Knowledge sharing in context: the influence of organizational commitment, communication climate and CMC use on knowledge sharing

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Abstract Determining which factors promote or impede the sharing of knowledge within groups and organizations constitutes an important area of research. This paper focuses on three such influences: “organizational commitment,” “organizational communication,” and the use of a specific instrument of communication – computer-mediated communication (CMC). Two processes of knowledge sharing are distinguished: donating and collecting. A number of hypotheses are presented concerning the influence of commitment, climate and CMC on these processes. These hypotheses were tested in six case studies. The results suggest that commitment to the organization positively influences knowledge donating, and is in turn positively influenced by CMC use. Communication climate is found to be a key variable: a constructive communication climate was found to positively influence knowledge donating, knowledge collecting and affective commitment. Finally, a relationship was found that was not hypothesised: knowledge collecting influences knowledge donating in a positive sense – the more knowledge a person collects, the more he or she is willing to also donate knowledge to others. Based on these results, a number of theoretical and practical implications are discussed, and suggestions for further research are presented.

Keywords Knowledge management, Organizations, Communication management

Introduction

In today’s knowledge-intensive economy, an organization’s available knowledge is becoming an increasingly important resource. In the “resource-based” view of the firm, knowledge is considered to be the most strategically important resource (e.g. Conner and Prahalad, 1996; Grant, 1996; Nahapiet and Ghoshal, 1998; Pettigrew and Whipp, 1990). The effective management of this resource is, consequently, one of the most important challenges facing today’s organizations (Davenport and Prusak, 1998; Drucker, 1993; Hansen et al., 1999). The sharing of knowledge between individuals and departments in the organization is considered to be a crucial process here (O’Dell and Grayson, 1998; Osterloh and Frey, 2000). Only when individual and group knowledge are translated to organizational knowledge can the organization start to effectively manage this resource. Therefore, determining which factors promote or impede the sharing of knowledge within groups and organizations constitutes an important area of research.

In this paper, we focus on two such influences, “organizational commitment” and “organizational communication.” Here, “organizational commitment” is understood to refer to the affective commitment of organizational members to their organization, whereas
"Organizational communication" refers to both the communication climate of the organization as a whole (both intensity and experienced quality of organizational communication) and the use of different instruments for communication. In the latter dimension, we specifically focus on the use of computer-mediated communication (CMC). Our central research question is: What is the influence of commitment to the organization, communication climate and the use of CMC on knowledge sharing?

In order to provide an answer to this research question, we divided it into the following sub-questions:

- What different knowledge sharing processes can be distinguished?
- What is the relationship between organizational commitment and knowledge sharing?
- What is the relationship between communication climate and knowledge sharing?
- What is the relationship between CMC use and knowledge sharing?
- What is the relationship between communication climate, CMC use and commitment?

These sub-questions will be answered in consecutive order in the theoretical section of this paper. First we will analyze knowledge sharing processes in some detail, and subsequently, we will discuss the influence of organizational commitment, communication climate and CMC use on these processes. Based on these theories, we will present a theoretical model. This model was tested on the basis of five case studies in which a "knowledge management scan" was conducted measuring all relevant variables. Based on these empirical results, we will present an empirical model and our conclusions, reflecting on the theories discussed before.

Theory and hypotheses

Knowledge sharing processes

In our theoretical discussion, we first focus on the process of knowledge sharing. Knowledge sharing is the process where individuals mutually exchange their (implicit and explicit) knowledge and jointly create new knowledge. As discussed before, this process is essential in translating individual knowledge to organizational knowledge.

Our definition of knowledge sharing implies that every knowledge sharing process consists of both bringing (or "donating") knowledge and getting (or "collecting") knowledge. In line with a number of other authors. Ardichvili et al. (2003) for instance, note that knowledge sharing consists of both the supply of new knowledge and the demand for new knowledge. Wegge (2000) distinguishes between a "knowledge source" and a "knowledge receiver" in knowledge sharing processes, and Oldenkamp (2001) discusses how knowledge sharing involves both a "knowledge carrier" and a "knowledge requester." We combine these perspectives in labeling the two central processes as follows:

1. **Knowledge donating**, communicating to others what one's personal intellectual capital is; and
2. **Knowledge collecting**, consulting colleagues in order to get them to share their intellectual capital.

So, both processes we distinguish are active processes - either actively communicating to others what one knows, or actively consulting others in order to learn what they know. Both processes have a different nature, and can be expected to be influenced by different factors.

Research concerning the factors affecting knowledge sharing has identified a number of different variables, from "hard" issues such as technologies and tools (Hlupic et al., 2002) to "soft" issues such as motivations (Ardichvili et al., 2003; Hall, 2001; Hinds and Pfeffer, 2003), organizational climate and communication climate (Moffett et al., 2003; Van den Hooff and De Riddler, 2003; Zárraga and García-Falcón, 2003) and culture (Hlupic et al., 2002; Boer et al., 2002). Organizational or ethnic cultures, for instance, can influence the extent to which and the way in which knowledge is shared (Davenport and Prusak, 1998; Ford and Chan, 2002; Smith and McKeen, 2002).
In line with Hlupic et al. (2002) and Moffett et al. (2003), we consider both “hard” and “soft” issues in our explanation of knowledge sharing. The “hard” issue under study here is the use of computer-mediated communication for knowledge sharing, and the “soft” issue is the relationship between the individual and the organization or department he or she works for. The latter issue is discussed in the next section, as we explore the relationship between commitment and knowledge sharing.

So, in our further analysis of the factors affecting knowledge sharing, we will focus on the relationship between such factors on the one hand, and both knowledge donating and collecting on the other.

**Organizational commitment and knowledge sharing**

Having distinguished knowledge donating and collecting as the substance of knowledge sharing, we now focus on the relationship between organizational commitment and these processes. As pointed out in the previous paragraphs, the motivations and effects related to both knowledge donating and collecting can be expected to be quite different. In discussing these motivations, we here focus on the role of organizational commitment. Before further exploring this relationship, however, we first have to define what we understand organizational commitment to be.

Mowday et al. (1982, 1979) and Steers (1977) have laid the foundations for an extensive body of research into organizational commitment. Mowday et al. define organizational commitment as “the relative strength of an individual’s identification with, and involvement in a particular organization” (Mowday et al., 1979, p. 226). Studies concerning this subject have identified various dimensions of organizational commitment (Mowday et al., 1982; Reichers, 1985; Salancik, 1977). A useful distinction between different forms of commitment is presented by Meyer and Allen (1997) who distinguish three different kinds of commitment:

1. **affective commitment**, which is related to identification and involvement with the organization, a feeling of emotional attachment to that organization – affective commitment leads to a feeling of wanting to continue employment in the organization;

2. **continuance commitment** is created by high costs associated with leaving the organization (“Profit associated with continued participation and a ‘cost’ associated with leaving” (Kanter, 1968, p. 504)), and creates a feeling of needing to continue employment; and

3. **normative commitment** is related to a feeling of obligation towards the organization, and creates a feeling that one ought to continue employment.

As Meyer and Allen (1997) argue that affective commitment is positively related to individuals’ willingness to commit extra effort to their work, this is the kind of commitment that can be expected to be related to willingness to donate and receive knowledge. As Hall (2001) argues, people are more willing to share their knowledge if they are convinced that doing so is useful – if they have the feeling that they share their knowledge in an environment where doing so is appreciated and where their knowledge will actually be used. Hinds and Pfetzer (in press) sum up motivational factors affecting knowledge sharing, one of which is the relationship between the individual and the organization. An individual who is more committed to the organization, and has more trust in both management and coworkers, is more likely to be willing to share their knowledge. This latter conclusion is also drawn by Jarvenpaa and Staples (2001), who state that “greater commitment may engender beliefs that the organization has rights to the information and knowledge one has created or acquired” (Jarvenpaa and Staples, 2001, p. 156). All in all, it is to be expected that affective commitment to the organization creates positive conditions for both knowledge donating and knowledge collecting.

Various authors have specifically investigated the relationship between commitment and knowledge sharing (for instance: Hislop, 2002; Kelloway and Barling, 2000; Scarbrough, 1999; Smith and McKeen, 2002; Kelloway and Barling (2000) for instance, report a number of empirical studies that confirm that affective commitment is a predictor of performance, and is based on a reciprocal relationship wherein the individual offers his or her talents to the
organization in exchange for the rewards of organizational membership. Based on these studies, they present a model in which affective commitment is positively related to knowledge work. Smith and McKeen (2002) state that commitment to the organization is an important part of a knowledge sharing culture. Based on such literature, we propose a positive relationship between organizational commitment on the one hand, and the willingness to donate and collect knowledge on the other.

All in all, this literature leads us to expect that affective commitment to the organization positively influences the extent to which people share their knowledge. As commitment influences both the willingness to contribute to that organization (i.e. donate knowledge) and the extent to which others’ activities are known and perceived to be relevant (i.e. collect knowledge) the first hypothesis is:

\[ H1. \text{ An organizational member’s affective commitment to the organization positively influences the extent to which he or she both (a) donates and (b) collects knowledge.} \]

**Communication climate and knowledge sharing**

The next question addressed here concerns the influence of communication on knowledge sharing. As knowledge sharing is, of course, a form of communication, this variable can be expected to be of significant influence here. Putnam and Cheney (1985) define “communication climate” as “the atmosphere in an organization regarding accepted communication behavior.” Key factors in the communication climate include horizontal information flow (Crinio and White, 1981), openness, vertical information flow, and reliability of information (Dennis, 1974). A distinction can be made between supportive and defensive communication climates (Larsen and Folgero, 1993), where a supportive communication climate is characterized by open exchange of information, accessibility of coworkers, confirming and cooperative interactions and an overall culture of sharing knowledge. Ali et al. (2002) conclude that the generation, distribution and continual existence of organizational knowledge depends on such a communication climate.

Based on this description of communication climate it is to be expected that such a constructive communication climate will positively influence knowledge sharing – both in terms of donating and receiving:

\[ H2. \text{ A constructive communication climate positively influences the extent to which members of an organization both (a) donate and (b) collect knowledge.} \]

**The use of CMC and knowledge sharing**

The next question to be answered concerns the role of CMC in knowledge sharing. CMC offers unique opportunities to overcome barriers of space and time (Hammer and Mangurian, 1997; Dinnick et al., 2000), but offers only limited opportunities for truly “social” communication rich in social cues (Daft and Lengel, 1984, 1986; Kiesler et al., 1984). The influence of CMC on knowledge sharing has been the subject of much research, and the empirical findings on its contributions are mixed (Hinds and Pfeffer, 2003; Huysman and De Wit, 2002; Moffett et al., 2003), although in situations where “common know how” exists it can be most valuable (Brown and Duguid, 2001).

On the other hand, CMC has a number of characteristics, such as anonymity (Postmes et al., 1998), lack of social cues (Kiesler et al., 1984) and absence of status differences (Weisband and Schneider, 1995), which have potentially interesting consequences for knowledge sharing. As status differences are frequently considered to be significant barriers for knowledge sharing (Hinds and Pfeffer, 2003), CMC’s influence on knowledge sharing could be positive as well.
Such characteristics of computer-mediated communication can lead to forms of social interaction that strongly differ from face to face interactions – without being less social or personal by definition. Walther (1996) even claims that such characteristics of ICT can lead to more personal communication, to stronger identification with the group and thus to more collective behavior. Postmes (1997) found that CMC can enhance social identification within groups. These are all conditions that positively influence the willingness to both donate and receive knowledge (Mackie and Goethals, 1987; Tyler and Kramer, 1996; Hinds and Pfeffer, 2003).

In our hypothesis, we adhere to this positive view of CMC and knowledge sharing. Our expectation is that the specific characteristics of CMC described above will create a communication environment in which donating and collecting knowledge are positively influenced:

$$H3. \text{ The use of CMC has a positive influence on organizational members’ willingness to both (a) donate and (b) collect knowledge.}$$

**Commitment, communication climate and CMC**

The concepts of affective commitment to the organization, communication climate and CMC use can also be expected to be mutually related. For instance, theory indicates that the amount of information people receive about their working environment, and the degree to which they can actively participate in communication with other members of their organization, is positively related to their commitment to the organization (Eisenberg et al., 1983; Huff et al., 1986; Kiesler, 1971; Salancik, 1977). A considerable body of research indicates that information and communication are important antecedents of commitment (Foy, 1994; Katz and Kahn, 1972; Meyer and Allen, 1997; Postmes et al., 2001; Tanis and Postmes, 2001). Guzley (1992) argues that the more favorably perceived the organization’s communication climate is, the higher will the levels of organizational commitment be: employees will demonstrate a strong belief in and acceptance of the organization’s goals and values, a willingness to exert considerable effort on behalf of the organization, and a strong desire to maintain membership in the organization. Based on this, we also expect:

$$H4. \text{ A constructive communication climate positively influences affective commitment to the organization.}$$

Building on the concepts and relationships leading to the previous hypothesis, we also answer the question of how CMC use is related to commitment to the organization. As CMC is generally expected to lower barriers for communication (Dimmick et al., 2000; Sproull and Kiesler, 1991), we also propose that such fewer barriers lead to more communication in organizations. As we have just argued that communication leads to higher commitment, CMC use can be expected to positively influence affective communication.

Furthermore, it was argued before that CMC use can enhance social identification. As Tanis and Postmes (2001) argue, social identification is closely related to affective commitment – which is another argument why CMC use can be expected to positively influence affective commitment:

$$H5. \text{ The use of CMC has a positive influence on organizational members’ affective commitment to the organization.}$$

All in all, our theoretical framework leads to the model shown in Figure 1. In the following sections, we will discuss how this model was tested, and what the results of this empirical testing were.

**Method**

**Sample**

Five Dutch organizations were examined: a technical service organization, an education related service organization, a governmental department, a financial service organization and a consultancy firm. In the education related service organization we made a distinction between two rather independent units. Therefore, we actually examine six different cases. In return for their cooperation, the organizations each received a report on the quality of their knowledge management. Within each case a random sample was selected. The selected employees filled
in a short questionnaire. In total, 444 respondents took part in the research. For the analyses reported in this article we only used data from 417 respondents (see Table I). The data from respondents were left out if answers to relevant questions were lacking.

One remark concerning the organizations studied here: these are all Dutch organizations. A considerable body of literature addresses the influence of organizational and national cultures on knowledge sharing (e.g. Boer et al., 2002; Davenport and Prusak, 1998; Hlupic et al., 2002; Smith and McKee, 2002). It is important to note that differences in national or ethnic cultures were not included in our empirical research since all organizations are from the same country.

Measurement
For knowledge donating and knowledge collecting, we use items of a knowledge management scan tested and used in a number of organizations (Van den Hooft et al., 2003). The scale for knowledge donating and the scale for knowledge collecting are both homogeneous ($\alpha = 0.85$ and $\alpha = 0.77$ respectively). The items used are presented in Table II.

For communication climate we use a scale of our scan as well. This scale was found to be just homogeneous ($\alpha = 0.61$). A high score on this scale signifies a constructive communication climate. Commitment was measured with five (translated) items of the OCG scale (Porter et al., 1974; Mowday et al., 1979), which are useful in measuring affective commitment. This set of items has already proved its worth in producing a reliable scale in a number of research projects to date. The scale is also homogeneous in this case ($\alpha = 0.83$). To get information about the use of CMC respondents were asked to indicate on a five-point scale the extent to which they use e-mail (the only CMC tool used in all organizations). Finally, all variables used in the analysis have been recoded to get a range from 1 to 5.

<table>
<thead>
<tr>
<th>Table I</th>
<th>Description of sample</th>
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<tbody>
<tr>
<td></td>
<td>1</td>
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<tr>
<td>Case</td>
<td></td>
</tr>
<tr>
<td>Number of employees</td>
<td>80</td>
</tr>
<tr>
<td>Questionnaires sent/received/used</td>
<td>80/40/34</td>
</tr>
<tr>
<td>Response rate</td>
<td>50.00%</td>
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</tbody>
</table>
Table II  Knowledge donating and knowledge collecting: scales and items

<table>
<thead>
<tr>
<th></th>
<th>Donating</th>
<th>Collecting</th>
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<tbody>
<tr>
<td>Donating ( (\alpha = 0.85) )</td>
<td></td>
<td></td>
</tr>
<tr>
<td>When I’ve learned something new, I see to it that colleagues in my department can learn it as well</td>
<td>0.621</td>
<td>0.272</td>
</tr>
<tr>
<td>I share the information I have with colleagues within my department</td>
<td>0.652</td>
<td>0.293</td>
</tr>
<tr>
<td>I share my skills with colleagues within my department</td>
<td>0.677</td>
<td>0.260</td>
</tr>
<tr>
<td>When I’ve learned something new, I see to it that colleagues outside of my department can learn it as well</td>
<td>0.833</td>
<td>-0.085</td>
</tr>
<tr>
<td>I share the information I have with colleagues outside of my department</td>
<td>0.804</td>
<td>-0.005</td>
</tr>
<tr>
<td>I share my skills with colleagues outside of my department</td>
<td>0.841</td>
<td>-0.051</td>
</tr>
<tr>
<td>Collecting ( (\alpha = 0.78) )</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Colleagues within my department tell me what they know, when I ask them about it</td>
<td>-0.069</td>
<td>0.814</td>
</tr>
<tr>
<td>Colleagues within my department tell me what their skills are, when I ask them about it</td>
<td>0.011</td>
<td>0.823</td>
</tr>
<tr>
<td>Colleagues outside of my department tell me what they know, when I ask them about it</td>
<td>0.171</td>
<td>0.664</td>
</tr>
<tr>
<td>Colleagues outside of my department tell me what their skills are, when I ask them about it</td>
<td>0.239</td>
<td>0.687</td>
</tr>
</tbody>
</table>

Analysis

The analysis strategy followed here can be considered to be an embedded case study (Yin, 1989). The respondents from five different organizations are considered as a sample of one case. Statistical techniques are used to examine the causal mechanisms on an individual level of analysis. On the organizational level there is no statistical generalization possible, of course. The theoretical model will be tested with AMOS (version 4; Arbuckle and Wothke, 1994; see for methodology regarding structural equation modeling e.g.: Saris and Stronkhorst, 1984; Bentler and Chou 1987).

The strategy used to examine the tenability of the hypotheses has some methodological shortcomings. There may be doubts about the decision to consider the six organizational units as one case. The advantage is that there is more variation in the variables involved. However, although the organizations are rather comparable (service organizations with rather well-educated employees), there may still be organization related phenomena that disturb the analyses and distort the results. Therefore, a multiple group analysis in which each organization is considered as one group has been performed as well.

Results

In this section the variables are first discussed using some descriptives and the mutual correlations. Next the tenability of the hypotheses is examined as summarized in the model given in Figure 1.

Knowledge donating and collecting and the use of communication tools

A first analysis shows that the intensity of knowledge donating and collecting is rather high in the examined organizations (average is 4.02 and 3.25 respectively on a five-point scale). Further analysis (ANOVA-analysis) shows that the differences between organizations are significant (for donating, \( F(5, 411) = 9.73, p < 0.01 \) and collecting, \( F(5, 411) = 4.95, p < 0.01 \)). Organizational affective commitment and the communication climate also score rather high (average is 3.59 and 4.27 respectively on a five-points scale). The differences between organizations
are significant too (for commitment, \( F(5, 411) = 11.68, p < 0.01 \) and communication climate, \( F(5, 411) = 3.76, p < 0.01 \)).

CMC appears to work very well in the examined organizations (the averaged use is 4.41 on a five-point scale) - however, differences between organizations are still significant (\( F(5, 411) = 5.98, p < 0.01 \)).

**Testing the model**

An AMOS analysis has been done to test the separate hypotheses in their mutual connections (see Table III for the correlation matrices of the variables involved). The starting model is the theoretical model shown in Figure 1.

Figure 2 shows the standardized regression coefficients next to the arrows. This starting model does not fit. The value of the \( \chi^2 \) (\( \chi^2 (1) = 6.55; p = 0.010; \text{NFI} = 0.999 \)) makes clear that the model cannot replicate the empirical correlation matrix correctly. The removal of the insignificant coefficient creates a just fitting model (\( \chi^2 (4) = 9.09; p = 0.059; \text{NFI} = 0.999 \)). However, the

<table>
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<tr>
<th>Table III</th>
<th>Means, standard deviations and correlations</th>
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<tbody>
<tr>
<td></td>
<td>Mean</td>
</tr>
<tr>
<td>1. Knowledge donating</td>
<td>3.25</td>
</tr>
<tr>
<td>2. Knowledge collecting</td>
<td>4.02</td>
</tr>
<tr>
<td>3. Commitment</td>
<td>3.59</td>
</tr>
<tr>
<td>4. Communication climate</td>
<td>4.27</td>
</tr>
<tr>
<td>5. CMC use</td>
<td>4.64</td>
</tr>
</tbody>
</table>

**Figure 2** Path estimates of the models: the hypothesized model

Notes: Fit of the model: \( \text{Chi-square} = 6.551 \) (df = 1; \( p = 0.010 \); \text{NFI} = 0.999). All path coefficients are significant (\( p < 0.001 \)), except for the paths between CMC use and knowledge donating and knowledge collecting; and between commitment and knowledge collecting. Values beside arrows are the standardized parameter estimates. The values of \( R^2 \) (explained variance) are in bold and italic. Correlations between exogenous variables are allowed.
modification indices show that this model left still partly unexplained the correlation between the
two knowledge sharing variables: knowledge collecting and donating. Therefore, we added a
direct effect from knowledge donating to knowledge collecting in the model. This addition
implies an improvement ($\chi^2 (5) = 2.83; p = 0.42; NFI = 1.000$). Figure 3 shows the path diagram
and the standardized regression coefficients of this last model. The model explains about
13 percent of the variance in knowledge donating and 13 percent of the variance in knowledge
collecting.

Multi group analysis

The six different organizational units make up one case in the analyses discussed above. Therefore, any organization related phenomena that may disturb the analysis are ignored. Using the AMOS facilities to perform multi group analysis, the seriousness of this problem has been examined. The starting point is the same path diagram in each organization, assuming that every effect is the same in each organization. That model does not fit ($\chi^2 (46) = 104.79; p = 0.00; NFI = 0.987$). Examination of the modification indices shows that allowing differences in parameter values for some organizations is required to get an acceptable reproduction of the empirical correlations ($\chi^2 (41) = 55.21; p = 0.083; NFI = 0.993$). The separate estimations of some parameter values show some remarkable results. In one of the organizations the effect of CMC use on commitment (a rather strong positive effect in the model presented in Figure 3) was not significant and tends to be negative. A possible explanation could be that successful CMC tools may replace the use of richer media such as face-to-face and therefore may result in less commitment. Contrary to the results of the general model presented in Figure 3, rather strong effects of commitment to knowledge collecting were found in two cases: one positive and one negative effect. In the consultancy firm, the effect is negative. A possible explanation could be that employees who feel a strong commitment do not want to bother their colleagues. Generally speaking, however, the results of the multi group analysis do not harm the general conclusion about the tenability of the hypotheses.

**Figure 3** Path estimates of the models: the revised model

Notes: Fit of the model: Chi-square = 2.834 (df = 3; $p = 0.418$); NFI = 1.000. All path coefficients are significant ($p < 0.001$)
A constructive communication climate in an organization is a central condition for successful knowledge sharing.

Conclusion

In conclusion the presented analyses support a considerable number of our hypotheses. First of all, commitment to the organization is indeed found to be of influence on knowledge sharing – on knowledge donating, more specifically, supporting H.1a. This is in line with the ideas presented before, which relate affective commitment to an enhanced willingness to contribute to the organization’s functioning and performance – in this case, contribute one’s intellectual capital. Knowledge collecting, contrary to H.1b, was not found to be influenced by commitment. Multi group analysis shows that this relationship might be complex and that the organizational context can have both a positive and negative effect on this process.

Second, communication climate was found to be a crucial variable in explaining knowledge sharing. Supporting H.2a, H.2b and H.4, respectively, a constructive communication climate was found to positively influence knowledge donating, knowledge collecting and affective commitment.

CMC use was not found to influence either knowledge collecting or knowledge donating in a direct way – but this influence was found in an indirect way, via commitment. CMC use, supporting H.5, was found to positively influence commitment – which, in turn, positively influences knowledge donating. So, these results indicate that CMC indeed has a number of characteristics that make it an antecedent of organizational commitment, and that such organizational commitment is, in turn, an antecedent for knowledge sharing.

Finally, a relationship which was not hypothesized but which is very interesting, emerges from this model: knowledge collecting influences knowledge donating in a positive sense – the more knowledge a person collects, the more he or she is willing to also donate knowledge to others. The benefits of knowledge sharing for an individual manifest themselves most strongly through successful knowledge collection. These results suggest that such manifest benefits are a condition for a person’s willingness to invest more – to donate their intellectual capital in order to enable others to realize such benefits as well.

Discussion

In this paper, we explored the influence of commitment to the organization, communication climate and the use of computer-mediated communication on knowledge sharing. Our results suggest that both commitment and communication climate are key variables in explaining knowledge sharing, and that CMC use also has a positive influence on this process (through commitment). Furthermore, the distinction between the processes of knowledge donating and knowledge collecting, respectively, turns out to be a relevant one. The antecedents of both processes are not entirely similar (commitment, for instance, influences knowledge donating but not collecting), and they are also interrelated: knowledge collecting can be seen as a condition for knowledge donating.

Theoretical implications

The implications for theory are, first of all, that the distinction between knowledge donating and knowledge collecting is an important distinction, which should receive more attention in theories about knowledge sharing. Second, affective commitment is indeed an important determinant of knowledge sharing, specifically of knowledge donating.

Our results point towards a constructive communication climate in an organization as a central condition for successful knowledge sharing. The influence of this variable on knowledge sharing turns out to be much more complicated for knowledge donating than for knowledge collecting. Where communication climate exerts a relatively strong direct influence on willingness to collect
knowledge, the influence of climate on knowledge donating is a sum of direct and indirect relationships. Our analyses have laid bare the intricate relationships between the concepts of communication climate and affective commitment, and knowledge sharing processes.

Finally, CMC use was also found to be a positive influence on commitment, lending support to theories that explain how the lack of social cues in CMC can create positive conditions for affective commitment. It is important, however, to realize that these relationships may become somewhat more complicated as successful CMC tools may replace the use of richer media such as face-to-face – which, despite the fact that a lack of social cues can work positively on these variables, may result in a less rich social climate in the organization, and through that, in less affective commitment.

Further research

A number of questions have been left unanswered by our analyses. First of all, the variables of commitment and communication climate are rather “general” variables on the organizational level. A question that warrants further study is whether variables that are more directly related to the knowledge process itself influence knowledge donating and collecting. It can be expected, for instance, that an individual’s awareness of knowledge needs within the organization (a variable also measured in our knowledge management scan) influences the extent to which he or she is willing to donate and receive knowledge. Knowing what others need to know, for instance, can be expected to positively influence willingness to donate knowledge. Having a good picture of one’s own information needs, on the other hand, can positively influence collecting knowledge. So, future research should focus on this variable of awareness of knowledge needs, and other variables that are more directly related to the knowledge process. Such awareness could also be expected to be related to both commitment and communication climate, so it could well be that this is an important mediating variable in these relationships.

Second, we focused exclusively on the role CMC plays in knowledge sharing. CMC, however, constitutes only one kind of instrument used for knowledge processes, next to face-to-face communication, information systems, libraries, HRM instruments etc. In order to justly determine the relative importance of CMC in explaining knowledge sharing, these other instruments should be included in the analysis as well. So, future research should measure a broad range of knowledge management instruments. Based on such measurements, it should also be possible to determine to what degree CMC comes to replace “richer” instruments – and to determine what the influence of such replacement could be on commitment, communication climate and knowledge sharing.

Finally, we have briefly referred to the possible influence of organizational and ethnic culture on knowledge sharing. Since our conceptualization of communication climate is somewhat related to such cultural dimensions, a very interesting avenue of research would be to conduct similar studies in organizations from different ethnic cultures, so that the influence of such cultures on both communication climate and knowledge sharing can be analyzed as well.

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