Relational Model Conflicts in Knowledge Sharing Relations

Peter van Baalen, Jan van Dalen, and Jorina van Malsen
Department of Decision and Information Sciences
Rotterdam School of Management
Erasmus University

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Peter van Baalen Rotterdam School of Management
Erasmus University Rotterdam
Dept. Information and Decision Sciences
Telephone: +31104082700
Email: pbaalen@rsm.nl Jan van Dalen Rotterdam School of Management
Erasmus University Rotterdam
Dept. Information and Decision Sciences
Telephone: +31104082370
Email: jdalen@rsm.nl Jorina van Malsen Rotterdam School of Management
Erasmus University Rotterdam
the Netherlands
Telephone: +31619974624
Email: jorinavanmalsen@hotmail.com

Abstract

The distributed nature of organizational knowledge makes that knowledge sharing an important factor for unlocking its potential value. In practice, however, people may have different motivations for not sharing knowledge with colleagues, which in part may be due to the relational context. In this paper, we adopt Fiske's Relational Model Theory to investigate relational dynamics in knowledge sharing behavior. Our objective is to gain insight into how relational model conflicts affect knowledge sharing in organizations.

A series of experiments have been conducted, in which the consequences of relational model conflicts for the willingness to share knowledge are evaluated. Each experiment contained four scenarios reflecting different relational models. Participants were faced with different scenarios reflecting particular relational models, and a fictitious other colleague who behaved according to a conflicting relational model.

Our analysis shows that the recognition of relational model conflicts strongly depends on the relational models involved. The extent of recognition seems to be related with the nature of the exchange relationships involved in the conflict. For instance, the relational model conflict was more acutely felt by a communal sharing participant facing a market pricing colleague, than by the same participant dealing with an authority ranking response. Likewise, we find that the impact of relational model conflicts on the willingness to share knowledge depends on the relational models involved. Specifically, it appears that market pricing responses have a negative influence on participants' willingness to share, while communal sharing responses generally have positive effects.

Our research serves as a starting point for other studies aiming at a deeper understanding of the dynamics of knowledge sharing behavior of employees and for solving conflicts at work.

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I. Introduction

Extensive research exists on knowledge sharing in organizations. Two main reasons are reported for this extraordinary interest in knowledge sharing (Cabrera and Cabrera, 2002). The first is the growing awareness that organizational knowledge may constitute a strategic resource (Argote and Ingram, 2000). The second refers to the inherently distributed nature of organizations (Tsoukas, 2003; Cabrera and Cabrera, 2002), where knowledge sharing serves as a basis for collaboration within organizations.

Knowledge sharing in organizations is not always a natural phenomenon (Wasko and Faraj, 2005; Bock et al., 2005). People may have different motivations for not sharing knowledge with colleagues. For this reason, a lot of knowledge management research has investigated the motivations for (not) sharing knowledge. This research, however, usually does not consider knowledge sharing in its relational context and often assumes knowledge sharing relations to be static.

In this paper we adopt a dynamic, relational view on knowledge sharing. We use Fiske's Relational Model Theory (Fiske, 1991; 1992) to investigate relational dynamics in knowledge sharing behavior. The aim of this paper is to contribute to a relational and dynamic theory of knowledge sharing, based on Relational Model Theory. The research question for this present study is: how do relational models conflicts affect knowledge sharing in organizations? To answer this question, we developed an experimental research design that explores the impact of conflicts in knowledge sharing relationships on the willingness to share knowledge. Our basic premise is that when relational models conflict, knowledge sharing will be hampered.

This paper is organized as follows. First, we outline Fiske's Relational Model Theory and its relevance for understanding knowledge sharing behavior. Then, we discuss how organizational dynamics, e.g. conflicts, in knowledge sharing relationships influence the willingness to share knowledge. After describing the research design, methods and data collection, we finally discuss how our empirical findings contribute to a relational and dynamic theory of knowledge sharing.

II. Related literature and research hypotheses

A. Relational Model Theory and Knowledge Sharing

Knowledge sharing has been investigated from different theoretical perspectives. One important perspective is concerned with coordination modes. Davenport and Prusak (1998) argue that knowledge should be shared according to the logic of markets: "Many knowledge management initiatives have been based on the utopian assumption that knowledge moves without friction or motivation force, that people will share knowledge with no concern for what they gain or lose by doing so" (p. 26). However, Constant et al. (1994) have shown that this 'primitive' self-interest and simple reciprocity is influenced by organizational norms of knowledge ownership. Others have accentuated the importance of community exchange relationships for knowledge sharing, assuming that people have common interests, needs, and practices (Brown and Duguid, 1991; Huysman et al., 2003). Wasko and Faraj (2005) showed that generalized reciprocity, community interest, and prosocial behavior appear to be the main motivations for knowledge sharing via electronic networks. Osterloh and Frey (2000) argue that different motivations, intrinsic and extrinsic, for knowledge sharing require different organizational forms, which in turn enable different kinds of motivation and knowledge. For example, markets use extrinsic incentives to stimulate knowledge sharing. However, when extrinsic market incentives are applied in community setting it may crowd out the intrinsic motivations for knowledge sharing. These insights are relevant for understanding the relational dynamics in knowledge sharing behavior. Fiske's Relational Model Theory can help to gain more in-depth knowledge in these dynamics.

Relational Model Theory (RMT) argues that people are fundamentally social and that relations are patterns of coordination (Fiske, 1992). It further argues that all aspects of relations are organized by just four elementary relational models or schemata: communal sharing (CS), authority ranking (AR), equality matching (EM) and market pricing (MP). Recently, the theory has been applied to knowledge sharing relations (Boer, 2005; Boer et al., 2011) aiming at understanding the complexity and dynamics in knowledge sharing behavior. Following is a summary of the relational models and their implications for knowledge sharing behavior.

a) Communal Sharing: Communal sharing relations (CS) are based on the conception of a bounded group of people as equivalent and undifferentiated. In this kind of relationship, members treat each other as the same, focusing on commonalities and discarding distinct individual identities (Fiske, 1992). The relationship is symmetric. Knowledge is conceived as being a community good which no one owns individually. Knowledge sharing is guided by generalized and staggered exchange.

b) Authority Ranking: Authority ranking relations are based on asymmetry among people who are linearly ordered along some hierarchical social dimension (Fiske, 1992). People higher in rank have privileges, prestige, and have better access to knowledge than people lower in rank (subordinates) who are, in exchange, entitled to protection and pastoral care. Information flows hierarchically and asymmetrically. Knowledge sharing can be 'ordered' by those higher in rank.

c) Equality Matching: Equality matching relationships (EM) are based on even balance and one-for-one correspondence. People are primarily concerned about whether a relationship is balanced. known as balanced reciprocity, and keep track of how far it is out of balance. Each person is entitled to the same amount as each other person in the relationship, and the direction and magnitude of an imbalance are meaningful (Fiske, 1992). In EM relationships knowledge is perceived as a means of leveling out knowledge sharing efforts.

d) Market Pricing: Market pricing relationships (MP) are based on proportionality in social relationships. People in market pricing relationships usually reduce all relevant features under consideration to a singular value or utility metric that allows the comparison of many, qualitatively and quantitatively diverse factors. The relationship is organized in terms of cost-benefit ratios and rational calculations of efficiency or expected utility. Knowledge is perceived as a commodity, which has a value and can be traded. People are motivated to share knowledge according to market pricing because they receive a reward for it, other than being similar knowledge or any kind of intellectual reward (Boer et al., 2011).

In the CS, EM, and MP relational models, relations are symmetrical. In the AR model relations are vertical. For this reason we distinguish between two sub models within the Authority Ranking model: Authority ranking superior (AR1) and Authority ranking subordinate (AR2).

TABLE I
STRUCTURAL PROPERTIES OF RELATIONAL MODELS (ADAPTED FROM FISKE, 1991)

	Relational model			
Structural properties	Communal sharing	Authority ranking	Equality matching	Market pricing
Perceived ownership	owned by community	owned by supervisor on behalf organization	owned by individual	owned by individual
Exchange relationship	generalized exchange: people give and take what they need from pooled resources	contractual, direct exchange	in-kind, balanced reciprocity	price, pay for commodity in proportion to what is achieved
Moral judgment	caring, kindness, altruism, generosity	what supreme is commanded is right, obedience	fairness as strict equality, equal treatment	abstract, universal, rational principles based on utility
Motivation	intrinsic, intimacy	extrinsic, power, care	desire for equality	extrinsic, achievement

B. Dynamics between Relational Models: conflicts, sacred values, and taboo trade-offs

The four relational models are mutually exclusive because of their different inherent structural properties (Fiske, 1992; Boer et al., 2011). For example, knowledge cannot be shared with the other person in return for money (MP) and by promising something similar in return (EM) at the same time. We assume that when people share similar relational models knowledge sharing will take place. We label this as relational model congruency, which is defined as the correspondence between structural properties (Boer et al., 2011). Structural properties refer to the perceived ownership of knowledge, the exchange relationship, moral judgment, and motivations for knowledge sharing (Boer et al., 2011). However, conflicts may arise when structural properties are not congruent.

Poulsen (2005) distinguishes between between-model conflicts and within-model conflicts. Between-model conflicts result from disagreement about the appropriateness of a particular relational model for a particular situation. Each relational model represents a qualitatively distinct form that cannot be reduced to one of the three other models (Poulsen, 2005). The reason for this incommensurability is that relational models are rooted in different 'sacred values', which include the perceived ownership of knowledge, the type of exchange relationship, moral judgment, and motivations for sharing knowledge (adapted from Fiske, 1991, pp. 4248), which can not be compared to each other nor can they be converted to each other (Fiske, 1991; Tetlock et al., 2000). For example, a conflict may arise when someone asks money for advising a good friend: the friend assumes a communal sharing relationship and does not expect that he has to pay for the advice according to market pricing Boer et al. (2011). In this case the 'sacred value' of friendship is violated by the MP model. Fiske and Tetlock (1997) call this situation a taboo trade-off.

C. Hypotheses

Relational model conflicts are expected to affect the willingness to share knowledge, depending on the relational models involved. For instance, based on the structural properties in table I and the design of the experiment, serious consequences for knowledge sharing may be expect to occur when market pricing responses are given to requests in organizational contexts characterized by communal sharing. In the latter context, exchange of knowledge is intrinsically motivated, people give and take what they need from a common base of resources, while exchange in a market pricing model is extrinsically motivated. Also, an authority ranked supervisor faced by a market pricing response by another colleague may be expected to be less willing to share knowledge with this colleague in the future. Further, when support requests in organizations characterized by communal sharing, equality matching or market pricing are met with authority motivated denial, then adverse effects on people's willingness to share knowledge are expected, though for different reasons. For instance, in a communal sharing context, where openness is expected, the unwillingness of superiors to share knowledge,

for the only reason they do not owe their subordinates anything, may have negative consequences for knowledge sharing. By contrast, organization contexts in which other colleagues respond according to a subordinate authority ranking or a communal sharing model, limited influence on knowledge sharing is expected because relational models suggest an intrinsic motivation to share. Table II provides a summary of the expected consequences for knowledge sharing of relational model conflicts.

TABLE II
EXPECTED CONSEQUENCES OF RELATIONAL MODEL CONFLICTS FOR WILLINGNESS TO SHARE KNOWLEDGE

Participant's	Other colleague's role (experiment)				
scenario	AR1	AR2	CS	EM	MP
AR1			O	C	CC
AR2			O	O	C
CS	C	O		C	CC
EM	CC	O	O		C
MP	CC	O	O	O/C	

O= No relational model conflict expected, no influence on willingness to share
O/C= Not clear whether a Relational Model conflict is expected
C= Relational model conflict is expected, influence on willingness to share
CC= Severe relational model conflict expected, severe influence on willingness to share

III. METHODOLOGY

A. Experimental setup

We conducted five experiments, one for each relational model (AR1, AR2, CS, EM, MP). The authority ranking model has been split into an Authority ranking superior (AR1) model and Authority ranking subordinate (AR2) model, as different participant behavior may be expected depending on whether the other in an authority ranking relation is ranked higher or lower. All experiments situate knowledge sharing behavior in an organizational setting. In each experiment, participants are asked to reflect on three to four work-related scenario's. These scenarios allocate a specific relational model to the participant, describe expected interactions and communications, a specific need for assistance on behalf of the participant, and a response to this need by a fictitious 'Other colleague'. The other colleague's response is based on the same relational model for all scenario's in the experiment, but always different from the relational models adopted in the scenarios. The purpose of this is to simulate a conflict, a situation in which there is no reciprocity and thus no mutual use of one particular relational model. An example of a particular scenario used in different experiments is in the appendix.

B. Sample characteristics

After carefully reading the scenarios, participants were asked about their attitudes towards the response of the other colleague and about their willingness to share knowledge with that other colleague in the future. All questions are formulated as single item evaluative statements with five answer categories, varying from 'strongly disagree' to 'strongly agree'. In addition, information has been collected about gender, age and education level of participants. Summary descriptives of this information is in table III. A description of these characteristics is in the analysis section.

TABLE III
DESCRIPTIVES OF THE FIVE SAMPLES

		Other colleague's role (experiment)				
		AR1	AR2	CS	EM	MP
Obs.		27	28	33	27	35
Gender	Male	8	2	12	12	12
		(29,63)	(7,14)	(36,36)	(44,44)	(34,29)
	Female	19	26	21	15	23
		(70,37)	(92,86)	(63,64)	(55,56)	(65,71)
Age	< 25	7	10	17	17	16
		(25,93)	(35,71)	(51,52)	(62,96)	(45,71)
	≥ 25	20	18	16	10	19
		(74,07)	(64,29)	(48,48)	(37,04)	(54,29)
	Avg	27,56	25,68	24,45	25,56	36,66
	Std	(7,32)	(4,72)	(5,60)	(9,11)	(17,92)
Education	Undergrad.	6	9	10	15	12
		(22,22)	(32,14)	(30,30)	(55,56)	(34,29)
	Graduate	19	18	16	9	19
		(70,37)	(64,29)	(48,48)	(33,33)	(54,29)
	Other	2	1	7	3	4
		(7,41)	(3,57)	(21,21)	(11,11)	(11,43)

The columns denoted as 'Other colleague's role' provide summaries of the different questionnaires. Each questionnaire assumes a particular role of the fictitious 'other' in the scenarios presented to the participant. Integer values represent counts, with percentages below in parentheses. For age, the frequencies of age classes below 25 and equal to or above 25 are given together with its sample average and standard deviation (in parentheses).

C. Methods

Focus of the present analysis, is on participants' perceptions of the other's response to their request for help and on the consequences of relational model conflicts for the willingness to share information with the other in the future. Anova tests have been employed to evaluate within subject differences between the scenarios of a given experiment, and to explore the between subject differences of scenarios assuming the same relational model across the experiments. Summaries of these results are in table IV, while analysis of the outcomes is in the analysis section.

IV. RESULTS

A. Experiment 1: AR1-responding other colleague

1) Participants and Design: The experiment with an AR1-responding 'Other colleague' has 27 participants. The majority is female (19; 70,4%). Most participants are over 25 years old (20; 74,1%; avg = 27,56, std = 7,32) and are university graduates (19; 70,4%). Participants have been presented three scenarios in which the presumed relational models were: communal sharing (CS), equality matching (EM) and market pricing (MP). In all scenario's, the 'Other colleague' responded in an AR1-manner to the participant's request for support. For this reason, the experiment does not contain AR1 or AR2 scenarios, which do not imply any relational model conflicts.

TABLE IV
MEAN AND STANDARD DEVIATIONS OF PARTICIPANT'S REPLIES TO VARIOUS SCENARIO'S

Participant's	Other colleague's role (experiment)					
scenario	AR1	AR2	CS	EM	MP	F
Participant's surprise/disappointment about other's response						
AR1			1,73	2,00	3,86	29,77
			(0,80)	(1,0)	(1,12)	(0,00)
AR2			2,94	3,41	3,71	2,44
			(1,06)	(1,15)	(1,13)	(0,09)
CS	3,37	1,71		3,78	4,37	29,47
	(1,18)	(0,81)		(1,19)	(1,0)	(0,00)
EM	3,56	2,36	2,00		3,94	18,04
	(1,37)	(1,25)	(0,79)		(1,03)	(0,00)
MP	2,26	3,46	3,33	3,37		5,48
	(1,23)	(1,20)	(1,31)	(1,01)		(0,00)
F (Scenario)	12,60	18,48	13,28	8,49	7,75	
	(0,00)	(0,00)	(0,00)	(0,00)	(0,00)	
F (Id)	2,53	1,09	0,89	1,29	5,80	
	(0,00)	(0,38)	(0,63)	(0,20)	(0,00)	
Willingness to share knowledge in the future						
AR1			3,79	4,07	2,89	14,66
			(0,78)	(0,47)	(0,90)	(0,00)
AR2			3,94	4,07	3,74	1,08
			(0,66)	(0,62)	(0,98)	(0,34)
CS	3,26	4,36		3,70	3,14	14,41
	(0,98)	(0,73)		(0,78)	(1,09)	(0,00)
EM	3,11	4,36	4,61		3,17	22,54
	(0,93)	(0,49)	(0,75)		(1,07)	(0,00)
MP	3,63	4,29	3,85	4,26		6,64
	(0,79)	(0,46)	(0,83)	(0,53)		(0,00)
F (Scenario)	3,18	0,16	17,81	7,13	0,50	
	(0,05)	(0,86)	(0,00)	(0,00)	(0,61)	
F (Id)	2,08	1,21	2,92	1,77	2,05	
	(0,01)	(0,27)	(0,00)	(0,03)	(0,00)	

The columns denoted as 'Other colleague's role' provide summaries of the different questionnaires. Each questionnaire assumes a particular role of the fictitious 'other' in the scenarios presented to the participant. The results represent averages and standard deviations (in parentheses) of respondents' replies to questions about their surprise or disappointment about the other's response and about their willingness to share knowledge with the other in the future. In all cases, five-point rating scales have been employed with answer categories 1 = 'strongly disagree' to 5 = 'strongly agree'. Moreover, F (Scenario) and F (Id) are anova F-test results adopting a randomized block design to evaluate the assumed equality of the mean scenario and participant effects. F (Scenario) gives the outcome and significance (in parentheses) for the Scenario effect, F (Id) gives the results for the participant effect. The results in column F refer to between subjects anova F-tests (significance values in parentheses) of the assumed equality of mean participant ratings in a particular scenario across the experiments, i.e. the different responses of the other colleague.

2) Results and Discussion: Results in table IV show that mean participant scores of their recognition of a relational model conflict (F (Scenario) = 12,60; $p < 0,005$) and of their willingness to share knowledge in the future (F (Scenario) = 3,18; $p = 0,05$) differ significantly between scenarios. Participants in communal sharing or equality matching scenarios are relatively disappointed with the authority-based refusal to answer their support request. In spite of the differences between the MP and AR1 relational models, participants in a market pricing scenarios appear to be relatively less disappointed with the other's authoritative response. Participants in all scenarios reveal a moderately positive willingness to share information in the future. The relatively favorable willingness expressed for the market pricing scenario is consistent with the low disappointment about the supervisor's response.

B. Experiment 2: AR2-responding other colleague

1) Participants and Design: The experiment with an AR2-responding 'Other colleague' has 28 participants, of which only two are male (7,14%). Average age of the participants is 25,7 (std = 4,72), with 64,3% participants are over 25 years old; 64,3% of the participants are university graduates. Similar to the AR1-experiment, participants have been presented three scenarios with relational models CS, EM and MP. The 'Other colleague' responds in an AR2-manner to the participant's request for support. As AR1 or AR2 scenarios would not imply relational model conflicts, they were not included in the experiment.

2) Results and Discussion: Even though the mean scores of participants' surprise with the other colleague's response differ significantly (F (Scenario) = 18,48; $p < 0,005$). The limited surprise about the readiness of the other, a subordinate, to help out, may well be explained by the fact that cooperative behavior is expected. Yet, it is interesting to see, and consistent with the structural properties of relational models, that in a communal sharing context, with a natural inclination to share, there is the least evidence of surprise (avg = 1,71; std =0,81), while in a market pricing context, where knowledge is considered individual property, there is more surprise.

Furthermore, there are no systematic differences between the mean scores of the willingness to share knowledge in the future (F (Scenario) = 0,16; $p = 0,86$), while the mean scores themselves are all relatively high (> 4). These findings are consistent with expectations stated in table II, based on the argument that subordinates can be expected to share knowledge, and that superiors can be expected to share knowledge with them unless there are unforeseen reasons not to do so.

C. Experiment 3: CS-responding other colleague

1) Participants and Design: The experiment with a communal sharing 'Other colleague' has 33 participants. The typical participant is female (21; 63,6%), around 24 years of age (24,45; std = 5,60), and is a university graduate (16; 48,5%). Participants have been presented four scenarios with relational models: AR1, AR2, EM and MP. Again, the CS-scenario itself has not been included in the experiment, as it does not constitute a relational model conflict.

2) Results and Discussion: Participants' perceptions of the willingness of the other colleague to answer their request without reservation, are in line with their reactions to the subordinate colleague's response (AR1), which was expected. Again, the mean surprise scores differ significantly between scenarios (F (Scenario) = 13,28; $p < 0,005$). Mean surprise scores are relatively low in the AR1-scenario (avg = 1,73, std = 0,80) and EM-scenario (avg = 2,00; std = 0,79), but again relatively high in the MP-scenario (avg = 3,33; std = 1,31). Unlike the subordinate other colleague, the mean scores of the willingness to share knowledge in the future do differ significantly between the scenarios (F (Scenario) = 17,81; $p < 0,005$). It seems that the other colleague's CS-behavior

is particularly appreciated in an EM-scenario, where the usual exchange relation is based on balancing. The mean score for the willingness to share knowledge in the future is relatively high in this scenario (avg = 4,61; std = 0,75).

D. Experiment 4: EM-responding other colleague

1) Participants and Design: The experiment with an EM-responding 'Other colleague' has 22 participants. Somewhat more than half of the participants is female (15; 55,56%), the majority is below 25 years old (17; 63,0%; avg = 25,56, std = 9,11), while 15 (55,6%) are undergraduate students. Participants have reflected on four scenarios with relational models: AR1, AR2, CS and MP. The 'Other colleague' responds in an EM-manner to the participant's request for support. The EM-scenario itself has again been excluded from the experiment.

2) Results and Discussion: Both the mean scores of participant's attitudes toward the EM-responses (F (Scenario) = 8,49; $p < 0,005$) and of their willingness to share knowledge in the future (F (Scenario) = 7,13; $p < 0,005$) differ significantly. Concerning their attitude toward the equality matching response, participants in an authority ranking supervisor model seem to be the least disappointed (avg = 2,00; std = 1,00), where those operating in a communal sharing context are relatively negatively affected (avg = 3,78; std = 1,19). The latter was expected, since in CS-scenarios resources are exchanged freely. The former, more understanding, attitude in the AR1-scenario was not expected. Possibly, participants did not realize that the other colleague was not adopting the role of subordinate, in which case the supervisor might expect to have the desired support for free. In all scenarios, participants are relatively positive about their willingness to share information with the EM-colleague in the future. An exception is the communal sharing context (avg = 3,70; std = 0,78), where resources supposedly come from a shared pool.

E. Experiment 5: MP-responding other colleague

1) Participants and Design: The final experiment with an MP-responding 'Other colleague' has 35 participants. Of these, 23 (65,71%) are female, 19 (45,71%) are aged over 25 (avg = 36,7, std = 17,92), while 19 (54,3%) are graduate university students. Four scenarios have been presented to the participants, expressing relational models: AR1, AR2, CS and EM. The MP-scenario was not included, as it does not imply a relational model conflict.

2) Results and Discussion: Mean scores of participants' perceptions about the matched pricing model response of the other colleague are significantly different between the various scenarios (F (Scenario) = 7,25; $p < 0,005$). As expected, participants in the communal sharing scenario are relatively disappointed (avg = 4,37; std = 1,00) about the MP-response to their support request. In a communal sharing model, resources are shared without expecting anything in return. This is opposite to market pricing model, which is extrinsically motivated, based on compensation. The willingness to share knowledge in the future does not differ significantly between scenarios (F (Scenario) = 0,50; $p < 0,61$). Apart from the relatively favorable willingness expressed in the AR2-scenario (avg = 3,74; std = 0,98), consistent with the subordinate's role, the mean scores are around or below a neutral position toward sharing knowledge.

F. Meta-analysis

1) Participants and Design: So far, within subject attitudes toward relational model conflicts between different scenarios but the same response model of another colleagaue have been analyzed. In addition, we explore the between subject differences between different responses of the other colleague, i.e. the different experiments, for a given relational model scenario. All statistical tests are controlled for participant characteristics, gender, age, and education. None of the control variables had siginificant contributions, except gender in the case of the market pricing scenarios.

2) Results and Discussion: Participants in all scenarios are significantly affected by the other colleagues relation model.

Participants in an authority ranking supervisory role tend to be the least surprised by the other collegues responses, except for the matched pricing response (avg = 3,86; std = 1,12). This attitude is mirrored by a relatively favorable willingness to share information with communal sharing and equality matching other colleagues, but a willingness to do with the market pricing other (avg = 2,89; std = 0,90).

In AR2-scenarios, differences between the mean surprise scores are barely significant (F = 2,44; $p = 0,09$), which may have to do with the participants position in the organizational hierarchy rather than the relational model. Consistent with the outcome, the willingness in AR2-scenarios to share knowledge in the future is generally favorable (mean scores varying from 3,74 to 4,07), but the mean scores do not differ significantly (F = 1,08; $p = 0,34$).

Significantly different scores are observed for participants in the communal sharing scenarios regarding the surprise about the other colleague's response (F = 29,47; $p < 0,005$) and the subsequent consequence for the willingness to share information in the future (F = 14,41; $p < 0,005$). Mean surprise scores for AR2-responding other colleagues are relatively low (avg = 1,71; std = 0,81), whereas those for market pricing (avg = 1,71; std = 0,81) and, to lesser extent, equality matching responses (avg = 4,37; std = 1,00) are relatively high. The results are conform expected outcomes, as communal sharing and subordinate have a similar attitude toward sharing resources, while the intrinsic motivation toward sharing in CS-relational models strongly contrasts with the compensation-driven mode of the EM- and especially, the MP-relational model. Parallel outcomes are observed for the willingness to share, which shows the highest mean score for AR2-responses, and a relatively low mean score for responses from a market pricing model.

Participants in equality matching scenarios seem relatively disappointed by the negative AR1 response of other colleagues (avg = 3,56; std = 1,37), by are even more so by the market price response (avg = 3,94; std = 1,03). Interestingly, the cooperative responses by subordinate or communal sharing colleagues are hardly considered surprising. Again, these results are mirrored in the mean willingness to share knowledge

in the future, which is relatively high in the case of AR2- and CS-responding other colleagues, but comparatively low for AR1- and MP-responding others.

Lastly, participants in a market pricing scenario seem to be least disappointed by the response of supervisors adopting an authority ranking model (avg = 2,26; std = 1,23). These participants are strongly in favor of future knowledge sharing with subordinates (avg = 4,29; std = 0,46) and equality matching others (avg = 4,26; std = 0,53).

V. General Discussion and Conclusions

Knowledge sharing has been extensively studied in the academic management literature. Many factors have been identified that influence knowledge sharing behavior. Less attention has been paid to the relational and dynamic nature of knowledge sharing behavior. In this paper we built on Fiske's Relational Model Theory to provide a comprehensive framework for studying these dynamics in knowledge sharing behavior. Focus is on between-model conflicts and the impact on the willingness to share knowledge.

A series of experiments have been conducted, in which the consequences of relational model conflicts for the willingness to share knowledge were evaluated. Each experiment contained four scenarios reflecting different relational models, but with a response of a fictitious other colleague adopting a common, yet conflicting relational model. Our assumption was that the extent of the relational model conflict adversely affect the participant's willingness to share knowledge with the other colleague in the future. The experiments have led to numerous findings, which for sake of exposition have been captured under two broad headings: recognition of the conflict and consequences of relational model conflicts for future knowledge sharing.

First, the recognition of relational model conflicts strongly depends on the relational models involved. A clear example are the CS-experiments, in which participants with other relational models, are seen to be hardly surprised about the communal sharing type of response by the other colleague. Reversely, communal sharing participants are acutely aware of relational model conflicts when confronted with market pricing behavior. A possible explanation is that the exchange relationship in the communal sharing model makes that people do not immediately expect anything in return for some action (staggered exchange). Nor do they expect something in return from the other with whom they shared their knowledge. Over time, communal sharing actors expect something in return from the community, but not not from specific individuals within that community (generalized exchange). However, the fact that conflicts are not or only limitedly recognized does not mean there is no relational model conflict. On the contrary, relational models do conflict with respect to their structural properties. But as these properties include different time horizons and specificities of the exchange relationship, conflicts may not immediately become manifest. This also explains why conflicts are commonly recognized when people are confronted with market pricing responses. Actors exercising market pricing behavior expect something in return for their contributions, which is proportional to what has been shared, based on rational calculations. Moreover, market pricing responses are characterized by a direct exchange, which does not allow for staggering of the return.

Second, the impact of relational model conflicts on future knowledge sharing depends on the relational models involved. Our general expectation is that relational model conflicts negatively influence people's willingness to share knowledge, and the more so when the conflict is more strongly felt. Not surprisingly, therefore, the lowest willingness to share is observed for the MP-experiments, with market pricing responding colleagues. This relational model is comparatively concrete and specific. When confronted with market pricing responses, other relational models may translate the unexpected response into less cooperative behavior in the future. Consequently, the more severe the conflict, the lower the willingness to share knowledge in the future. Moreover, conflicts with AR2- and EM-responding other colleagues are seen to have limited or no negative effects on future willingness to share. With regard to the AR2-experiments, this may be explained by the fact that the authority ranking subordinate is the asymmetrical counterpart of the general AR model, which has limited meaning, in terms of conflicts, for the other relational models. By contrast, the relatively positive consequences future knowledge sharing following conflicts with EM-responding other colleagues is surprising. Possibly, the structural properties of equality matching relational model compromises the structural properties of the other relational models. Further research is needed to explore this unexpected finding.

Our research serves as a starting point for other studies aiming at a deeper understanding of the dynamics of knowledge sharing behavior of employees and for solving conflicts at work.

Appendix

Our experiments make use of questionnaires in which three to four scenarios are presented to participants. In a given questionnaire, the relational models expressed in the scenarios differ (AR1, AR2, CS, EM, MP), but the response of the other colleague is always consistent with one particular relational model.

An example of a CS-scenario is the following:

You recently helped Pete, one of your colleagues, with a large problem at work. Even though Pete is a colleague, you have the feeling that you know him quite well and you consider him as one of your friends. For this reason you feel it is your duty to help him when a problem arises for which your colleague needs your expertise regardless of the time or effort it will take, it goes without saying. Out of a sudden one of your own projects is facing serious problems. You do not know how to solve it as it requires very specific knowledge, nevertheless, you know that your colleague Pete has the knowledge and experience to help you solve this problem. You ask Pete to help you.

The other colleague's responses to this support request differed between the various experiments.

In the AR2-experiment, the other responded in line with an authority ranking (subordinate) model: *Pete puts aside his own work and helps you right away. Although he is willing to help you until the problem is solved, he tells you that he hopes it does not take too much time as he is extremely busy himself at the moment. He is not even sure if he is able to finish his own work on time.*

In the AR1-experiment, the other responded in line with an authority ranking (superior) model: *Pete is not willing to solve your problem himself. Instead, he gives you and two other team members clear instructions that make the problem less complex so that you and your team members can still solve the problem on your own. Besides, he promises that in case you are still not able to solve the problem, he is willing to put more time and effort in helping you out.*

In the EM-experiment, the other responded in line with an equality matching model: *At first, Pete puts a lot of time and effort in solving your problem, though, after a while you realize that he is less and less willing to assist you. This really affects your problem in a negative way since you really depend on Pete's help. At a certain moment, Pete even tells you to find someone else for a change as he has already helped you enough for now.*

In the MP-experiment, the other responded in line with an matched pricing model: *Pete says that solving this problem costs him too much time and effort and even though it would affect the overall company when the project fails, Pete is not just willing to put his own work aside; this is not what he is paid for. Unless . . . , you have a good offer for him.*

In this particular example, the CS-experiment, with the other colleague responding according to a communal sharing relational model, does not have CS-scenario, as this would not imply any relational model conflict. Likewise, none of the experiments contains the scenarios that match with the other colleague's response.

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