- Non-existing trust between all members</li> <li>- Bad smack for all parties</li> <li>- Danger of misleading group work</li> </ul>	<ul style="list-style-type: none"> <li>- kick-off meetings</li> <li>- Continuous f-t-f meetings</li> <li>- Warmup ahead the conference</li> <li>- use of salutation-rituals</li> </ul>
<b>Post-communicative isolation problem</b>	<ul style="list-style-type: none"> <li>- Social exlusion</li> <li>- Distorted perception</li> <li>- No feeling of being a "company family"</li> </ul>	<ul style="list-style-type: none"> <li>- Substitution of post activities</li> <li>- full-time meetings</li> <li>- Reflection of the working processes</li> </ul>

Figure 3: Effects and solving methods

### 6. Conclusions

Video conferencing represents a mighty tool for the virtualisation process in multinational companies. In

order to use this technology efficiently and more smoothly we (1) identified eight problems in remote collaboration that can result from the usage of VC. The problems we found based on an intense literature review and a multi-case-study approach were separated into organizational or personality-related causes. In order to find effective mechanisms to overcome such conflicts we adopted the ideas of theory and practice to develop useful solutions. By means of this model and the insights gained from the case-study with eleven executives we (2) developed suggestion for conflict resolution. We showed that problems in VC differ in theory and practice. For this reason we advise to concentrate further research on international dimensions like the dynamics of intercultural differences in VC and other issues concerning the social dynamics of virtual teams.

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