

# Self-other Agreement on Influence Attempts in Virtual Organizations *Do Agents and Peers See Eye to Eye?*

Henning Staar<sup>1</sup> and Monique Janneck<sup>2</sup>

<sup>1</sup>Department of Psychology, University of Hamburg, Hamburg, Germany

<sup>2</sup>Electrical Engineering and Computer Science, Luebeck University of Applied Sciences, Luebeck, Germany

**Keywords:** Influence Tactics, Micro-politics, Self-other Agreement, Virtual Organizations.

**Abstract:** The aim of the study was to determine the convergent and discriminant validity of self-peer reports from three different sources on the use of influence tactics in virtual organizations. Therefore, directly related triads of network members were analyzed. First, members (agents) should describe how they try to influence a certain person (target) in the joint collaboration. Second, the defined target and another network member (non-target) described how they perceive the agent's influence attempts. All sources rated nine types of influence tactics. The resulting multitrait-multimethod design was analyzed with 243 sets of triads using structural equation modeling (SEM). Results supported evidence for convergence of agents' and peers' reports on influence attempts and confirmed the multidimensionality of micro-political behavior in virtual organizations.

## 1 INTRODUCTION

During the last decade, factors such as globalization and technological advancements have led to new organizational structures. Most notably, several forms of *virtual organizations and networks* have emerged as possible solutions to these new challenges. However, little is known about social influence processes between individual members of virtual networks (Elron and Vigoda-Gadot, 2006), especially when influence is mediated through an expanding variety of information and communication technologies (ICT) that separate the parties spatially and/or temporally (Barry & Fulmer, 2004). In 'traditional' managerial settings such mutual influence processes—often referred to as *micro-politics*—have been acknowledged as being “a pervasive aspect of organizational life” (Blickle, 2003, p. 40). Given the lack of established leadership theories in virtual organizational settings, influence tactics can thus be viewed as a ‘vital tool’ for members to get their way in network issues (Greer and Jehn, 2009).

However, current empirical findings on social influence processes in virtual collaboration setting solely rely on self-rating scales. Thereby, respondents are asked to evaluate the use of several influence strategies when trying to achieve their

aims within the network. As a result, the insights into micro-political behavior in virtual networks have been limited so far to the actor's perspective. Consequently, it remains unclear whether micro-political agents actually manage to create the image that they seek when interacting with their network partners via ICT. According to this, influence targets could have a totally different account of what happens when an agent tries to cause him or her to do something. Therefore, the purpose of the present study was to evaluate the convergence of agents' and peers' reports on micro-political influence attempts in virtual networks.

## 2 BACKGROUND

### 2.1 Virtual Networks

There is a wide variety of forms that are embraced by the term ‘virtual organizations’ (Travica, 2005). However, the wide majority of definitions agree that virtual organizations are forms of “inter-organizational, cross-border ICT-enabled collaboration between legally independent entities, usually with a specific economic goal” (Pitt, Kamara, Sergot and Artikis, 2005, p. 373). Especially horizontal forms of collaboration are

important for freelancers or small and medium-sized enterprises that might be in danger of losing their competitiveness in a globalized market. However, at the same time, network members often still act as individual competitors on the market and as such are caught between cooperation and competition—a potential field of conflict which has also been labeled as ‘coopetition’. Beyond that, most virtual organizations can be described as being polycentric, i.e., highly distributed through loosely coupled associations with high degrees of autonomy of their members, brought together through intense use of ICT (e.g., Travica, 2005).

## 2.2 Micro-politics

Given the lack of formal hierarchies and roles as well as a distributed leadership over distance, it is sensible to assume that *informal actions* of individual network members play a crucial role in shaping and governing the network. In organizational science, so-called *micro-political processes* are understood as *strategies* of individuals to achieve their goals, realize ideas, or push certain interests (e.g. Yukl and Falbe 1990). In their research, Janneck & Staar (2011) have identified a number of typical informal behavioral patterns—so-called *micro-political tactics*—being used in virtual organizations (table 1).

An important differentiation among these tactics aims at their range of influence. The first six tactics are more or less restricted to *dyadic* influence attempts, i.e., an agent is attempting to directly influence a certain target person in a given interpersonal setting. This dyadic perspective on social influence in virtual settings has been prevalent so far (e.g., Barry & Fulmer, 2004). However, beside direct dyadic relations of inter-personal influence, some authors have emphasized the importance of *indirect structural* tactics. These are related to the individual’s position within the network as a whole rather than on mere influence dyads. In their set of tactics, Janneck & Staar (2011) have considered Mediating, Proactive Behavior and Visibility as indirect attempts to gain influence.

Former research on political processes in virtual organizations suggests that technology-based interactions may be especially susceptible to informal influence processes (Wilson, 2003). Moreover, ICT used by inter-organizational networks might not only contribute to but even constitute micro-political processes, as technology serves both: making existing processes and structures more explicit and bringing forth new roles

Table 1: Micro-political tactics in virtual organizations.

Direct tactics	
Rational Persuasion	Spreading information to the network partner(s) to clarify one’s concerns.
Assertiveness	Engaging in open confrontation with or putting pressure on the network partner(s).
Exchange	Offering to do a network partner a favour in return; Signalising to reciprocate for the network partner’s support
Inspirational Appeals	Calling upon the common vision, the basic idea of a network; emphasizing the need to pull together for being successful.
Self-Promotion	Emphasizing one’s efforts regarding the network collaboration or one’s value for the network.
Inspiring Trust	Trying to appear open-minded about the network partners’ concerns; purposefully presenting oneself as a network partner who is willing to share information and resources.
Indirect tactics	
Visibility	Trying to show presence via electronic media; Purposefully using all available channels to call attention to one’s concerns.
Proactive Behavior	Looking for opportunities to play an additional part in the network beyond the primary role; taking over new tasks and/or roles within the network to extend one’s scope of action.
Mediating	Trying to mediate between partners during negotiations and discussions; Keeping a non-committed position in discussions and controversies instead of taking sides with a party straight away.

and rules (Janneck and Staar, 2011). However, these relations remain artificial if the targets’ perceptions of influence attempts are not evaluated in relation to the agent’s original intention.

## 2.3 Agent-target Convergence

Focusing on intra-organizational influence attempts, some studies have examined the *convergence* of agents’ and targets’ reports. In summary, most results confirm significant agent-target convergence, albeit only at a moderate level (for an overview, see Blickle, 2003). The development of new organizational settings such as virtual organizations rises the question whether technology-based interaction has an effect on processing and understanding of interpersonal influence (Okdie and

Guadagno, 2008; Wilson, 2003). Whereas in 'traditional' intra-organizational face-to-face interaction, influence agent and target(s) share the same physical location, can see and hear one another, receive messages in real time as they are produced, and send and receive information simultaneously and in sequence, this is seldom the case for distributed parties as in virtual organizations. So far, empirical micro-political research on self-peer agreement in intra-organizational and industrial settings has been reduced to *same time same place* conditions (Blickle, 2003). Few research attention has been paid to the question of how technology-mediated interaction affects the targets' perception of an agent's influence attempts (Barry and Fulmer, 2004).

Based on the premises of Social Impact Theory (Latané et al., 1996), some authors have suggested that the impact of influence on a target decreases with increasing distance (e.g., Elron and Vigoda-Gadot, 2006). Similar arguments come from Driskell, Radtke and Salas (2003) who conclude that in virtual settings the opportunity for political agents to transmit, and for targets to access the subtlety, nuance, connotation inherent in interpersonal influence messages would be rather low as they do not experience "the immediacy of interacting and being involved with a physically present team member" (Driskell et al., 2003, p. 298). Similarly, Greer and Jehn (2009) suppose that in computer-mediated communication (CMC) or other leaner mediums than face-to-face, traditional non-verbal clues within influence attempts may not be as easily captured.

Some researchers reply that conversation via ICT does not significantly disrupt conversational control and understanding. From an agent's perspective, Abele (2011) notes that ICT-mediated interactions offer much more opportunities for deliberative action. Similarly, Okdie et al. (2011) point out that individuals interacting via CMC "have time to rethink, edit, and possibly censure the information they convey to their interaction partners ensuring they are perceived the way they intend" (p. 154). Finally, most research agrees that virtual contexts tend to make people feel free to express themselves in a manner decoupled from traditional social mores and restrictions leading to more uninhibited behavior (Tidwell and Walther, 2002).

Based on the theoretical discussion above, the following conclusions emerge. So far, the vast majority of studies that have evaluated micro-political influence in virtual organizations offer a

restricted perspective, namely that from an agent's view. However, neglecting the target's (or more general: peer's) perception of an agent's behavior, only a fragmented extract of social influence processes within these settings can be expected. In addition, it has become clear that research on influence behavior in virtual networks should go beyond mere dyads of inter-personal influence situations: In most virtual organizations members are not only loosely connected with each other but they rather build a tight network of mutual relations. Accordingly, some influence tactics might not be restricted to a single chosen target but address the network and its members as a whole. As a consequence, for a reliable examination of the convergent and discriminant validity of agents' and peers' reports on direct and indirect micro-political influence attempts, real groups of agents, targets and non-targets as well as parallel scales are needed. In this study, we will examine self-other agreement of nine influence tactics used in virtual networks.

## 3 METHOD

### 3.1 Subjects

Participants were acquired by means of a systematic internet research or through online business platforms such as *XING*. All persons were asked if they would care to participate in a study on communication and cooperation in virtual networks. As an incentive to participate in the study, all members were offered an analysis of the age structure of their network. Furthermore, we raffled small gifts such as ipods and guaranteed a report on the results of the study.

Since convergence between different raters should be analyzed using Structural Equation Modeling (SEM), a sample size of at least 200 complete sets was needed. Following Marsh, Ballah and MacDonald (1988), this sample size is necessary for a meaningful interpretation of the models' fit-indices. For this study, a total of 243 complete sets consisting of agent-target-non-target-triads could be acquired. The vast majority of respondents worked as freelancers with a lot of experience in virtual working being reflected in an average network membership of more than one year. More than half of the networks had less than 10 members (55%), 31% had 10-20 members, and 14% had more than 20 members. Most respondents were male (73%), mean age was 38,8 years. The respondents worked mainly in Media (36%) or IT (30%) business, 21%

worked in the Health sector (13% other).

Concerning the degree of virtuality, i.e., the frequency and variety of ICT-usage, the sample was homogenous: All triads reported to interact first and foremost via different ICT. Further, network-exclusive or open groupware were used in most cases and served as the linchpin to mutual interactions.

### 3.2 Research Design

First, members of virtual networks were asked with whom they were currently working on a common project and had interacted regularly for the last months. Without knowing about the study's focus on influence, participants should list at least three persons belonging to their virtual network. As most of the data was assessed via online questionnaires, we were able to benefit from dynamically generated contents. To avoid systematic effects such as sympathy, one of the listed network partners was chosen randomly. Then the questionnaire consisting of the nine influence tactics was presented in randomized order and the participants (agents) were requested to rate their own influencing attempts on the person chosen (target). After completing the questionnaire, the agents were asked to distribute two links (that led to a parallel version of the agent's questionnaire) which should be sent to the target person and a further network member (non-target) who was randomly chosen out of the list of partners put together by the agent at the beginning. To collect matched triads of agents, targets and non-targets, a code was generated at the end of the agent's questionnaire, which should be sent to the target and non-target. When targets and non-targets participated, they were asked to describe to which degree the identified agent uses certain types of influence attempts in an effort to influence the target (or the peer respectively). After both peers had finalized their questionnaires, their ratings were matched with the agents' questionnaires through the common code numbers.

One approach to methodically determine the convergent and discriminant validity of agents', targets' and non-targets' reports on different micro-political tactics can be found within the framework of a *multitrait-multimethod* (MTMM) design by which multiple traits are measured by multiple methods.

Generally, traits are defined as hypothetical constructs that relate to stable characteristics such as personality attributes. Methods refer to multiple test forms or specific measurement methods (Byrne,

2011). However, MTMM-designs have been applied not only to traits but to influence tactics as well (e.g., Blickle, 2003). Further, treating different raters (such as self-report or specific informants) as method factors has become a common modification, too.

In the seminal work of Campbell and Fiske (1995), the inspection of the correlation matrices of scores from all variables was analyzed to determine convergent and discriminant validity. Alternatively, confirmatory factor analyses (CFA) offer a more systematic way to deal with multitrait-multimethod matrices. Especially the *Correlated Traits Correlated Methods* (CTCM) approach to MTMM data has been used as the most widely alternative to the 'informal' approach of analyzing MTMM matrices. This is particularly attractive because the model's structure directly corresponds to Campbell and Fiske's original conceptualization of the MTMM matrix. The CTCM-model offers separate trait and method factors that are assumed to be freely correlated, but trait factors are assumed to be independent of method factors. The rationale behind this model is that high loadings on trait factors would suggest convergent validity; high loadings on the method factors would indicate common method effects, and moderate correlations among different trait factors would support evidence of discriminant validity (Kline, 2005).

The basic CTCM-model was specified as follows: First, three latent method factors were defined, i.e., self-, target- and non-target-ratings. Each of the latent method factors had nine indicators, i.e., the ratings of the nine influence tactic scales. In addition, nine latent trait factors were formulated, representing the ratings of influence tactics with three indicators each. To test the models, maximum likelihood estimates were applied. AMOS 6 was used for calculations.

### 3.3 Instruments

Influence tactics were measured with an inventory that captured the nine tactics based on the work from (Janneck and Staar, 2011, see table A.1 in the appendix). The original version was used for agent respondents. Targets and non-targets were given a slightly adjusted version to assess the agent's tactical behavior from three different views. In the agent version the respondent rated his or her own influence attempts on the defined target (e.g., "I use rational arguments to convince [*name of the target*]"). The target, in turn, was asked to evaluate the agent's use of influence tactics when trying to

cause him or her to do something (e.g., “[Name of the agent] uses rational arguments to convince me”). Finally, the non-target version contained a global peer view on the agent’s influence behavior in network issues (e.g., “[Name of the agent] uses rational arguments to convince his network partners”). The 6-point-likert scale ranged from 1 = “never” to 6 = “always”. As a filtering question, agents were first asked if they were part of a for-profit network in which projects are realized in cooperation with other people from the same branch. Furthermore, all participants were asked to indicate their sex, age, educational level and actual

profession. Additionally, all members were asked to indicate network-specific data such as the name, size, length of cooperation and branch of their virtual network.

#### 4 RESULTS

The agent-target-non-target correlation matrices as well as the scale means, standard deviations and reliabilities are documented in table A.2 (see appendix).

Table 2: Parameter Estimates for Model 1 (CTCM) (n = 243): Tactic and Source Loadings. <sup>a</sup>

	RP	AS	IA	EX	SP	VI	ME	PB	IT	AR	TR	NR
Agent Rating (AR)												
Rational Persuasion (RP)	.63*									.23*		
Assertiveness (AS)		.85*								.44*		
Inspirational Appeals (IA)			.93*							.17*		
Exchange (EX)				.60*						-.02		
Self-Promotion (SP)					.78*					.10		
Visibility (VI)						.86*				-.10		
Mediating (ME)							.68*			-.09		
Proactive Behavior (PB)								.92*		.20*		
Inspiring Trust (IT)									.65*	.01		
Target Rating (TR)												
Rational Persuasion (RP)	.69*										.20*	
Assertiveness (AS)		.94*									-.04	
Inspirational Appeals (IA)			.38*								.27*	
Exchange (EX)				.82*							-.08	
Self-Promotion (SP)					.59*						-.03	
Visibility (VI)						.66*					.24*	
Mediating (ME)							.77*				.09	
Proactive Behavior (PB)								.52*			-.06	
Inspiring Trust (IT)									.36*		.48*	
Non-Target Rating (NR)												
Rational Persuasion (RP)	.49*											.20*
Assertiveness (AS)		.73*										-.11
Inspirational Appeals (IA)			.32*									-.11
Exchange (EX)				.69*								.34*
Self-Promotion (SP)					.55*							.27*
Visibility (VI)						.72*						.24*
Mediating (ME)							.75*					-.09
Proactive Behavior (PB)								.48*				-.13
Inspiring Trust (IT)									.57*			.21*

Note. <sup>a</sup> Standardized estimates; \*  $p < .05$ .

### 4.1 Goodness of Tested Models

To test the convergent validity of the different source ratings from agents, targets and non-targets on nine influence tactics, four structural equation models were calculated. Following Byrne (2011), we included the CTCM-model as the general CFA model and additionally specified two nested models. Model 2 was specified without method factors but with correlated traits (CT), Model 3 differed from Model 1 only in the absence of correlations among method factors (CTUM). Following Byrne's recommendations, the set of models was completed with the CU-model (*Correlated Uniqueness*).

The goodness-of-fit indices show that Model 1 yields an acceptable global fit ( $\chi^2(259) = 342,139, p = .057$ ). Furthermore, relevant fit-indices such as CFI (.942) and RMSEA (.039) revealed a good fit to the data, too (Hu & Bentler, 1999). Similar estimates were found for Model 3. In contrast, goodness-of-fit indices for the CU-model proved to be comparatively poor ( $\chi^2(180) = 263,109, p = .025$ ; CFI = .942; RMSEA = .046), Model 2 revealed an even worse fit. On the whole, the stable solution and acceptable fit indices of Model 1 support a tenability of this model. Accordingly, we will focus on this general CFA-model in the subsequent analyses.

### 4.2 Analysis of Convergent and Discriminant Validity

An assessment of self-other agreement on different tactics can be ascertained by analyzing the individual parameter estimates. Specifically, the factor loadings and factor correlations of Model 1 provide the focus here. The completely standardized estimates for the factor loadings are summarized in Table 2. Trait and method factor correlations can be found in Table 3.

In examining these individual parameters, convergent validity is reflected in the magnitude of the trait loadings. As Table 2 shows, all trait loadings are statistically significant with magnitudes ranging from .315 (non-target-ratings of Inspirational Appeals) to .944 (target-ratings of Assertiveness). Moreover, when comparing factor loadings across traits and methods, it becomes clear that the proportion of trait variance exceeds that of method variance for all but one of the target-ratings (Inspiring Trust). This means that in the evaluation of all nine tactics agents', targets' and non-targets' reports converged to a considerable degree.

Beside the basic confirmation of the assumptions made, a more in-depth examination at the individual parameter level reveals that some of the trait loadings are significant indeed but the explained variances tend to be rather low on a considerable

Table 3: Trait (Tactic) and Method (Source) Factor Correlations for Model 1 (CTCM).<sup>a</sup>

Measures	Tactics									Sources		
	RP	AS	IA	EX	SP	VI	ME	PB	IT	AR	TR	NR
Rational Persuasion (RP)	1.00											
Assertiveness (AS)	-.21*	1.00										
Inspirational Appeals (IA)	-.11	.08	1.00									
Exchange (EX)	-.19	.10	.02	1.00								
Self-Promotion (SP)	-.05	-.20*	.17	.06	1.00							
Visibility (VI)	.32*	-.04	-.05	-.04	.03	1.00						
Mediating (ME)	-.13	.11	-.14	.08	-.03	.02	1.00					
Proactive Behavior (PB)	-.09	-.08	-.13	.01	-.04	.35*	.03	1.00				
Inspiring Trust (IT)	.08	-.18	.13	.13	.04	.16	-.13	.13	1.00			
Agent Rating (AR)										1.00		
Target Rating (TR)										.39*	1.00	
Non-Target Rating (NR)										.36*	.14	1.00

Note. <sup>a</sup> Standardized estimates; \* ( $p < .05$ ).

number of trait loadings. Finally, correlations among trait factors provide an evaluation of the distinctiveness of self-other agreement and of the multidimensionality of micro-political behavior. Most latent trait factors correspond only to a low degree. Rational Persuasion yields significant correlations with Visibility ( $r = .32, p < .05$ ) and Assertiveness ( $r = -.21, p < .05$ ). The latter, in turn, is negatively related to Self-Promotion ( $r = -.20, p < .05$ ), and Proactive Behavior correlates with Visibility at  $r = .35 (p < .05)$ . In total, these results support evidence for discriminant validity and the multidimensionality of micro-political-behavior.

An examination of method factor correlations reveals significant correlations between agent-ratings and target-ratings ( $r = .39, p < .05$ ) and non-target ratings ( $r = .36, p < .05$ ) respectively, which detracts from a discriminability of methods. Possible explanations for these findings will be discussed below.

## 5 DISCUSSION

Do micro-political agents reach to create the image that they seek when interacting with their partners in virtual organizations? Or do peers with whom the agent is interacting rather have a totally different account of how the agent is trying to exert influence? To find answers, the aim of the present study was to determine the convergent and discriminant validity of agents' and peers' reports on influence attempts in virtual network settings. We wanted to know whether agents, targets and non-targets as three different sources are on the same line when evaluating the agents' influence attempts in form of nine micro-political tactics. Despite the fact, that the main focus was set on convergence, and hypotheses were formulated according to that effect, the MTMM-model accounted for the evaluation of discriminant validity, too, i.e., the extent to which independent sources diverge in their measurement of different tactics (cf. Byrne, 2011).

On the whole, the results support the convergent as well as the discriminant validity of the inventory being used in the present study. All trait loadings showed significant estimations, most of them of considerable magnitude. Moreover, beside high trait loadings, almost all loadings on method factors were marginal. In addition, correlations among trait factors were mainly low. These findings support strong evidence for a discriminability of the nine tactics. Interestingly, contrary to our implicit assumptions, there was no big difference between

the targets' and non-targets' ability to perceive direct influence tactics.

Two conclusions can be drawn from these results. The first explanation follows from the ongoing discussion concerning an agent's influence style. On that note, some researchers argue that agents are far from being 'micro-political chameleons', which adjust their influence strategies to a respective person or situation (cf. Ferris et al., 2002). Rather, an agent's choice of tactics appears to vary only within a certain corridor when attempting to influence different targets (cf. Barbuto and Moss, 2006). Following the perspective of a relatively stable inter-individual influence style, convergence not only between agent and a specific target can be expected. The rationale behind this view can be explained through the fact that although non-targets were not the direct aim of influence within the present study's design, they rated their own experiences with the agent's behaviors, therewith producing a second 'target rating'. In doing so, he or she could have drawn upon recurrent actions of the agent that are similar to the target's perceptions.

Another explanation for the convergence of all three sources on direct influence tactics might be found in the 'open playground' available when groupware is used. If ICT guarantee an open information flow between all network members, the model of dyadic influence attempts might become ineffective and obsolete. By using open groupware strategically the whole network can be addressed simultaneously. Therefore, convergence between all three parties could have emerged through such a 'glass-house-effect'. However, we did not control for the communication channels that were used. Accordingly, we were not able to differentiate between influence situations where open forms of ICT were used vs. those where communication was masked to others and only certain persons were addressed (e.g., through e-mail use). This aspect will be further critically reviewed below.

Compared to most deflating results from intra-organizational research where agents and targets meet *same time, same place* the convergence of different sources that we have found in virtual settings can be interpreted as fairly good. How can this be understood? Some studies on self-other agreement in personality judgments have shown that virtual groups were better able to selectively present aspects of themselves and could better manage their self-presentation via CMC than those who were engaged in physical face-to-face interactions (Okdie et al., 2011). In addition, social and normative contexts may be of even greater importance in

virtual organizations when compared to intra-organizational face-to-face interactions. For example, it can be assumed that the negotiation of norms and the evaluation of the persons' network fit are of more substantial importance in virtual organizations as in traditional industrial settings. Especially when formalized routines are missing, the networks' members have to rely on a common sense in their decisions about the persons they want to work with. Before *de facto* collaboration occurs, potential partners have put each other to the test in terms of trust, engagement, and the others' willingness to reciprocity. Accordingly, it is reasonable to assume that most of the members in virtual organizations know each other very well, which would provide an explanation for high self-peer-agreements. Even if information available via ICT is fragmented, incomplete, or ambiguous, perceivers can resort to their previous knowledge of each other.

A more in-depth view to the results, however, reveals some shortcomings of the tested model.

Almost half of the error variances that were specified in the CTCM-model were of considerable height. Within error variances, 'the rest of the world' can be found which is not explained through specified trait or method factors. It can be assumed that additional variables which had not been specified within this model may be of crucial importance to better understand the model's interrelations. One important factor could lie in the variety of ICT used within the participants' virtual organizations. As mentioned in the description of the sample, the vast majority of triads used a wide variety of ICT to coordinate workflows and to communicate with each other. As we have mentioned above, we did not further differentiate with respect to media usage. Nevertheless, it is obvious that some mediating technologies may be more effective for some kinds of tasks than others. Therefore, situational and contextual factors created through different communication media are likely to affect the selection of influence strategies as well as the peers' interpretation of the actors' behavior (Sussman et al., 2002). Therefore, future research should take a closer look on how and for what purposes the teams' technologies are used when trying to influence a target person and control for different ICT. Furthermore, the effect on the target will be especially dependent on how politically skilled and media-savvy the agent is.

In addition to aspects related to the variety of ICT in carrying influence processes one must take into consideration the social nature of networks

which might have contributed to considerable variations in the ratings. To broaden the picture, future research in this field should address relational aspects such as the quality of the relationship between agent and target, their respective network positions and the degree to which political behavior is addressed openly. Further, individual-level aspects such as the political skills of the agent and several other personal competencies might substantially contribute to a deeper understanding of the inner dynamics of virtual networks.

The present study offers some methodical limitations. Since at least 90 parameters were to be estimated for model calculations, the sample size of 243 data sets was relatively small (Kline, 2005). Even if samples of  $n = 200$  have been set as a benchmark by some authors (e.g., Marsh et al., 1988) a sample of at least  $n = 250$  rather meets the recommendations of most authors. Another limitation is set by the selection of the sample. Despite the fact that targets and non-targets were randomly selected, they had been listed by the agent before, and thus belong to a specific pool of network members. Consequently, effects of sympathy or other inter-individual preferences may have led to a selective set of triads. This leads directly to another important limitation. In fact only cliques within the network have been evaluated but not the whole network. However, research on virtual organizations would require a consideration of the multiple mutual relations that actually build the network. Thus, analyses of triads provide only a first step to gain insights into social influence processes.

Beside these limitations, the study offers important insights into the social nature of virtual collaborations: Obviously, peers are aware of the agent's influence attempts in virtual networks. So does being caught in the act blow the agent's cover? With a view to career advancement some authors have pointed out that micro-political influence attempts cannot be carried out as an overt act in order to be effective (Elron and Vigoda-Gadot, 2006). On this note, it could be argued that covert influence attempts that are not perceived as such may even be more powerful, because the target cannot put up resistance. In our study we concentrated solely on the observed influence attempts and refrained from evaluating the success of influence attempts. Accordingly, questions concerning the relationship between the obviousness of tactics and realized effects towards influence targets cannot be answered. However, at least from a theoretical point of view, one might assume that in virtual organizations dealing with influence is



different. Given the lack of formalized leadership hierarchies in most virtual organizations, leadership at its most basic level is the ability to influence others. Influence tactics can thus be viewed as a vital—if not necessary—tool for members to get their way in network issues (Greer and Jehn, 2009). This dilemma—working at eye level without the formal authority to give directives but getting work done together at the same time—requires any form of informal influence behavior. In the absence of leadership alternatives, mutual influence is thus beside joint decisions and collective processes not only tolerated but often the only leadership instrument available.

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## APPENDIX

Table A.1.: English Version of the Virtual Politics Inventory.

To achieve my goals within the network...

**Rational Persuasion**

I try to convince others with my knowledge in that matter.  
 I use rational arguments to convince my network partners.  
 I describe in detail the reasons for my concerns.  
 I spread information to the network partners to clarify my concerns.

**Assertiveness**

I clearly express my displeasure towards my network partners.  
 I engage in open confrontation with my network partners.  
 I put pressure on my network partners.

**Inspirational Appeals**

I try to highlight that we are all in the same boat.  
 I call upon our common vision, the basic idea of a network.  
 I emphasize the need to pull together for being successful.

**Self-Promotion**

I emphasize my efforts regarding the network collaboration.  
 I emphasize my value for the network.  
 I refer to positive outcomes due to my work and/or the central position of my company within the network.

**Exchange**

I affirm that I would show my gratitude for a partner's favor.  
 I offer to do my network partner a favor in return.  
 I promise to reciprocate for my network partner's support.

**Mediating**

I achieve my goals better when I behave neutrally towards my partners.  
 I try to stay neutral and mediate between partners during negotiations and discussions.  
 I keep a non-committed position in discussions and controversies instead of taking sides with a party straight away.  
 I try to be the mediating tie in cases of disagreement.

**Claiming Vacancies**

I look for opportunities to play an additional part in the network beyond my primary role.  
 I adopt some additional tasks as they turned out to be advantageous.  
 I take over new tasks and/or roles within the network to extend my scope of action.

**Being Visible**

I always try to show presence via electronic media.  
 I purposefully use electronic media to call attention to my concerns.  
 I always try to be available and present on all communication channels.

**Inspiring Trust**

I try to appear open-minded about my network partners' concerns from the very beginning.  
 I purposefully try to show that I am a good and worthy network partner (showing mutual exchange, trustworthiness, etc.).  
 I purposefully present myself as a network partner who is willing to share information and resources.  
 Right from the start I tried to show my reliability towards the other network members.

Table A.2.: Multitactic-Multisource-Matrix: Scale Means, Standard Deviations and Convergent Validity Coefficients (n = 729; 243 triads).

	M	SD	Target Rating															
			10	11	12	13	14	15	16	17	18							
Agent Rating																		
1. RP	3.79	1.01	.49															
2. AS	2.51	1.13		.67														
3. IA	3.43	1.11			.36													
4. EX	3.39	1.09				.49												
5. SP	3.05	1.11					.46											
6. VI	3.23	0.96						.58										
7. ME	2.48	0.95							.51									
8. PB	2.30	0.90								.48								
9. IT	3.76	1.14									.22							

  

	M	SD	Non-Target Rating														
			19	20	21	22	23	24	25	26	27						
Target Rating																	
10. RP	3.17	0.95	.37														
11. AS	2.65	1.01		.69													
12. IA	3.30	1.09			.25												
13. EX	3.22	1.09				.56											
14.SP	2.98	1.12					.29										
15. VI	3.08	1.12						.46									
16. ME	2.40	0.91							.57								
17. PB	2.45	1.07								.34							
18. IT	2.58	0.84									.37						

  

	M	SD	Agent Rating								
			1	2	3	4	5	6	7	8	9
Non-Target Rating											
19. RP	3.19	0.94	.33								
20. AS	2.72	1.03		.64							
21. IA	3.23	1.07			.29						
22. EX	3.03	1.02				.38					
23. SP	3.00	1.07					.43				
24. VI	3.03	1.11						.63			
25. ME	2.50	0.90							.53		
26. PB	2.46	1.04								.47	
27. IT	2.47	0.89									.37