



香港城市大學  
City University of Hong Kong

專業 創新 胸懷全球  
Professional · Creative  
For The World

## CityU Scholars

### Knowledge sharing initiatives in a Chinese professional services firm

Davison, Robert M.; Ou, Carol X.J.

#### Published in:

16th Americas Conference on Information Systems 2010, AMCIS 2010

Published: 01/01/2010

#### Document Version:

Post-print, also known as Accepted Author Manuscript, Peer-reviewed or Author Final version

#### Publication record in CityU Scholars:

[Go to record](#)

#### Publication details:

Davison, R. M., & Ou, C. X. J. (2010). Knowledge sharing initiatives in a Chinese professional services firm. In *16th Americas Conference on Information Systems 2010, AMCIS 2010* (Vol. 2, pp. 1162-1170)  
<https://aisel.aisnet.org/amcis2010/80/>

#### Citing this paper

Please note that where the full-text provided on CityU Scholars is the Post-print version (also known as Accepted Author Manuscript, Peer-reviewed or Author Final version), it may differ from the Final Published version. When citing, ensure that you check and use the publisher's definitive version for pagination and other details.

#### General rights

Copyright for the publications made accessible via the CityU Scholars portal is retained by the author(s) and/or other copyright owners and it is a condition of accessing these publications that users recognise and abide by the legal requirements associated with these rights. Users may not further distribute the material or use it for any profit-making activity or commercial gain.

#### Publisher permission

Permission for previously published items are in accordance with publisher's copyright policies sourced from the SHERPA RoMEO database. Links to full text versions (either Published or Post-print) are only available if corresponding publishers allow open access.

#### Take down policy

Contact [lbscholars@cityu.edu.hk](mailto:lbscholars@cityu.edu.hk) if you believe that this document breaches copyright and provide us with details. We will remove access to the work immediately and investigate your claim.

# Knowledge Sharing Initiatives in a Chinese Professional Services Firm

**Robert M. Davison**

Dept of Information Systems  
City University of Hong Kong  
[isrobert@cityu.edu.hk](mailto:isrobert@cityu.edu.hk)

**Carol X.J. Ou**

Dept of Computing Studies  
The Hong Kong Polytechnic University  
[cscarol@inet.polyu.edu.hk](mailto:cscarol@inet.polyu.edu.hk)

## ABSTRACT

Knowledge management has received increasing attention from both academics and practitioners in the past few years. However, much of what we know is limited to larger organisations in developed economies. In this study, we describe and analyse the impact of a knowledge sharing project in a medium sized Chinese professional services firm. Employing Canonical Action Research, we describe how we diagnosed the organisational situation, planned theory-driven changes, implemented a new knowledge sharing platform and then evaluated the outcomes of the implementation. Key findings relate to the importance of *guanxi* (relationships) between employees and the role of instant messaging technology. The theoretical and practical implications of these findings for knowledge management in the Chinese context are discussed. Recommendations for future research and additional technology applications are identified.

## Keywords

Knowledge management, in-group sharing, *guanxi*, instant messenger, China.

## INTRODUCTION

Contemporary organisations, especially those immersed in the knowledge economy, are accustomed to a business environment characterised by both intensive competition and turbulence. In order to survive and thrive, such knowledge-intensive organisations increasingly seek to develop highly effective work teams (Fuller, Hardin and Davison, 2007) of employees who can leverage information technology (IT) effectively. Indeed, organisations that are able not only to create knowledge, but also to disseminate and recontextualise it for reuse, have substantially increased their capability to respond to competitive forces and opportunities. In the last few years, considerable attention has been paid to the development of formal knowledge management systems (KMS). Such KMS, however, tend to be costly, which is controversial when the benefits are unclear and the return on investment is both hard to calculate and unpredictable. Reports abound of KMS that are little used beyond an initial honeymoon (Akhavan, Jafari and Fathian, 2005), and the actual impact of a KMS on work and organisational performance is hard to measure (Srivastava, Bartol and Locke, 2006). Furthermore, most prior research has been conducted in larger organisations in Western cultures (e.g., Bollinger and Smith, 2001). This is limiting for two reasons: firstly, small and medium sized enterprises (SMEs) play a very considerable role in the economies of many countries (e.g. HKTDC, 2009), yet SMEs typically lack the financial resources to develop large scale KMS; secondly, the societal cultural characteristics of Western countries are by no means universal – Asian countries have different cultural values that affect the way in which employees work together (Davison and Vogel, 2000; Martinsons and Westwood, 1997). This is particularly noticeable in China, where cultural norms have developed independently over many years and so where different approaches to knowledge sharing can be expected.

In this study, we describe how we have worked with SoftFocus, a medium sized professional services firm (von Nordenflycht, 2010) that is headquartered in China on a project to develop an indigenous knowledge sharing initiative. Our guiding research question has been “How can IT facilitate informal knowledge management practices by employees in Chinese organisations?”. In order to address this question, we engaged in an in-depth study of one Chinese firm – SoftFocus – which is a key player in the Public Relations industry in China. The study is structured according to principles of Canonical Action Research (CAR) (cf. Davison, Martinsons and Kock, 2004).

Following this introduction, we briefly review the literature on Knowledge Management (KM), paying particular attention to the Chinese context. We then introduce our research methods and context, including the sequence of events in this research. Next we present the CAR study, explaining how we diagnosed the initial problem situation, planned theory-based change,

implemented the change and reflected on the impact of our actions in SoftFocus. We then engage in a more thorough discussion of the research and its impact before concluding the paper.

## LITERATURE REVIEW

Through an extensive review of the KM research literature, we identified around sixty articles of substance published about KM in China in the last decade. The growing attention to KM research in China is easy to explain given its recognised importance for competitiveness and business success (Burrows et al., 2005; Voelpel and Han, 2005). However, published studies tend not to be intensive, instead engaging in either country-level comparative analysis (e.g., Chow et al., 2000), the transfer of knowledge to China (e.g., Li and Scullion, 2006), and identification of factors that may influence KM adoption (e.g., Lee, Wang, Lim and Peng, 2009). Furthermore, most empirical studies are informed by and test Western theories and assumptions (Ma, Qi and Wang, 2008; Teo and Men, 2008), rather than developing indigenous Chinese theory (Tsui, 2006). Moreover, Chinese firms tend to lag behind their Western counterparts in the formal implementation of KM initiatives (Burrows et al., 2005). Wang (2002) suggests a number of primary causes, including: poor planning and resource allocation, ineffective alignment of KM initiatives to core business processes and strategy, and the absence of qualified KM experts. Even when KM projects exist, access by researchers is often restricted by the perceived sensitivity and confidentiality of 'knowledge'.

Considering the research literature, two constructs have been identified as essential to the sharing of knowledge in the Chinese context: *guanxi* and in-groups. The need to develop, protect and maintain dyadic and mutually reciprocal relationships, called *guanxi*, is well recognised (Xin and Pearce, 1996; Fu, Tsui and Dess, 2006). From a network perspective, the existing networks that people have built up facilitate the smooth sharing of knowledge, as well as the identification and application of resources, and thus provide insights relevant to daily work activities (McDermott and O'Dell, 2001). By sharing knowledge with one's *guanxi* partners, so one ensures the reciprocal return of favours in the future (Hwang, 1987), which in turn increases the whole network's social capital (Wellman, Chen and Dong, 2002).

In-groups comprise a close set of colleagues, peers, kinsmen or friends with whom one interacts regularly and has mutual obligations (Chow et al., 2000). Sharing knowledge within the in-group is psychologically easier (Triandis, 1993) because it both enhances one's face and personal reputation (Voelpel and Han, 2005) and embodies a cultural preference for informal and implicit forms of communication (Martinsons and Westwood, 1997). In-group membership is important for knowledge sharing even where an organisation has a strong, foreign-based organisational culture.

Thus Voelpel and Han (2005) found that in-groups were salient for the Chinese employees of Siemens and their use of the ShareNet KMS despite the strong influence of an organisational culture based on German values that promote a concept of knowledge as a public good and hence knowledge sharing *across* in-group boundaries (cf. Lu, Leung and Kock, 2005). However, it is important to note that Siemens is an industrial giant with considerable financial muscle. Correspondingly, ShareNet is a huge knowledge repository with a complex design, supporting tens of thousands of users. Thus, while ShareNet is an effective application in Siemens' context, smaller and less well resourced firms, notably SMEs, may not be in a position to develop similar KMS. Instead, an informal but robust KM process embedded in daily business operations may be more appropriate. In contrast with ShareNet's clearly classified and hierarchically organised knowledge directory, KM research in China indicates that while explicit knowledge may be formally documented in templates and other documents, tacit knowledge is seldom deliberately codified in a formal or explicit manner (e.g. Burrows et al., 2005). Instead, interpersonal socialisation is more likely than IT to facilitate the sharing of knowledge: "In the digital era, there is still no perfect substitute for the motivational effects of human bonding and social connectedness" (Lu et al., 2005, p.33).

## RESEARCH CONTEXT

SoftFocus is in the dynamic business of media relations. It is headquartered in Beijing with a major office in Shanghai and smaller offices in Guangzhou and Hong Kong. SoftFocus employs approximately 180 'consultants' and provides a variety of Public Relations (PR) services. Its clients are typically large multinational corporations with a need to maintain ongoing PR efforts in China. SoftFocus' consultants interact with journalists to: make arrangements for the writing of stories covering client product and press releases; follow-up on the reception of recent product and press releases; update their knowledge continuously about the professional needs and expectations of journalists – and vicariously of the reading public; and build and maintain strong business connections.

## RESEARCH METHODS

Our research at SoftFocus is framed as Canonical Action Research (CAR) (Davison et al., 2004) in order to effect organisational change, and was conducted from January to December 2009. CAR is premised on a combination of theory and practice "through change and reflection in an immediate problematic situation within a mutually acceptable ethical

framework” (Avison, Lau, Myers and Nielsen, 1999, p.94). CAR has the “dual intention of improving practice and contributing to theory and knowledge both within and beyond the immediate confines of the project” (Davison et al., 2004). As a collaborative methodology, one or more researchers work together with organizational members to achieve a mutually beneficial outcome. Given variable organizational conditions, researchers are seldom able to (and arguably should not) exert complete control over interventions (cf. Davison and Vogel, 2000; Mumford, 2001).

With CAR, detailed plans are seldom drawn up in advance. Instead, researchers develop directional plans and subsequently flesh out the intervention based upon the circumstances. They shun a simple adherence to pre-determined techniques and styles of inquiry (cf. Descola, 1996). An effective CAR project reveals a detailed picture of a specific organizational problem situation, tracking organizational change processes in detail and ideally producing outcomes that are relevant for clients and that inform research knowledge (McKay and Marshall, 2001). CAR projects cycle through five stages – diagnosis, action planning, action taking, evaluation and reflection. While the diagnostic stage may be atheoretical, researchers are expected to introduce a theory to guide their later actions in the planning stage. Following action taking or intervention, it is important that researchers should evaluate the impact of their intervention in order to assess whether the problem situation has improved and so whether further cycles of change are needed. Finally, they should reflect on the project as a whole in order to specify both practical and academic learning.

## **CAR IN SOFTFOCUS**

### **Stage 1 - Diagnosis**

As described above, CAR projects involve a five-stage cycle of activities. In the first stage, diagnosis, researchers collect data from a variety of sources in order to diagnose the organisational situation. Over a period of several weeks, we engaged with SoftFocus’ consultants and senior management in an extended series of conversations, discussions and ethnographic observations (Myers, 1999) of employees at work. The primary aim of these conversations was to learn about how knowledge is currently managed at SoftFocus and to determine what problems exist in that KM process. As a result of these conversations, we were able to identify the critical role of guanxi and in-groups in the knowledge sharing process. For example, one employee reported: “My willingness to take the initiative to share with others depends on the personal relationship. If we have a good relationship, I will tell my experience and comments, when I see he/she is handling a case...”. This personal network-based knowledge sharing goes beyond company policy, mandate or leadership and is deeply embedded at the grassroots level in daily work practices. During our ethnographic observation of employees at work, we noted the supreme importance of instant messenger (IM) technology. All employees from the CEO downwards used an IM tool (typically MSN or QQ - a Chinese IM) at some stage in their work and some employees used it extensively. One employee in Shanghai was observed to have 17 chats running concurrently – with colleagues in the same office, at other offices and with friends working in other organisations. We undertook a hermeneutic analysis (cf. Lee, 1994) of IM chat logs and found, somewhat to our surprise, that only about 20% of chat content was social or otherwise unrelated to work. By contrast, 45% involved coordination of work and 25% involved knowledge sharing. We noted that consultants did not develop a proprietary attitude towards their knowledge. Although they would normally share it only with people with whom they had good guanxi, it did not seem to bother them that other people might be able to access their knowledge. Indeed, while the knowledge was perceived to be relatively ephemeral – valid for the immediate context – guanxi was perceived to be of far greater (magnitude) and longer lasting value. Unlike knowledge, however, guanxi cannot be shared – or lost. Furthermore, even if knowledge was obtained in an unauthorised fashion, it would have little value without the guanxi to support it and ensure its validity.

### **Stage 2 – Action Planning**

As a result of our diagnostic investigations, we developed an understanding of how we saw knowledge being created and manipulated in a typical business process at SoftFocus. We then started to plan for changes to this knowledge management process, focusing on the archiving and reuse of knowledge. Such change cannot be undertaken lightly. It must be consistent with organisational policies and strategies, if it is to be effective. Therefore, we developed a Balanced Scorecard (BSC) (Kaplan & Norton, 1996; Martinsons, Davison and Tse, 1999) representation of how knowledge adds value to SoftFocus’ business practices, including the proposed change elements. The BSC is a performance management tool commonly used in strategic planning initiatives and designed to measure whether smaller-scale operational activities are aligned with larger-scale objectives, in terms of vision and strategy. The BSC is notable for focusing not only on financial outcomes, but also on internal processes, customer satisfaction, and future preparedness. These four perspectives are conventionally linked (see Figure 1) diagrammatically and logically. Within each perspective, managers are expected to identify one or more:

objectives, e.g. satisfied clients; initiatives (interventions that should lead to the attainment of the objectives), targets (to be reached by a deadline) and measures (metrics to assess achievement of the objectives).

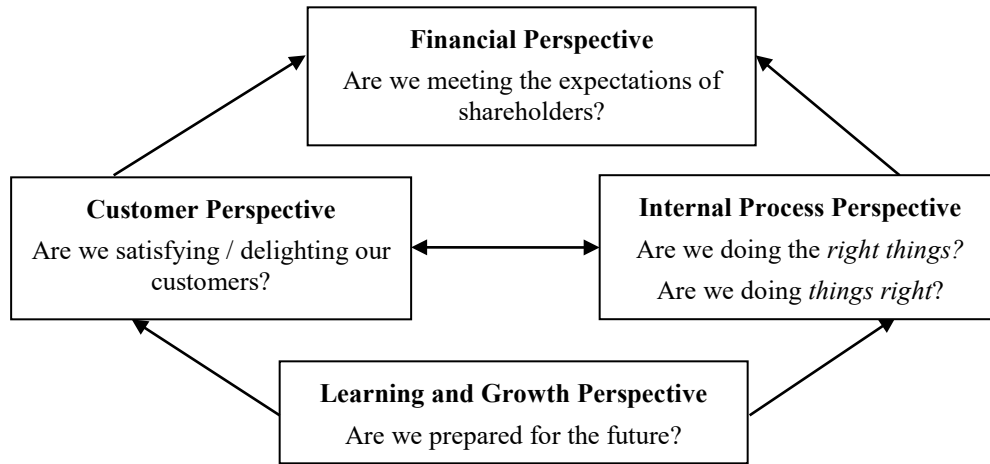


Figure 1: The Balanced Scorecard (based on Kaplan & Norton 1992 and Martinsons et al. 1999).

We recognised the value of the informal knowledge sharing arrangements already in place at SoftFocus and did not want to destroy them. At an informal level, each employee was a member of one or more knowledge networks which could be tapped on demand for knowledge. Essentially, this functioned as a transactive memory network – and this led us to identify Transactive Memory Theory (Jarvenpaa and Majchrzak, 2008; Wegner, 1987) as an appropriate theory to underpin our later actions. At the same time, we identified several knowledge weaknesses, notably a failure to archive knowledge for one’s own future use. From an economic perspective (e.g. Williamson, 1975), unnecessary costs were being incurred each time knowledge was created afresh instead of being reused.

These two theoretical perspectives suggested that we should try to enhance the economic value of knowledge in SoftFocus, by ensuring that it was archived for reuse, yet at the same time encourage employees both to share knowledge through we drew up involved the deployment of a knowledge sharing platform based on Google Sites. One distributed team (13 members across three locations) in SoftFocus was identified by SoftFocus’ CEO as a pilot group to test the concept. This team is particularly suitable because of its geographical spread, the large number of sub-clients that it is responsible for, and a recent history of failing to leverage knowledge resources effectively. Table 1 charts the initiatives, measures, targets and objectives for the ‘internal process’ dimension of the BSC that we developed for SoftFocus.

Table 1: BSC for the Internal Process Perspective of SoftFocus’ KM Project

Objectives	Targets	Measures	Initiatives
Enhance the effectiveness and efficiency of the team by: Ensuring the use of advanced knowledge sharing tools Fostering the development of a Transactive Knowledge-Sharing Memory and Network across the whole team	All team members to access the knowledge sharing platform on a continuous basis for all communication functions except email by March 2010	Frequency of platform access by each team member (i.e. individual measurement) Number of knowledge contributions and downloads made by each team member Quality of knowledge shared (assessed by senior management)	Resource the team to undertake this project (including training) Ensure that Internet bandwidth is sufficient Ensure that all necessary KM tools are available Communicate the initiatives, measures, targets and initiatives clearly to all team members

### Stage 3 – Action Taking

The action taking stage of CAR is not necessarily simple. Even though we had identified a suitable technology for organisational change, we had to ensure that it was accessible to SoftFocus' employees. Our initial Google Sites implementation was based on a server outside China. However, Chinese government firewall restrictions for use of the public internet meant that access to the server was extremely slow – so slow that employees were unable to use the service. We then explored implementing on Google.cn. This, however, proved impossible because use of Google within China is tightly restricted and the Sites platform is not available at all. Finally, we returned to the idea of using an external server, but with access via a Virtual Private Network (VPN) through Hong Kong. For reasons that are unclear, VPN-based Internet access from China to Hong Kong is relatively fast and unhindered, even if the final destination/source of Internet traffic is beyond China. Nevertheless, while this 'solution' is technically feasible, it is also quite expensive for an SME, requiring a twelve month contract with a VPN provider.

### Stage 4 - Evaluation

The fourth stage of CAR, evaluation, requires the researchers to engage in a holistic analysis of the change process. This is normally undertaken some time after the completion of the third stage, i.e. so as to give the organisation and its employees time to adapt to the new work practices. Consequently, we have not yet conducted a formal evaluation of the new work processes. Nevertheless, initial indications are that while the functionality of the software itself is appropriate for the task, the employees are less keen to use it. This is partly because of the poor performance of the software when it was first set up, partly because of the changes to work practices that are required. The team leader commented that "Although I am not against the technology, I am not an IT person. If the software doesn't make my life a lot easier, I don't see why I should bother to use it – nor encourage my team members to do so. It is just too troublesome to change an existing set of work practices to a new set". Fundamental to this kind of reaction is the need to change well-established, individual work practices that have been proven to work in SoftFocus and similar firms over many years. Furthermore, it is important to realise that the motivation for change is one that is primarily salient for the organisation, but not the individual employee, at least in the short term.

The new knowledge sharing practices were designed with the employees in mind, and indeed employees were involved in the design process through a series of conversations about the necessary functionality. When we discussed the project with employees, they initially espoused great interest. However, when the time came to implement the project and behavioural changes were needed, the interest seemed to evaporate, with the pilot group refusing to participate given what they see as inadequate functionality and slow access speeds. We are still working with SoftFocus at the time of writing.

### Stage 5 - Reflection

Notwithstanding the current implementation impasse, i.e. pending finalisation of the VPN, and the reluctance of employees to change their work behaviour, it is appropriate to reflect on what we have learned so far. Firstly, it is interesting to compare the corporate and consultant perspectives on knowledge sharing. While the senior management of SoftFocus recognise the potential economic value associated with knowledge archiving and dissemination, such considerations are almost entirely irrelevant to the consultants who explained that knowledge is always available at the finger-tip, i.e. on demand from a member of their knowledge network via an IM chat. Indeed, the lack of economic motive for the consultants is simultaneously tied up with the transactive nature of the knowledge memory system. The consultants acknowledge that they do not archive their knowledge: as soon as it has been read and internalised, it is discarded. This is not seen as a problem or limitation, given that knowledge can be easily recreated by a network member. The well developed transactive memory network means that each employee knows what knowledge is known by other members of the network. This network extends both inside and outside SoftFocus' organisational boundaries.

Theoretically, this presents a dichotomous situation, with management preferring to harness knowledge for economic motives, and consultants preferring to access knowledge that is created on demand (but not to archive it or otherwise make it available for harnessing) according to their transactive memory networks. In principle, a compromise could be reached, with consultants still relying on their transactive memory networks, yet also with some shared knowledge being stored in a more formal KMS that is managed by the consultants for the consultants. SoftFocus' CEO attempted to mandate such an outcome by insisting that the pilot team should use the KMS for all knowledge related communications. However, this requirement had to be rescinded when it became apparent that the internet access speed was too slow to enable communicative work to be undertaken at all.

## DISCUSSION AND CONCLUSIONS

In this paper we have described how we have undertaken an action research project in SoftFocus, a Chinese SME professional services firm with the specific objective of creating a knowledge sharing system. While the early stages of the project (diagnosis and action planning) were successful, implementation has proved to be very complex for reasons that are largely beyond the control of either the researcher or the client organisation. Nevertheless, we have confirmed factors that are likely to influence the success of knowledge sharing arrangements in the Chinese context, viz. *guanxi* and in-groups, and identified a theory which neatly captures the way in which Chinese employees seek to share knowledge. The challenge now is to develop a knowledge sharing system that leverages the Chinese characteristics, ensures that knowledge can be archived for later access, and also meets basic consultant needs with respect to accessibility. The system does not need to be a formal knowledge repository which requires a resource-intensive, ontological classification of knowledge, explicitly organising knowledge into a virtual library. Instead, informal, low-budget tools, such as IMs or blogs, appear suitable since they cater to Chinese people's preference for informality and flexibility (Martinsons and Westwood, 1997), and are financially affordable for resource-poor SMEs. Web 2.0 tools like IMs or blogs are suitable for the transfer of tacit knowledge, such as lessons learned from projects and tactics to cope with customers, which can be described in detail with rich information that to some extent preserves the knowledge context. Meanwhile, IM's direct person-to-person interlocutory style creates a sense of interpersonal relationship which is missing in the formal knowledge repository. Such interpersonal informality, as supported by Web 2.0 tools, neatly address the need for a knowledge sharing solution that can be appropriated by in-groups and that is amenable to both the development and maintenance, and the reliance on *guanxi* in China. Indeed, given these cultural characteristics, it is perhaps not surprising that formal knowledge systems are likely to fail in China, even as informal knowledge sharing tools are more prevalent.

Whatever knowledge sharing system or initiative is developed in any given situation, it is important that it should be aligned with organisational strategic practices. This can be readily achieved through application of the Balanced Scorecard, where careful attention should be paid to the causal relationships established between initiatives and objectives. In the case of SoftFocus, our initiative – developing a knowledge sharing platform on a Web 2.0 platform and mandating its use for all project work – was believed to have a strong relationship with the objective – fostering the development of a transactive knowledge-sharing memory and network across the whole team. However, the initiative was not completed for reasons external to the intended focus of the research project and the BSC itself, i.e. internet access speed and government firewall restrictions. Such emergent circumstances are very much the norm in action research, where researchers cannot plan their whole course of actions in advance, instead needing to adapt to circumstances as they emerge (Descola, 1996).

We consider this project with SoftFocus to be a first attempt to improve KM practice in China. We came to realise that *guanxi* and in-group communications are part and parcel of the Chinese landscape; consequently we formalized these critical elements into our selection of a suitable technology to address the need for interpersonal relationships in this tacit-knowledge rich country. We look forward to both quantitative and qualitative studies that further investigate the role of IT and culture in developing a successful transactive knowledge-sharing memory and network in China.

## REFERENCES

1. Akhavan, P., Jafari, M. and Fathian, M. (2005) Exploring failure factors of implementing knowledge management systems in organizations, *Journal of Knowledge Management Practice*, 6 <http://www.tlinc.com/articl85.htm>.
2. Avison, D.E., Lau, F., Myers, M. and Nielsen, P.A. (1999) Action research, *Communications of the ACM*, 42, 1, 94-97.
3. Bollinger, A.S. and Smith, R.D. (2001) Managing organizational knowledge as a strategic asset, *Journal of Knowledge Management*, 5, 1, 8-18.
4. Burrows, G.R., Drummond, D.L. and Martinsons, M.G. (2005) Knowledge management in China, *Communications of the ACM*, 48, 4, 73-76.
5. Chow, C.W., Deng, F.J. and Ho, J.L. (2000) The openness of knowledge sharing within organizations: A comparative study of the United States and the People's Republic of China, *Journal of Management Accounting Research*, 12, 65-95.
6. Davison, R.M. and Vogel, D.R. (2000) Group support systems in Hong Kong: An action research project, *Information Systems Journal*, 10, 1, 3-20.
7. Davison, R.M., Martinsons, M.G. and Kock, N. (2004) Principles of canonical action research, *Information Systems Journal*, 14, 1, 65-86.
8. Descola, P. (1996) *The spears of twilight (Les lances du crépuscule)*, The Free Press: New York, NY.



9. Fu, P.P., Tsui, A.S. and Dess, G.G. (2006) The dynamics of guanxi in Chinese high-tech firms: Implications for knowledge management and decision making, *Management International Review*, 46, 3, 277-305.
10. Fuller, M.A., Hardin, A.M. and Davison, R.M. (2007) Efficacy in technology-mediated distributed teams, *Journal of Management Information Systems*, 23, 3, 209-235.
11. HKTDC (2009) Small business resources, <http://www.hktdc.com/info/mi/sbr/en/Small-Business-Resources.htm>
12. Hwang, K.K. (1987) Face and favor: The Chinese power game, *American Journal of Sociology*, 92, 4, 944-974.
13. Jarvenpaa, S.L. and Majchrzak, A. (2008) Knowledge collaboration among professionals protecting national security: Role of transactive memories in ego-centred knowledge networks, *Organization Science*, 19, 2, 260-276.
14. Kaplan, R., and Norton, D. (1996) Using the balanced scorecard as a strategic management system, *Harvard Business Review*, 74, 1, 75-85.
15. Lee, A.S. (1994) Electronic mail as a medium for rich communication: An empirical investigation using hermeneutic interpretation, *MIS Quarterly*, 18, 2, 143-157.
16. Lee, O.K., Wang, M., Lim, K.H. and Peng, Z.Y. (2009) Knowledge management systems diffusion in Chinese enterprises: A multistage approach using the technology-organization-environment framework, *Journal of Global Information Management*, 17, 1, 70-84
17. Li, S.X. and Scullion, H. (2006) Bridging the distance: Managing cross-border knowledge holders, *Asia Pacific Journal of Management*, 23, 71-92.
18. Lu, L., Leung, K. and Koch, P.T. (2005) Managerial knowledge sharing: The role of individual, interpersonal and organizational factors, *Management and Organization Review*, 2, 15-41.
19. Ma, Z.Z., Qi, L.Y. and Wang, K.Y. (2008) Knowledge sharing in Chinese construction project teams and its affecting factors: An empirical study, *Chinese Management Studies*, 2, 2, 97-108.
20. Martinsons, M.G. and Westwood, R.I. (1997) Management information systems in the Chinese business culture: An explanatory theory, *Information & Management*, 32, 5, 215-228.
21. Martinsons, M.G., Davison, R.M. and Tse, D.S.K. (1999) The balanced scorecard: A foundation for the strategic management of information systems, *Decision Support Systems*, 25, 1, 71-88.
22. McDermott, R. and O'Dell, C. (2001) Overcoming cultural barriers to sharing knowledge, *Journal of Knowledge Management*, 5, 1, 76-85.
23. McKay, J. and Marshall, P. (2001) The dual imperatives of action research, *Information Technology & People*, 14, 1, 46-59.
24. Mumford, E. (2001) Advice for an action researcher, *Information Technology & People*, 14, 1, 12-27.
25. Myers, M.D. (1999) Investigating information systems with ethnographic research, *Communications of the AIS*, 2, 23, 1-19.
26. Srivastava, A., Bartol, K.M. and Locke, E.A. (2006) Empowering leadership in management teams: Effects on knowledge sharing, efficacy and performance, *Academy of Management Journal*, 49, 6, 1239-1251.
27. Teo, T.S.H. and Men, B. (2008) Knowledge portals in Chinese consulting firms: A task-technology fit perspective, *European Journal of Information Systems*, 17, 6, 557-574.
28. Triandis, H.C. (1993) The self and social behavior in differing cultural contexts, *Psychological Review*, 96, 3, 506-520.
29. Voelpel, S.C. and Han, Z. (2005). Managing knowledge sharing in China: The case of Siemens ShareNet, *Journal of Knowledge Management*, 9, 51-63.
30. Von Nordenflycht, A. (2010) What is a professional service firm? Toward a theory and taxonomy of knowledge-intensive firms, *Academy of Management Review*, 35, 1, 155-174.
31. Wang, J. (2002). Chinese enterprises need knowledge management, *Automobile Technology*, 6, 44-46.
32. Wegner, D.M. (1987) Transactive memory: A contemporary analysis of the group mind, in B. Mullen and G.R. Goethals (Eds.), *Theories of Group Behavior*. Springer-Verlag, New York, USA, 185-208.
33. Wellman, B., Chen, W.H. and Dong, W.Z. (2002) Networking guanxi, in: T. Gold, D. Guthrie and D. Wank (Eds.) *Social Connections in China: Institutions, Culture and the Changing Nature of Guanxi*, Cambridge University Press, 221-241.



34. Williamson, O.E. (1975) *Markets and Hierarchies: Analysis and Antitrust Implications*, Free Press, New York, NY.
35. Xin, K.R. and Pearce, J.L. (1996). Guanxi: Connections as substitutes for formal institutional support, *Academy of Management Journal*, 39, 6, 1641-1658.