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Knowledge Sharing on a Corporate Intranet: Effects of Re-Instating Web Authoring Capability

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KNOWLEDGE SHARING ON A CORPORATE INTRANET: EFFECTS OF RE-INSTATING WEB AUTHORING CAPABILITY

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Abstract

The web was intended to be a collaborative environment where users could exchange ideas but has turned into a read-only environment. The same is true for corporate intranets. In this paper we examine whether the removal of this read-only limitation can facilitate knowledge sharing. By installing a wiki in a corporate intranet, we intervened in an organisational setting and studied the results of this provocation. We found that the intranet transformed from being a semi-static bulletin board to a dynamic exchange forum for internal information. Our conclusion is that when editing becomes as easy as surfing people who want to share knowledge can indeed do so on a corporate intranet.

Keywords: Intranet, knowledge sharing, wiki.

1 INTRODUCTION

The World Wide Web (hereafter the web) is unarguably the Internet application that has had the widest dissemination and has attracted the highest number of users. Designed to allow individuals easily to share information across time and space, the web was originally developed to be "a pool of human knowledge, which would allow collaborators in remote sites to share their ideas…" (Berners-Lee at al., 1994, p.76). The universality of the web, *i.e.*, the fact that content is accessible from any browser and from any computing platform, indeed seems to make the web an ideal environment for collaboration. However, although Tim Berners-Lee's first browser enabled users to create both new pages and new links, the subsequent NCSA Mosaic browser, which quickly became the predominant web interface, allowed solely "read-only" access and the current state of the web is strongly biased towards browsing already authored texts (Chang, 1998). Hence, to the casual surfer the web is *de facto* a read-only medium (Miles-Board & Carr, 2003), and this fact, we shall argue, seriously limits the potentials of the web as a knowledge sharing technology.

When business organisations realised that web technology could be used also within organisations, the development of intra-organisational webs (intranets) quickly took off. In an article from 2002, Gerstner reported that three out of every four web servers being installed were intended for intranet usage (Gerstner, 2002). When it comes to publishing, intranets follow the development of the web: content is to an overwhelming extent read-only and essentially provided via a centralised process where a small number of professionals are assigned the responsibility of maintaining the environment (Fagin *et al*., 2003). This development is not accidental but the result of the prevailing industrial mindset and management's preoccupation with control (*cf*. Ciborra, 2000). Reinforcing this understanding, the literature on intranet management analogously recommends that intranets too must be effectively managed (Hinrichs, 1997), not allowed to evolve merely in an ad hoc manner (Curry & Stancich, 2000), and that procedures and routines to ensure standardisation and formalisation must be established and enforced or the intranet will collapse (Damsgaard & Scheepers, 2000). The principals of collaboration and participation that underpinned the original design of the web seem to have been overthrown by modern management's more traditional approach. Still, many organisations complain that their intranets become under-utilised and one can ask whether the above advice is indeed the best. Some commentators instead suggest that a higher degree of user participation – *i.e.*, in line with Berners-Lee's original intention – is what would propel intranet usage (cf. Stenmark, 2003a).

Knowledge Management (KM) is largely regarded as an organisational process consisting of a number of various activities, where both the number and the labels of these activities differ between authors (Alavi & Leidner, 2001). Nonetheless, the ability to share and/or transfer knowledge within an organisation and amongst its members is by most commentators regarded as a fundamental KM process. Although knowledge sharing can be, and often is, carried out without technology, we think that this process can be greatly facilitated by the use of information technology. In a corporate setting, information creation (in form of e-mails, documents or web pages), information seeking and information interpretation are actions that describe the interaction between knowledge and information (Stenmark, 2002). A knowledge worker is thus someone who interacts knowledgeable with information and sees information not only as something derived from knowledge but as something that changes knowledge (Schultze, 2000).

Successful KM depends on contributions from all organisational members (cf. Hahn & Subramani, 2000; Stenmark, 2003a; b), and for the intranet to serve as a knowledge sharing environment, high participation is important. In this paper we describe an attempt to orchestrate a higher degree of user involvement by introducing a collaborative web authoring tool – a wiki – to an organisation with a traditional, centralised and rather unused intranet. The wiki concept is described in more depth the following section and in section three we explain the site and the research approach used. Section four accounts for the empirical data, which thereafter is discussed in section five. Section six concludes the paper.

2 THE WIKI CONCEPT

The concept of Wiki, which comes from the Hawaiian word for fast (wiki-wiki), was developed by Ward Cunningham in 1994. Cunningham had a desire to create a meeting place where software developers and designer could interact and discuss new ideas. The objective was to keep the technology as simple as possible and to allow full collaboration, *i.e.*, all users should have access to and ability to change and update the content. Hence there should be no distinction between readers and writers. The foundation for this tool was web technology, *i.e.*, the HTTP protocol and the web browser (Leuf & Cunningham, 2001).

There are indeed many different collaboration and communication technologies that let users contribute information over the web, but they all enforce structure of some sort. For example, threaded discussion forums sort the content according to topic and thread and news groups and blogs sort content chronologically. A wiki, in contrast, is a server-side technology based on the community idea and presupposes the community members themselves (implicitly) to agree upon and maintain a working structure (Leuf & Cunningham, 2001). In other words, the users are allowed to design not only the content but also the structure, and the structure is thus not static but emergent and shaped by the users' changing understanding of the content. The wiki therefore always represents the community members' most current view. Stressing the differences between wikis and blogs, Cunningham states in a PC Magazine interview: "A blog tends to reflect the biases and opinions of an author, while a wiki is more like an open cocktail party. In a wiki you try to speak without a strong voice, seeking consensus to create something permanent, while on a blog you're developing your own voice and it's very much about your voice" (Rupley, 2004).

Any content being contained in a wiki can be changed, updated or deleted by anyone. There are also basic search capabilities and an archiving mechanism keeping records of previous edits. The fundamental design principles underpinning the wiki are summarised in table 1.

Principle	Interpretation
Open	Full access to the content should be given. Should a page be found to be incomplete or incorrect, any reader should be able edit it as he/she sees fit
Incremental	Pages should be able to cite or link to other pages, including pages that have not yet been written
Organic	Both the structure and the content of the site is open to editing and evolution
Mundane	The page mark-up should be based on a small number of (irregular) text conventions that will be easy to use
Universal	The mechanisms of editing and organising should be the same as those used for writing, so that any writer is automatically an editor and organiser
Overt	The formatted output should suggest the input required to reproduce it
Unified	Page names should be drawn from a flat space so that no additional context is required to interpret them
Precise	Pages should be titled with sufficient precision to avoid most name clashes, typically by forming noun phrases
Tolerant	Interpretable behaviour, even if undesirable, should be preferred to error messages
Observable	Activity within the site should be made salient to any other visitor to the site
Convergent	Duplication should be discouraged or removed by finding and citing similar or related content

Table 1. Design principles for wikis (Cunningham, 2004).

The wiki concept has now existed for ten years and wikis have been implemented in numerous programming languages. Many of the implementations are released under the GNU General Public License (GPL), which means that they are freely available to use and modify. The growing number of wikis on the web and the large amount of articles in popular press bear witness of an increasing interest in the wiki concept from practitioners and the public. Academic papers on wikis are, however, not as common. A simple search for the term 'wiki' on ACM's digital library returned 94 hits, but a

quick glance through the set revealed that most of these hits were about things other than a collaborative web tool. Furthermore, the few real wiki articles found in ACM DL mostly seemed to describe work where wikis were instrumental in facilitating the study of *other* phenomenon rather than being itself the object of analysis. There are papers on dynamic digital libraries for children (Theng *et al*., 2001), visualisation techniques for cooperation (Viégas *et al*., 2004), supporting management reporting (Miles-Board & Carr, 2003), and building of a legal knowledgebase (Greensleaf *et al*., 1999). However, all of the above studies are conducted on the *public* web. This article focuses on intranet usage and contributes to the KM discourse by furthering our understanding of intranets as potential knowledge management environments.

3 RESEARCH SETUP

Many commentators have reported that intranets have become semi-static, read-only environment with little interaction and little contribution from the organisational members (e.g. Newell at al. 1999; Fagin et al., 2003; Stenmark, 2003a). We wanted to see whether the introduction of a wiki would change this situation and facilitate a higher degree of activation and knowledge sharing amongst the employees. To study this we decided to approach small to medium-sized IT companies, since we thought their businesses to be knowledge intensive, their employees to be computer savvy and the size of the firm to be manageable. The work was carried out by three Masters level students and a senior researcher. Data was collected by the students under the researcher's supervision and was subsequently analysed by the students and the researcher independently. We e-mailed a dozen local companies in this segment telling them about our intended study and inviting them to participate. One of the responding companies was a small IT consultancy firm, hereafter referred to as Citic. Citic was founded in 1999 and had 24 employees (almost all consultants and system developers) on the payroll.

After a first meeting with a Citic representative where we in more depth explained the purpose of the study, they chose to participate. We thereafter spent two weeks learning their current intranet implementation before setting up and customising a wiki. As mentioned before there are a number of generally available wiki implementations to choose amongst and since this study does not exploit any feature other than those found in all wikis (and described in the previous section), we shall not elaborate further on this. The corporate contact person introduced us and the wiki to the rest of the organisation at one of the monthly competence meetings. We chose not to give any usage guidelines since we did not want to impose any prejudice. We realise that a few illustrative examples of how the software might have been used could have helped raise the number of participants but in this trade-off we favoured leaving the users unbiased.

After a two-month test period during which the employees were free to use the wiki at their discretion, we conducted eight semi-structured interviews. One of the respondents was a sales manager whilst the other seven were system developers. The respondents had been with the firm between a few months to five years. Three respondents worked at a customer's site which enabled us to examine the wiki's role in supporting remotely located personnel. The interviews, which lasted 50-80 minutes and were recorded and transcribed, were all conducted at Citic's head quarters. Some of the interviewees were later contacted again via e-mail for complementing questions. The transcribed material was repeatedly read through whilst emerging themes were identified and labelled. We in particular sought for comments on intranet usage and knowledge sharing practice – pre-determined themes that also influenced the interview questions.

In September 2004 the senior researcher returned to Citic to find that the old intranet had been abandoned and replaced with a wiki-based intranet. At this point Citic agreed to give the senior researcher access to the transaction log files from the wiki for analysis. Logging started on September 1st and was terminated on December 2nd, covering a period of 94 days. The log files gave us the name of the updated object, the time of the user's visit, and the IP-address of the user. Only edits (i.e., updates or deletions) to the wiki were recorded.

4 EMPIRICAL FINDINGS

The empirical findings are presented in three sections. Firstly, we present the respondents' view on knowledge and information sharing in the organisation, the organisational culture, and the role of the intranet. Secondly, we account for the respondents experiences of the wiki approach and thirdly, and finally, we report on actual wiki usage as indicated by the transaction log files.

4.1 Interview data on knowledge sharing and intranet

Citic had a very flat organisational structure with only one general manager and a high degree of autonomy and empowerment amongst the employees. The respondents claimed the firm to have an open information-sharing culture where it was okay to ask anyone in the organisation about anything. One informant argued that it was important that new employees picked up these values and got used to making self-governed decisions, and other respondents agreed that sharing information and knowledge was a vital part of the firm's culture. Not only was it a responsibility, they argued, but also an opportunity to market your own ability and thereby receive recognition amongst one's peers. One respondent told us:

"You do want to be thought of as capable and helpful. So if you can solve a problem someone has been struggling with, that in itself as a kind of reward in my opinion."

The employees did not consider knowledge something that should be hidden and kept private. Several interviewees pointed to the risk with keeping important knowledge to oneself. It would be bad for both the firm and for the individual. Correspondingly, sharing such knowledge would benefit both the organisation, as it became more competitive and profitable, and the individual. One informant explained:

"Obviously I'd help as much as I can since it increases my value. And it increases the value of all the others as well and that helps the company to become more successful, so it's a matter of course…"

Information was informally and continuously shared whenever employees met over coffee or run into one another in the hallway. In addition, formal information sharing occurred at the monthly face-to-face meeting led by the general manager. At these meetings, management brought up certain topics for debate, informed of important strategic issues, and invited various employees to present project status or technical news. However, one problem was that not all employees were present in the same room or in the same office. Being a consultant means spending much time at customers' sites, which disables face-to-face communication with the colleagues at the home office. According to several informants, Citic did not have a good medium for electronic information sharing. One respondent formulated it like this:

"The current options are too…, eh, blunt. You can always <u>call</u> someone in person, and e-mail works for the entire group, but all the cases in between… You know, when you need to reach a subset but you don't know exactly who… That is difficult."

When employees are located in the same room or in the same office, they often solve immediate problem by direct communication. The answers they arrive at can often be reused elsewhere in the organisation so it is important to make it known also to employees who are currently not present, the respondents argued. However, a second problem mentioned by many of the respondents was the lack of time. Information sharing requires typing things up and the respondents conceived this as rather time consuming. A third problem identified by the interviewees was the difficulty of knowing what information is important and what is not.

Citic had an intranet but this was used for "official" information, according to the respondents. Prior to the introduction of the intranet, the only option when wanting to share information was to store the document on a file server, which, according to one respondent, was meaningless since no one knew

that the file existed or where it had been stored. The implementation of the intranet had not improved the situation much, according to this user, since it was difficult to publish and difficult to know what had been published.

The primary objective when introducing the corporate intranet was – and still is – to make information available to the employees. The information provided is general corporate information applicable to all employees, such as corporate history, various policy documents, address and telephone directories, vacation lists, and meeting protocols. This information is perceived to be static, long-term, and fact-based, and thus not in need of recurring updates. A few key users lead by an infomaster had been appointed to manage the content and all information was supposed to go through them. The employees were not entirely happy with this arrangement, as it created a bottleneck whenever they had important things to share. One of the respondents said:

"When you are presented with information as on our intranet it is mostly like being fed information and it doesn't make you contribute in the same way, and that's perhaps a drawback."

The respondents believed that a shared and distributed responsibility for content provision would help keep the intranet more up to date. If the information is not updated and useful, they argued, the consequence is that the users will not return but seek the information elsewhere. One user stated:

"Perhaps we don't have the time [to spend on updates], but if no one updates the information, you won't log in and check since you know nothing has happened. It will become a negative spiral which eventually will lead to death. Like our intranet."

4.2 Interview data on wiki experiences

The introduction of the wiki resulted in a new medium that filled a previous void in Citic's information environment. The respondents thought of the wiki as a complement to the traditional intranet and to email and claimed that information that is too heterogeneous and too unstructured for the intranet would be better off on the wiki. One user explained:

"We have used the wiki for another sort of information than what's on our old intranet. […] It's a lot of sketchy ideas and very lose concepts… kind of muddled, and so."

The responsibility regarding information sharing was also influenced by the introduction of the wiki. The wiki was assumed to be a joint responsibility shared amongst all employees, and not just a task for the infomaster. The respondents were positive to this shared responsibility and claimed to be more inclined to add and update information when the gatekeeper system was gone. One interviewee told us:

"I think it increases the motivation to add information, actually. […] When you need to ask permission to participate, then you don't bother. You take the line of least resistance so if it's not very important you just drop it. [...] But if updating is easy, you do it."

All respondents agreed that the biggest advantage with the wiki was that all employees easily could update and add information. This way they could share solutions and development tips to their colleagues without having to go, as earlier, via the infomaster. The typical example mentioned by many employees was the knowledge sharing that Citic tries to foster. One of the employees said:

"We try to share the sort of things we know that others may have problems with later or things we know take time to solve during systems development or so. It's that Do-like-this-to-make-it-work kind of knowledge."

Some informants believed that a shared responsibility for information provision would make it easier also for the infomasters. They also argued that they felt more involved in and responsible for the information on the wiki compared to the old information on the intranet. A majority of the interviewees said that not only were they more motivated to add information, they also claimed that

the update frequency would increase as a result of the easy access. This, they argued, will make the content more alive and relevant. One interviewee said:

"I can publish what ever I feel like, really, without having to clear it with the infomaster, as it was previously. When I need to add something I can do it myself."

The responsibility regarding information sharing was also influenced by the introduction of the wiki. The wiki was assumed to be a joint responsibility shared amongst all employees, and not just a task for the info master. The general manager saw this feature as a big opportunity to involve the employees more actively. He explained:

"What is interesting about the wiki is that you get a distributed ownership of the information, so to speak. It's not like in the old intranet where the responsible info master did all the writing – then it was his information. Now everyone has the right to contribute and that gives you another attitude towards information… It becomes more "true" in a sense; you know that someone has made an effort to contribute."

The employee respondents were also positive to this shared responsibility and claimed to be more inclined to add and update information when the gatekeeper system was gone. One interviewee told us:

"I think it increases the motivation to add information, actually. […] When you need to ask permission to participate, then you don't bother. You take the line of least resistance so if it's not very important you just drop it. [...] But if updating is easy, you do it."

The former info master commented on the collaborative aspect of the wiki and how this contributed to the dynamic of the intranet:

"Information can be corrected and altered continuously; changed and enhanced. Otherwise, it was like when you take the minutes in a meeting; whoever holds the pen controls the decisions, sort of. Here, you get more interactive documents, documents that can be changed at any time by anyone."

Unlike the old intranet the wiki initially had very little structure. This was not by accident but a design decision taken by management since they had noticed that the old intranet structure did not match their current business structure. As a small and independent consultancy firm they needed to be able to think outside the box. The general manager told us:

"A traditional intranet only addresses predetermined issues, if you know what I mean. The frames of reference have been established and it's difficult to move outside those frames. A wiki gives you more freedom. In our old intranet we had a fixed navigational structure – a menu on the left hand side of the screen. If I wanted to add a link [to the menu] I couldn't; I wasn't allowed. The framework was set. With the wiki you get away from that."

The fact that the design of the information structure was left to the organisational members collectively was experienced in a number of different ways. Some saw the benefits of such an approach and stressed the opportunities that the absence of a pre-defined opened. The majority, however, claimed to be negatively affected by the lack of structure.

4.3 Transaction log data on wiki usage

As can be noticed from table 2 below, a majority (19 of 24) of the firms' employees contributed to the wiki during the monitored time interval. The edits were not evenly distributed amongst the employees. One user (the former info master) accounts for 179 entries or almost 45% of the edits. Removing this outlier, the average number of edits per active user is 12.3. However, the second most active user has a high 74 edits which still skews the average upwards. The median number of edits, which is 6, may be a better description of the activity level.

In table 2, we see how the edits are distributed in relation to number of active days. The most frequently returning user was active on eight day, while the former infomaster with 179 edits was active during six days. However, most users did only contribute on a single day during the monitored interval, and although the average was 2.63 active days per user, the median was only 1.

User #	No. of active user days	No. of edits
1	9	16
2	7	74
3	7	19
4	6	179
5	3	20
6	3	10
7	3	4
8	2	20
9	1	17
10	1	17
11	1	8
12	1	3
13	1	3
14	1	3
15	1	2
16	1	2
17	1	1
18	1	1
19	1	16
Total	50	400

Table 2. Number of active days per user during the 94-days period.

The updates were not evenly distributed over time either, as figure 1 reveals. The 40 calendar days during which the 19 employees made their edits resulted in 50 active user days. A total number of 400 edits were made, but after removing the outlier, 221 edits remain, resulting in an average of 4.4 edits per active user day or 5.5 edits per calendar day.

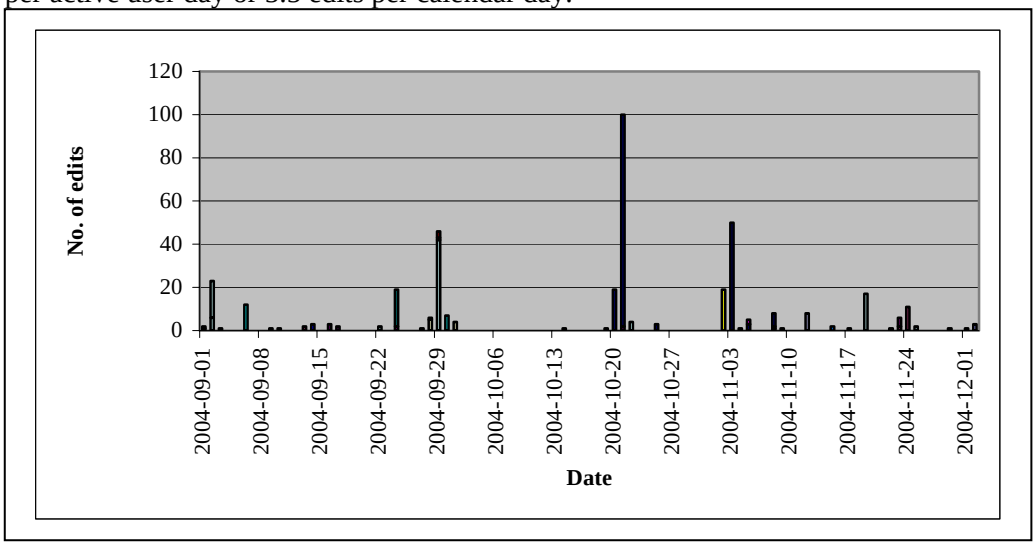

Figure 1. Number of edits distributed over time.

Forty calendar days during a period of 94 days means that activities were logged on 42.6% of the days. Since the interval included 13 week-ends, 40 days of activities means 58.8% of the working days. In other words, the wiki was updated with 5 edits almost three days per week, and 79% of the firm's employees took part in the process. The number of activities on any given day also differed significantly. On the busiest day (Oct. 21st) two users together made 100 edits (see figure 1 and table 3). However, the two busiest days were the result of the info masters efforts and when removing him from the sample, the busiest day had 46 edits (Sept 29th). A majority of the active days had only one active user, but seven days had two active users and two days had thee user making edits, as is evident from table 3.

Date	Number of edits per user and date																		
Sept 1					1														1
Sept 2				6														17	
Sept 3																	1		
Sept 6												12							
Sept 9					1														
Sept 10					1														
Sept 13		2																	
Sept 14																3			
Sept 16					3														
Sept 17					2														
Sept 22				2															
Sept 24													2		17				
Sept 27												1							
Sept 28			5										1						
Sept 29				42									1	3					
Sept 30												7							
Oct 1			4																
Oct 14					1														
Oct 19		1																	
Oct 20									19										
Oct 21					2				98										
Oct 22				4															
Oct 25									3										
Nov 2											19								
Nov 3									50										
Nov 4											1								
Nov 5									3	2									
Nov 8		1		1					6										
Nov 9					1														
Nov 12								8											
Nov 15							2												
Nov 17		1																	
Nov 19				17															
Nov 22						1													
Nov 23		2			4														
Nov 24		11																	
Nov 25				2															
Nov 29			1																
Dec 1		1																	
Dec 2	3																		

Table 3. *Each column represents one user. A number in a cell represents the number of edits for that user on that particular day. The shaded column marks the activities of the info master.*

5 DISCUSSION

Intranets, when first appearing, were soon hailed as the ultimate solution to many organisational issues, including sharing of knowledge amongst employees (Scott, 1998). The fact that the technology enabled people from different computing environments to connect regardless of topologies or operating systems seemed to open unlimited opportunities. However, real life experiences tell a different story. Instead of employees actively sharing knowledge on a peer-to-peer level, the intranets have become one-way communications channels for corporate information and in fact reinforcing existing barriers to knowledge sharing (Newell *et al*., 1999).

It has often – and correctly – been pointed out that technology in itself is not enough to ensure successful knowledge management: what is important is that a knowledge sharing attitude is fostered (*cf*. Davenport & Prusak, 1997). What is evident in the Citic account described above is that although the company had a working knowledge sharing culture, where the employees willingly shared their experiences and helped newly hired to learn the trade, this attitude alone was not enough to make the intranet a KM-enhancing environment. Whereas the web grows in a democratic and bottom-up fashion by contributions from interested users, intranet information is typically fed top-down by employees with no personal involvement in the information (Fagin *et al*., 2003). This was exactly the case at Citic; the intranet was populated with (semi-)static, long-term, general information provided not by the employees themselves but by an appointed infomaster. Judging from the testimonies, the employees did not see the intranet as a tool for knowledge sharing. Instead, the intranet was perceived as an information dissemination tool for management.

The browser is an ideal tool to casually surf the web, reading material authored by others and following links implemented by someone else. Undoubtedly, users may learn a lot by such surfing but this presupposes that there is useful information to read. Here lies the problem; most intranets do not contain information useful in the daily work. The Citic account suggests that the lack of information useful in everyday business situations depends not on the unwillingness to share but on the difficulties associated with a traditional approach to web publishing. We have heard the respondents testify that when the threshold to contribute is too high no knowledge is shared (or merely shared with a selected few via e-mail).

The introduction of the wiki caused a shift in ownership where the employees were given shared control. The collaborative authoring features offered by a wiki means that knowledge sharing can be distributed between many community members. If one employee starts, someone else may continue to add and a “best practice document” will emerge without burdening anyone contributor in particular. When updating became easy – as easy as surfing – and the tone of voice is allowed to be more casual, the Citic employees transformed from merely information consumers to full participants. Instead of having merely *one* content provider (the infomaster), Citic now has nineteen users actively disseminating information and sharing knowledge. The former infomaster is still active – actually, he is the most active user – but he is not alone; he is being accompanied by a large majority of the firm’s employees.

Although no data on the update frequency of the old intranet is available, it seems obvious that not only has the number of contributing authors increased but also the frequency with which the intranet is updated. During September there were only five working days on which the wiki-based intranet was not updated, and judging from the respondents’ accounts this was not the case with the traditional intranet. We also see that three users (none of which was the former infomaster) added content to the intranet seven times or more during the monitored interval. Again excluding the former infomaster, we see that more than, in average, five edits per day have been logged. These numbers suggest that the re-introduction of easy editing capabilities has activated the employees. Further, since the logging started some four months after the first test period, the above numbers are not merely the result of curious employees toying with new technology. Instead, we argue that the numbers show an altered pattern of behaviour at Citic and that the removal of the read-only limitation has vitalised the intranet in a way

that is highly beneficial for knowledge sharing. Subsequent studies will show the exact nature of these user contributions and examine in more detail what sort of knowledge is being shared.

We have seen that collaborative intranet authoring can work in small environments, such as the one described in this paper, but whether this approach can be scaled up to be useful in an international corporation remains to be tested. There is, however, nothing to suggest that this should be impossible. On the contrary; in their study of Wikipedia (www.wikipedia.org), a public wiki site reported to handle more than 3.000 edits per day, Viégas et al. (2004) note that both the technology and the social conventions that govern its use seem to scale very well. In addition, large organisations are made up by smaller sub-units and one approach could be to start by using wikis locally, e.g., on department level or on functional level (e.g., system developers or project managers). Once proven successful in the small, these installations may encourage other units to follow.

6 CONCLUSIONS

A positive attitude to knowledge sharing is a vital and necessary prerequisite for a successful KM initiative, since without such willingness, any KM-related effort – whether or not supported by IT – will have little or no effect. However, even when knowledge sharing *is* explicitly embraced by the organisational members, IT solutions such as an intranet may still fail to contribute to the organisation's KM goals.

In this paper we have examined the use of an intranet and argued that the web in general and intranets in particular have become read-only environments. We are not saying that it is impossible to publish – many intranets have millions of pages – but our conclusion is that the technological threshold is too high for ordinary employees to engage, and that this means that the users de facto have been deprived the option to contribute content. This means that the intranet's potential as a useful KM tool is seriously reduced.

Surfing is easy and the intuitive point-and-click approach that the web browser supports has made the web the most wide-spread Internet application. When equally easy to use editing capabilities are re-instated in the browser, *e.g.*, by introducing a collaborative authoring tool such as a wiki, it becomes easier to take active part in the development of the intranet, to keep the information correct and up-to-date, to communicate with peers across the organisation, and to do all the things a knowledge worker does on a regular day.

Our conclusion is that if people want to share knowledge and this willingness is facilitated by easy access to publication tools, the intranet may indeed become a very useful knowledge management tool.

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