

# Computer-mediated communication and knowledge sharing in a South African context

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## Contents

1. Introduction
2. Methodology
3. Results of the study
4. Discussion of results
5. Conclusion
6. References

## 1 Introduction

An estimated 679,7 million people (Global Internet Statistics 2003) make use of the Internet for sending and receiving electronic mail (e-mail), accessing databases, viewing images, finding various types of information and sharing information with other Internet users (via UseNet, bulletin boards, list-serves and instant messaging systems). Systems managers regularly integrate these facilities into their business environment, thereby saving scarce business resources through the application and incorporation of available networks and network resources (Granger and Schroeder 1996:86, Millen and Dray 2000:170-171). According to Granger and Schroeder (1996:87), the Internet itself offers substantial communication resources to enhance product development and system support as well as provide specific business solutions in the areas of electronic communications (e-mail, video-conferencing, on-line chatrooms and bulletin boards), business application software support, system design and databases.

Managerial awareness of global networking solutions stimulates an appreciation of electronic communication and encourages co-operative work through the use of electronic media (Granger and Schroeder 1996:87), for example groupware, which may be described as an electronic communication tool that 'communicates and organizes unpredictable information, allowing

dynamic groups to interact across time and space' (Cameron, DePalma, O'Herron and Smith 1995). Essentially, applied and integrated networked communication tools (e.g. groupware) streamline organizational communication and structures, supporting the exchange of what may be referred to as 'content' (data in various formats).

According to Castells (1996:168-172), and supported by Postmes, Spears and Lea (1998:691-692), Computer-mediated communication (CMC), an outflow of Internet media integration into the business environment, is now a well-established feature of organizational life. The subsequent 'network enterprise' has been identified as the characteristic organizational form for the information economy or, rather, an economic environment and paradigm where information and the application of information in economic endeavour have become an integral part of economic activity and function (Castells 1996:168-172, Margolis 2000:178-183; Martin 1995:10-18 and Webster 1995:92-94), with on-line communication as a powerful medium in the emergence of flexible 'knowledge-creating' organizations (Castells 1996:69-80, Smith 2000:ix-x, xiii-xvi). According to Rowley (1999:72), 'CMC (primarily in the form of e-mail) has become a dominant mode of communication both in and between organizations in the last few years' and, as Gróf (2001:193) indicated, one of the most significant functions of communication is to transmit information for interpretation purposes or, rather, share information between communicating parties. Since information may be viewed as a representation of knowledge (Madden 2000:344), one can actually infer that one of the most significant functions of communication is to share knowledge between communicating parties.

Kay (1995:5,12), supported by Gróf (2001:194), indicates that communication may generally be recognized as central to organizational management and development, and that the style and content of communication in an organization can influence interpersonal relationships between employees. This in turn influences factors such as commitment, motivation and even, in some cases, core business values (Gróf 2001:194-195, Kay 1995:12). Despite far-reaching work on CMC and a significant amount of work on the way in which groups communicate, there has been little work on the effect of CMC on organizational knowledge sharing trends.

According to Rowley (1999:72), 'technology for CMC is generally recognized to be a feature of knowledge-based organizations, but if relationships between individuals and groups have deteriorated as a result of CMC, there seems little prospect of achieving a climate in which the explicit and implicit knowledge base of an organization can be shared'. The ideal function of CMC in an organization would be to assist with knowledge sharing processes, but if the application of CMC disrupts these sharing processes, the application of CMC technology in support of knowledge sharing would be counter-productive.

It is important to note the impact CMC has on organizational functionality. Essentially, if the way people communicate in the organization is changed,

then, according to Rowley (1999:72) it would be astounding if the experience of being employed in the organization does not change as well.

McDermott and O'Dell (2001:78) found in their research that 'networks for sharing knowledge [is] built on existing networks people use in their daily lives'. They add that core values in an organization, as transferred via structural networks, change when the organizational networks change (as new networks are built on current networks). In turn, knowledge sharing as influenced by organizational core values also changes, influencing the content of the knowledge sharing process.

Connolly (1996:37) argues that the advent of modern communication technology should manifest itself to some extent in a change in the behavioural patterns of users. He adds that if no behavioural changes occur in an organization extensively using communication technology, it may prove difficult to justify the en mass introduction of such technology into an organization. Attempting to motivate the introduction of such technology would simply be a waste of time and resources (Connolly 1996:37-38).

In particular, one might expect that the locations in which people perform their daily tasks should be impacted to some degree by improved communication facilities (Margolis 2000:180-183, Young 1995:26-27). In relation to this expectation, Margolis (2000:178-180) documented a case where an organization exists virtually without official premises and with only a mailing address. Many of the employees in the organization have never physically met one another. They regularly contact one another via e-mail and Web cam to conduct their organization's business. This relates closely to what Popcorn (1991:27-33) refers to as 'cocooning', where an individual never has to leave his or her home for the purpose of employment but simply telecommutes to his or her place of employment every day via the Internet. In a study conducted by Johnson, Fidler and Rogerson (1998:166-167), it was found that the communication habits of managers are not significantly influenced by the introduction of new technology. Instead, their work patterns and the way they interact with employees differ or change significantly. Though the research of Johnson et al. (1998) does not have a direct or visible relationship with Popcorn's (1991:27-33) concept of 'cocooning', all these authors discuss and identify changes in work-related behaviour associated with the introduction of CMC technology. Although Johnson et al. (1998) focus mainly on managers, one might deduce that the same holds true for employees in that their work and interaction patterns are altered via the introduction of new technology into their working environment.

Hofstede (2001) argues that the development of personal relationships between employees is an important factor in enhancing effective working relationships in employee-mediated teams. Simply stated, a positive working relationship should lead to positive and effective knowledge transfer between team members. However, according to Pauleen and Yoong (2001:191), little has been written on how on-line relationships among employees influence business values and, subsequently, communication among employees.

Komito (2001:116) indicates that a person's relationship with another person influences his or her communication content and, consequently, it may be deduced that it would also influence communication's knowledge sharing function.

Finally, it was the intention of the research conducted for this article to indicate how individuals in organizations perceive knowledge sharing via a maintained CMC interface. The purpose of this study was to determine how individuals in organizations communicate with colleagues, share knowledge and possibly develop relationships via an electronic medium. In the following section of this article, the methodology applied to the gathering and analysis of the relevant data is discussed in detail.

## 2 Methodology

To indicate the way in which individuals in organizations perceive knowledge sharing and the importance of knowledge sharing practices in South African organizations, a quantitative study based on post-modern analytical principles was conducted. The study investigated the relationship between CMC and knowledge sharing practices in participating South African organizations (the context for this study). The study itself focused primarily on three levels of knowledge sharing trends in South African organizations:

- Computer-mediated as well as non-computer-mediated knowledge sharing via communication with co-workers;
- computer-mediated as well as non-computer-mediated individual knowledge sharing tendencies; and finally
- computer-mediated as well as non-computer mediated organizational knowledge sharing trends.

For the study, a population of organizations were identified and in principle purposively constructed by listing commonly known South African organizations. Organizations that could not be recognized as 'South African' institutions were eliminated from the population of organizations. Contacting all the organizations in the identified population would have been administratively laborious, so a random sample was drawn and the sample organizations were subsequently contacted via e-mail and asked whether they would be willing to participate in this study. Seventy-six organizations were contacted, but only 15 organizations responded and indicated a willingness to participate. An e-mail questionnaire was constructed and sent to these organizations.

The e-mail questionnaire consisted of 30 questions. The content of the questionnaire was organized into two sections, A and B. For inferential purposes, Section A consisted of two questions that functioned as demographic identifiers. These identifiers allowed the researcher to organize the data regarding the respondents' perception of knowledge sharing into analytical groups relating to section B of the questionnaire. In Section B of the questionnaire, an analytical matrix was created for comparing data on knowledge sharing at different levels of employment. Respondents who had

been identified as fulfilling a managerial function were pooled to form a 'management' population, and the other respondents were pooled to form an 'employee' population. The perceptions of these populations regarding South African organizations' knowledge sharing trends via the application of CMC technologies could then be compared.

Section B consisted of 28 Likert scale questions that could be divided into three broad categories, namely, knowledge sharing via communication with co-workers, individual knowledge sharing tendencies in the organization in which these individuals function and, finally, organizational knowledge sharing trends.

The HTML-based electronic version of the questionnaire was constructed using Microsoft FrontPage 2000. The questionnaire was sent via e-mail in an answer-ready format to all willing participants. After completion, participants could submit their data via e-mail. After submission, the researcher received a list of enumerated data, in an analysis-ready format, via his e-mail address. The respondents' data were enumerated in terms of an encoding scheme built into the questionnaire.

Though 15 organizations indicated their willingness to participate, only nine individuals from the 15 organizations participated in the study. Though this implies that the results of this study cannot be generalised to the entire South African organizational environment, it does provide an insight into possible perceptions regarding computer-mediated knowledge sharing trends in South Africa. It also serves as an introduction into possible further research regarding computer-mediated knowledge sharing trends in South African organizations.

The data gathered via the questionnaire were analysed via simplified statistical methods to obtain the results required for analysis. SPSS version 11 was used for this purpose. All calculated statistical data were compiled to produce the meaningful analytical units as seen in Table 2.

With regards to the statistical analysis, the data were summarized, using the frequencies of item occurrence in the obtained data. This allowed simplified interpretation of data measured per Likert scale item. Since the Likert scale functions by obtaining ordinal data (data measured as part of a scale), it would have been useless to calculate the means as well as other more complex inferential statistical measures from the gathered data set. If this was done, no relevant meaning associated to perception scale responses could have been inferred. For example, if one has an answer of 'Agree completely' (coded as 1) from one respondent, and an answer of 'Disagree completely' (coded as 5) from another respondent, then the resultant mean would have been 3, and in itself it would have provided no insight into what the two individuals wanted to relay via their respective answers. It would have only created an illusion that the mean of the answers would imply that the respondents were 'Indifferent' (coded as 3) regarding the particular scaled item.

For non-parametric analysis of the data, the Mann Whitney U-test was conducted to determine whether there is a difference in perception regarding knowledge sharing between the group that may be referred to as 'managers' and the group that may be referred to as 'employees'. The test was conducted as a non-directional test, which implies that the results do not indicate the magnitude or the direction of the difference between the parties concerned. The Mann Whitney U-test was conducted at a 95% or  $\alpha = 0.05$  level of significance.

Though the study focused on three levels of knowledge sharing, the eventual analysis of the statistical results included four related levels of analysis in terms of the actual CMC related electronic communication processes investigated. These levels were obtained by re-analysing the questions in the questionnaire in terms of how they related to the processes involved in communication itself. One should remember here that communication might be viewed as tantamount to knowledge sharing. The four identified secondary levels of analysis were based on the following:

- *CMC (also known as electronic communication)*. This level of analysis focuses on the use of electronic media or rather information technology to communicate with other individuals in an organization. It does not focus on information technology or the communication of information per se, but specifically on how individuals perceive electronic communication and subsequent knowledge sharing as a positive or negative aspect during daily organizational activities.
- *Real world communication*. Real world communication may also be referred to as face-to-face interaction between people in a communicating group. This level of analysis focuses on how individuals perceive the importance of face-to-face interaction between communicating parties, but not on the 'content' being transferred. It focuses specifically on the individual's perception or personal view of the processes of real world communication.
- *Promotion of communication*. This level of analysis refers to the perception an individual in an organization has of the promotion of communication between employees in an organizational structure. It views the promotion of communication practices as an inherent promotion of knowledge sharing practices. As already indicated in the introduction to this article, one of the most significant functions of communication is to transmit information for interpretation purposes or, rather, to share information between communicating parties (Gróf 2001:193). Since information may be viewed as a representation of knowledge (Madden 2000:344), one can indicate that one of the most significant functions of communication is to share knowledge between communicating parties.
- *Promotion of knowledge sharing*. This level of analysis refers to how individuals perceive the promotion of knowledge sharing in their organizations. It therefore refers to the individual's perception of how the organization intrinsically attempts to induce knowledge-sharing practices within organizational structures.

The four secondary levels of analysis, as well as the three levels of knowledge sharing, were integrated to produce an analytical matrix, which allowed the researcher to cross-reference the individual analyses and produce an integrated overview of how the individual South African respondent views knowledge sharing (see Table 1). It was also used to indicate whether or not South African 'managers' and 'employees' in the response group respectively have differing views regarding knowledge sharing. It also allowed the researcher to infer the role that CMC plays in how individual respondents perceive knowledge sharing practices. From the analytical matrix, inference was drawn regarding the interacting aspects of the particular matrix component, as seen in Table 1. The application of the matrix is discussed in more detail in the following section of this article.

**Table 1 Analytical matrix**

Interaction between subcomponents of the ordinal scale's elements	Knowledge sharing via communication with co-workers	Individual Knowledge sharing tendencies	Organizational Knowledge sharing tendencies
Electronic Communication	-	-	-
Real World Communication	-	-	-
Promotion of Communication	-	-	-
Promotion of KS.	-	-	-

### 3 Results of the study

After conducting the Mann Whitney U-test at 95% or  $\alpha = 0,05$  level of significance, it was found that the obtained Z-score for the total grouped data units was  $Z = -0,816$ . This falls between acceptable Z-score boundaries ( $Z < -1,96$  or  $Z > 1,96$  at  $\alpha = 0,05$  level of significance), indicating that there is no significant difference between the perceptions held by 'managers' and 'employees' regarding computer-mediated knowledge sharing in the participating group of respondents. The U-test implies that the 'managers' and the 'employees' within the sample held similar (or near similar) views regarding knowledge sharing. The implication is that the inference drawn from the primary, secondary and tertiary levels of analysis is applicable to both 'manager' and 'employee' groups within the sample.

Table 2 indicates the simplified results of the study per conceptualized meaningful unit, instead of per Likert scale item unit. Table 2 indicates the simplified pooled frequencies of the particular grouped Likert scale items applied in the study's knowledge sharing questionnaire. The results may be divided into twelve sections for interpretation. The sections are the results of pooling the data of the Likert scales into larger, meaningful units. To obtain the pooled frequencies, normal frequency calculations were conducted

regarding the occurrence of the particular ordinal units involved. The resultant twelve sections are grouped under three headings as follows:

- Knowledge sharing with co-workers in terms of CMC (which may also be referred to as electronic communication), real world communication, promotion of communication and promotion of knowledge sharing.
- Individual knowledge sharing tendencies in terms of CMC (electronic communication), real world communication, promotion of communication and promotion of knowledge sharing.
- Organizational knowledge sharing tendencies in terms of CMC (electronic communication), real world communication, promotion of communication and promotion of knowledge sharing.

**Table 2 Analytical matrix - averaged frequencies of grouped knowledge sharing items**

Scaled data rounded off to one decimal point		Knowledge sharing via communication with co-workers					Individual Knowledge sharing tendencies					Organizational Knowledge sharing trends					
		AC	A	L	D	DC	AC	A	L	D	DC	AC	A	L	D	DC	
		2,7	3,1	0,9	1,7	0,5	2,2	5,2	1,0	0,6	0	1,6	4,9	1,8	0,9	0	
Electronic Comm.	AC	2,4	2,6	-	-	-	-	2,3	-	-	-	-	2,0	-	-	-	-
	A	3,5	-	3,3	-	-	-	-	4,4	-	-	-	-	4,3	-	-	-
	L	0,8	-	-	0,9	-	-	-	-	0,9	-	-	-	-	1,3	-	-
	D	1,9	-	-	-	1,8	-	-	-	-	1,3	-	-	-	-	1,4	-
	DC	0,6	-	-	-	-	0,6	-	-	-	-	0,3	-	-	-	-	0,3
Real World Comm.	AC	2,9	2,8	-	-	-	-	2,6	-	-	-	-	2,3	-	-	-	-
	A	4,5	-	3,8	-	-	-	-	4,9	-	-	-	-	4,7	-	-	-
	L	1,3	-	-	1,1	-	-	-	-	1,3	-	-	-	-	1,6	-	-
	D	0,4	-	-	-	1,1	-	-	-	-	0,5	-	-	-	-	0,7	-
	DC	0	-	-	-	-	0,3	-	-	-	-	0	-	-	-	-	0
Promotion of Comm.	AC	1,6	2,3	-	-	-	-	1,9	-	-	-	-	1,6	-	-	-	-
	A	5	-	4,1	-	-	-	-	5,1	-	-	-	-	5,0	-	-	-
	L	1,2	-	-	1,1	-	-	-	-	1,1	-	-	-	-	1,5	-	-
	D	1,2	-	-	-	1,5	-	-	-	-	0,9	-	-	-	-	1,1	-
	DC	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0
Promotion of KS.	AC	2,6	2,6	-	-	-	-	2,4	-	-	-	-	2,1	-	-	-	-
	A	4,6	-	3,9	-	-	-	-	4,9	-	-	-	-	4,8	-	-	-
	L	1	-	-	1,0	-	-	-	-	1,0	-	-	-	-	1,4	-	-
	D	0,9	-	-	-	1,3	-	-	-	-	0,8	-	-	-	-	0,9	-
	DC	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0

Key: AC = agree completely; A = agree; I = indifferent; D = disagree; DC = disagree completely

KS = knowledge sharing; Comm. = communication; Grey Sections = frequency pooling trends

In Table 2, all the data as calculated per meaningful unit for this study are found. An in-depth discussion of each of the twelve units has not been attempted since it would be laborious in terms of space and time. The content of Table 2 is discussed below in an integrated holistic way to allow an overview of the final results.

### 3.1 Primary level of analysis

At the primary level of analysis, the frequencies of the answers obtained in the ordinal units tended to pool around the 'agree' and the 'agree completely' sections. The respondents' perception frequencies regarding 'individual knowledge sharing tendencies' were higher than what was reported in terms of 'organizational knowledge sharing trends' or 'knowledge sharing via communication with co-workers'. The implication is that the respondents viewed their own sharing tendencies to be greater than those of the organization in which they functioned. This implies that the individual related to an organization did not think that the organization was effectual in sharing knowledge in its structures. The respondents also perceived that their co-workers do not necessarily appreciate knowledge sharing processes and activities in the organizational structure. Since the results were ordinal in nature, magnitude could not be inferred with regard to the perceived differences between the three primary levels of analysis. However 'individual knowledge sharing tendencies' (AC = 2,2; A = 5,2) were perceived to be approximately 1,28 times as important as 'knowledge sharing via communication with co-workers' (AC = 2,7; A = 3,1). This implies that, although individual respondents perceived their tendency to share knowledge with other people to be imperative, in actuality the related individuals did not share knowledge with other people in the organization to the same extent that they perceived its importance.

### 3.2 Secondary level of analysis

As in the primary level of analysis, the ordinal data tended to pool around the 'agree' and the 'agree completely' sections of Table 2. There is one obvious reason for this. The secondary level of analysis was conducted by reapplying the data from the primary level of analysis in terms of the concepts that relate to the knowledge sharing process built into the questionnaire. In simple terms the distribution of the frequencies of obtained ordinal data was re-evaluated for a more in-depth distributed analysis of how the respondents perceived knowledge sharing in terms of face-to-face communication and/or CMC (electronic communication).

In terms of 'electronic communication' (AC = 2,4; A = 3,5) and 'real world communication' (AC = 2,9; A = 4,5), respondents perceived real world communication to be of greater significance than electronic communication. Therefore, although electronic communication was applied in an organization, individuals still preferred interactive face-to-face communication. In terms of 'promotion of knowledge sharing' (AC = 2,5; A = 4,6) and 'promotion of communication' (AC=1,6; A=5), it appears that the perceived importance agreement response regarding the promotion of communication was higher. A

simple addition of the agreement responses (to pool the data further, although not recommended) revealed that the promotion of knowledge sharing was viewed to be of higher value (AC + A = 7,1) than the promotion of communication (AC + A = 6,6) in an organization.

The relationship between the components of the secondary level of analysis implies that, although CMC (electronic communication) was perceived by the respondents as an important aspect of organizational knowledge distribution, real world communication (face-to-face interaction) was still preferred. A few of the respondents actually indicated 'disagree' (D = 1,9) regarding 'electronic communication' indicating that they did not view electronic communication as an important aspect of knowledge distribution (knowledge sharing). This scale also had the highest level of pooled frequencies with regard to the scaled items 'disagree' and 'disagree completely'. This implies that, though electronic communication had a specific perceived value regarding communication and knowledge sharing, the importance was not perceived as being high enough to override direct face-to-face communication as a means of distributing knowledge in an organization. Simply stated, people still preferred to talk to real people instead of engaging in communication with electronic versions of people.

### **3.3 Tertiary level of analysis**

This level of analysis focused on the interaction between the previous levels of analysis. The interacting data pooled around the 'agree' and 'agree completely' sections of the table, for the simple reason that the first and second levels of analysis both pooled around the same areas of the ordinal components (Table 2). Since the tertiary level of analysis was based on the primary and secondary levels of analysis, the expectation was that this analysis would display trends similar to the first two levels of analysis; the difference was that the pooled data provided an overview of the respondents' perception regarding their overall views of knowledge sharing in their organizations.

By means of inspection, the following can be observed regarding the interaction between the scaled data units in Table 2. On the whole, individual respondents perceived 'real world communication' to be more desirable than 'electronic communication' for the purpose of knowledge sharing between co-workers. Marginally higher frequency responses were found that 'disagree' with the concept of electronic communication for knowledge sharing purposes. Nearly twice as many responses indicated that 'electronic communication' was preferred to a lesser extent than 'real world communication'. Simply stated, it would appear that an individual rather talked to a real person than conversed with a virtual entity when it came to sharing what they knew.

At first glance the two secondary analytical components 'promotion of communication' and the 'promotion of knowledge sharing' in interaction with the primary level of analysis (to construct the associated third level of analysis) appeared to result in a near equal distribution of frequencies (when

the agreement scales are pooled). This appearance was, however, deceiving in that a very small difference did exist. The respondents indicated a combined scale point preference of between 0,1 to 0,3 scale points in favour of 'promotion of knowledge sharing'. This indicated that, in the respondents' organizations, communication and knowledge sharing were not promoted equally. The imperative to share knowledge with others seemed to be emphasized slightly more than the imperative to communicate. Though the concepts of 'promotion of communication' and the 'promotion of knowledge sharing' had a relationship with one another, the knowledge sharing aspect seemed to be preferred more than the promotion of a communication regime. However, the difference between the two aspects may be interpreted as being negligible (Table 2).

#### **4 Discussion of results**

As indicated above, there are a few specific conclusions that may be drawn regarding 'individual knowledge sharing tendencies', 'organizational knowledge sharing trends', 'electronic communication' and 'real world communication' (face-to-face communication) in a South African context.

From the analysed data it appears that respondents tended to value the process of sharing knowledge with other individuals. They might not express the process as effectively as possible in action, but the implication is that knowledge was an important aspect of daily activities. Individuals believed that knowledge was a critical aspect of their everyday functioning, although they did not express knowledge sharing activities with co-workers at a level approximately equal to their desire to share knowledge. Individuals also perceived that their organizations, functioning in the South African environment, valued the idea that knowledge should be shared in the organizational structure. This implies that the respondents' organizations would have liked to promote knowledge sharing activities between co-workers, and individuals in organizations would have liked to share their knowledge with others but this did not necessarily happen. A possible reason for this might have been the perception that knowledge is equal to power (one of the Likert scale items in the questionnaire). If knowledge is equal to power, this means that if one gave one's knowledge to another individual (via knowledge sharing initiatives) for whatever purpose, one actually would have given away one's power. Another possibility is that if one shared what one knew with another person, then that person would most likely have been capable of doing one's 'job'. Hence, sharing what one knows could quite possibly make one's position in an organization redundant. All of these aspects could indicate why knowledge sharing between co-workers did not occur to the extent that the individual respondents would have liked to share their knowledge.

With regards to electronic communication, also known as CMC, the data suggest that individuals preferred communicating directly with another person. When a person's communications are mediated electronically, the content of these communications can be saved or stored for later utilization. Once an individual sends electronically mediated messages, the content of those

messages no longer belongs to him or her. The content principally belongs to the organization. However, when an individual communicates face-to-face with another person, then the person sharing content via communication perceives that he or she is capable of controlling the message being sent in terms of feedback and explanation. When someone communicates electronically, that person does not control the message. It is controlled by the organization that controls the network on which the message is sent. The implication is that when an individual communicates electronically, that individual gives away what he or she knows, and by doing so an individual may perceive his or her position as possibly becoming redundant.

If one looks at the data, the respondents indicated that they would have liked to share their knowledge with others but they also indicated that they preferred sharing knowledge not by electronic means but by direct communication. Electronic media is an important tool for communication but it is not an important tool for sharing vital knowledge. This implies that the construction of elaborate knowledge sharing structures for the purpose of promoting knowledge sharing initiatives in organizations may not achieve its goal effectively. The way in which individuals work would be the only thing that changes (Johnson, Fidler and Rogerson 1998:166-167), not the value they associate with keeping their knowledge implicit and private.

## 5 Conclusion

Many organizations attempt to promote knowledge sharing initiatives via the integration of electronic communication media in their organizational structures. Although the results of this study cannot be generalized to the South African organizational population due to a lack of sufficient respondents, it nevertheless does indicate that the respondents involved in this study preferred to communicate face-to-face with individuals with whom they would have liked to share their knowledge resources. The data can also be interpreted to suggest that the hasty integration of CMC tools would not have a significant impact on knowledge sharing practices in South African organizations in the short term. What it would accomplish during long-term integration and promotion of computer-mediated knowledge sharing tools is currently unknown; the data do imply that hasty integration of CMC tools in organizations in South Africa would be a costly and unnecessary endeavour.

Rather than injecting huge amounts of financial resources into continuously updating and upgrading technological resources, it would be more prudent to inject a proportion of these finances into the organizations' human resource components to enhance the personnel's relationships with one another, thereby promoting individual face-to-face knowledge sharing tendencies through the establishment of personal knowledge sharing networks.

## 6 References

Cameron, B., DePalma, D.A., O'Herron, R. and Smith, N. 1995. Where does groupware fit? *The Forrester report: Software strategies* 6(3). [Online]. Available WWW: <http://www.forrester.com>. [Accessed 16 October 2003].

- Castells, M. 1996. *The rise of the network society*. London: Blackwells.
- Connolly, C. 1996. Communication: getting to the heart of the matter. *Management Development Review* 9(7):37-40.
- Global Internet statistics. 2003. [Online]. Available WWW: <http://www.global-reach.biz/globstats/index.php3>. [Accessed 16 October 2003].
- Granger, M.J. and Schroeder, D.L. 1996. Integrating the Internet into the business environment. *Internet Research: Electronic Networking Applications and Policy* 6(2/3):85-89.
- Gróf, A. 2001. Communication in the creation of corporate values. *Corporate Communications: An International Journal* 6(4):93-198.
- Hofstede, G. 2001. *Culture's consequences: comparing values, behaviors, institutions and organizations across nations*. Thousand Oaks, California: Sage Publications.
- Johnson, P., Fidler C.S. and Rogerson, S. 1998. Management communication: a technological revolution? *Management Decision* 36(3):160-170.
- Kay, G. 1995. Effective meetings through electronic brainstorming. *Journal of Management Development* 14(6):4-25.
- Komito, L. 2001. Electronic communities in an information society: paradise, mirage, or malaise? *Journal of Documentation* 57(1):115-129.
- Madden, A.D. 2000. A definition of information. *Aslib Proceedings* 52(9):343-349.
- Margolis, J. 2000. *A brief history of tomorrow: the future, past and present*. London: Bloomsbury Publishing Plc.
- Martin, W.J. 1995. *The information society*. London: Aslib.
- McDermott, R. and O'Dell, C. 2001. Overcoming cultural barriers to sharing knowledge. *Journal of Knowledge Management* 5(1):76-85.
- Millen, D.R. and Dray, S.M. 2000. Information sharing in an online community of journalists. *Aslib Proceedings* 52(5):166-173.
- Pauleen D.J. and Yoong, P. 2001. Facilitating virtual team relationships via Internet and conventional communication channels. *Internet Research: Electronic Networking Applications and Policy* 11(3):190-202.
- Popcorn, F. 1991. *The Popcorn report: revolutionary trend predictions for marketing in the 90s*. Berkshire: Arrow Books.

Postmes, T., Spears, R. and Lea, M. 1998. Breaching or building social boundaries? Side-effects of computer mediated communication. *Communication Research* 25(6):689-715.

Rowley, J. 1999. Computer mediated communication - is it good for organizations? *Industrial and Commercial Training* 31(2):72-74.

Smith, D.E. 2000. *Knowledge, groupware, and the Internet*. Boston: Butterworth-Heinemann.

Webster, F. 1995. *Theories of the information society*. London: Routledge.

Young, D.P. 1995. The relationship between electronic and face-to-face communication and its implication for alternative workplace strategies. *Facilities* 13(6):20-27.