



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

Sharing Knowledge in Technology Deficient Environments Individual Workarounds amid Corporate Restrictions

Davison, Robert M.; Ou, Carol XJ

Published in:
ECIS 2013 Proceedings

Published: 01/06/2013

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. XJ. (2013). Sharing Knowledge in Technology Deficient Environments: Individual Workarounds amid Corporate Restrictions. In *ECIS 2013 Proceedings* Association for Information Systems. https://aisel.aisnet.org/ecis2013_cr/23/

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 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.

SHARING KNOWLEDGE IN TECHNOLOGY DEFICIENT ENVIRONMENTS: INDIVIDUAL WORKAROUNDS AMID CORPORATE RESTRICTIONS

Davison, Robert M., City University of Hong Kong, Hong Kong, isrobert@cityu.edu.hk

Ou, Carol X.J., Tilburg University, The Netherlands, carol.ou@uvt.nl

Abstract

In this paper, we draw on socio-technical theory to explore how Chinese professionals engage in informal knowledge focused activities facilitated by guanxi networks in the face of restrictive corporate IT policies. Following a short review of the global and Chinese literature on knowledge management and knowledge sharing, we describe our qualitative investigation into the informal work practices of employees in 16 China-located hotels of Ravine, a global hotel chain. These work practices include the development and maintenance of guanxi (relationships) with internal and external colleagues, and the leveraging of this guanxi in order to exchange information and knowledge. We document both the corporate IT restrictions and the workarounds that employees deploy as they strive to complete their work effectively. We discuss the theoretical and practical implications of the research findings before concluding with recommendations for research and practice.

Keywords: Knowledge Sharing, Guanxi, China, Hotels, Corporate IT Policy, Socio Technical Theory.

1 Introduction

Knowledge management (KM) is widely recognised as a critical activity for competitive advantage and organisational success (Dennis and Vessey, 2005). For instance, the economic benefits associated with not ‘reinventing the wheel’ are considerable. These benefits can be realised if valuable knowledge is captured, retained, processed and made available to those who need it (Davenport et al., 1998). Research over the last 20 years has demonstrated the value of KM, as well as identifying a variety of enabling and inhibiting factors (Oshri et al., 2008). The success of a KM initiative depends on a variety of conditions, including both an appropriate technological environment being available and suitable incentives for employees (Lu et al., 2006). However, the benefits of KM are not only apparent to management. Employees, notably knowledge workers or professionals, have much to gain through interpersonal knowledge sharing (KS) practices. Nevertheless, KS can be inhibited if management fails to provide the necessary technological or policy infrastructure, or if the requisite culture is not in place (Chua and Lam, 2005).

In this paper, we explore knowledge sharing practices in a major global hotel chain, which we codename as *Ravine*, and in particular its operations in China. As we demonstrate, Ravine appears to fail even to recognise the value of knowledge sharing, let alone to facilitate it. Knowledge-focused employees who insist on maintaining contact with and exchanging knowledge through their knowledge networks must therefore create a variety of workarounds in the course of their work. A clear discrepancy emerges between the social need to interact and exchange knowledge on the one hand, and the managerial insistence on a restrictive set of IT policies that mitigate against interaction on the other hand. This discrepancy leads to our primary research question: *How do knowledge workers engage in effective knowledge sharing in the context of a restrictive corporate IT policy?* Given the tension between employees’ social work practices and management’s technical restrictions, a socio-technical approach is taken in the interpretation of the findings (cf. Eason, 2008).

Following this introduction, we briefly review the literature on KM and KS, paying particular attention to the Chinese context. We then introduce our research method and provide background information about Ravine – the corporate context wherein we conducted this research. We present our empirical data in the form of two qualitative cases, where we describe typical examples of corporate restrictiveness and the workarounds that employees develop in order to ensure that they can share knowledge effectively. Finally, we discuss the implications of the research in the corporate context and make recommendations for future research and practice.

2 Literature Review

2.1 Knowledge Management Research

KM is a widely researched topic and a full literature review is beyond the scope of this paper. However, it is fair to say that much of the literature has focused on the experience of large Western organizations, notably their attempt to implement formal KM systems (KMS). KMS are typically designed to facilitate the identification, processing and exploitation of a firm’s knowledge assets (Oshri et al., 2008). The formality associated with KMS is attractive to managers who wish to assert their prerogative to control knowledge assets internally and ensure consistency of access and use. However, KMS are premised on the assumption that knowledge can first be codified by its creator, second captured by the KMS in a standard format, and third transferred to potential beneficiaries, who fourth can recontextualise it appropriately (cf. Newell et al., 2009). The value of this four-stage process has been demonstrated, yet it is also recognised that KMS implementation is expensive and risky, with employees reluctant to share knowledge, deadlines missed, budgets exceeded and expectations not met. Indeed, top management commitment, although necessary, is no guarantee of

success (Lu et al., 2006). Further, even when a KMS is implemented, measuring its success is neither easy nor straightforward (Edmondson, 2011).

2.2 Knowledge Management in China

Although lagging the Western literature, the Chinese literature on KM has expanded rapidly in volume and quality in recent years. An extensive search yielded some 257 articles, 80% published in the last five years. Much of this research openly emulates Western studies, comparing the Chinese experience cross-culturally (Weir and Hutchings, 2005) and identifying the factors that influence KM adoption in China (Teo and Men, 2008). There are also a few more reflexive accounts of KMS that are situated in the Chinese culture and context, such as Voelpel and Han's (2005) case study of ShareNet, a KMS operated by Siemens, Su et al.'s (2008) exploration of the barriers to KS in Chinese firms, and Davison et al.'s (2013) account of KS in two Chinese PR firms. These latter studies identify the importance of a number of concepts not usually encountered in the Western literature, including *guanxi*, in-groups, reciprocal obligation and face.

Guanxi is usually translated simply as 'relationship', but a more sensitive translation is a 'close and pervasive interpersonal relationship'. *Guanxi* is ubiquitous in China. Society as a whole is structured around *guanxi* (Fu et al., 2006). *Guanxi* exerts a significant impact on knowledge exchange through a social structure known as the in-group. An in-group consists of two or more individuals who demonstrate a high degree of mutual trust, reciprocal obligation, face protection and respect. In-group members share a normative assumption that they are morally obligated to help each other (Kiong and Kee, 1998). Face is the final component of *guanxi* that we consider here. Face refers to the respect, pride and dignity accorded to an individual (Leung and Chan, 2003). Within an in-group, *guanxi* ensures that each member will not act to damage the face of another member.

Cultural analyses of KS practices in Chinese firms reveal that knowledge workers often form in-groups. Knowledge exchange by individuals within in-groups occurs as a matter of social obligation and in a reciprocal fashion (Chow et al., 2000). In-group knowledge exchange has the potential to enhance one's face (Triandis, 1989), though fear of losing face can also discourage KS behaviour (Young et al., 2012). In-group KS behaviour is seen as being more efficient than sharing with unknown others (Qing, 2008), since the dynamics of the in-group mean that each member knows the area(s) of expertise of the other members, and the sense of reciprocal obligation to help ensure that help will be forthcoming. There are obvious parallels here with Wegner's (1987) theory of transactive memory systems, though it should be noted that simply knowing 'who knows what' is insufficient. *Guanxi* both facilitates the right to ask for help, and creates an obligation to help. This form of in-group-based knowledge exchange is likely to be both informal and implicit (Martinsons and Westwood, 1997), in contrast to the formal and explicit processes commonly associated with KMS, even when the organisational culture might dictate otherwise. Thus, Voelpel and Han (2005) confirmed the preference for informal knowledge exchange in Siemens' operations in China, notwithstanding the formal German culture.

Given the Chinese preference for informal and implicit communication and the Western predilection for formal, IT-based KMS, directly transferring 'best practices' from the West to China is problematic. As Lu et al. (2006) note, interpersonal socialisation is more important than IT for knowledge sharing. We may be in a digital age, but the importance of interpersonal connections in China cannot be underestimated (Martinsons, 2008). Apart from interpersonal connections, a second key antecedent to KS in China is self-efficacy (Bandura, 1997), roughly defined as a belief in one's ability to take actions that lead to accomplishment of one's goals. In the Chinese context, self-efficacy must be combined with in-group efficacy, since it is the resources available through membership of the in-group that enable goal completion.

3 Research Context and Method

Ravine is a global hotel management company that operates globally, with over 3,500 hotels in close to 100 countries. Ravine's brands span the entire range from one- to five-star properties. The company is a major player in the Chinese market, operating over 100 hotels. In the majority of hotel properties, Ravine is not the property owner, but provides hotel management services. These services include Ravine's culture, branding and operating principles, including IT policy. All hotel owners are encouraged to sign up for Ravine's global IT platform (which they have to pay for), incorporating an integrated room reservations system and a variety of other back-office functions. It also includes provision for Internet access and other Internet-related services (such as email) that are designed for use by hotel employees. Ravine's systems are typically not intended for hotel guest use – the hotel owner makes local arrangements with an Internet Services Provider (ISP) to cater to guest needs.

At the time of writing and during the course of this research (2011-2012), Ravine's global HQ promulgated a highly restrictive IT policy. Under the terms of this policy, Internet bandwidth at each property that signed up for the global IT platform was very limited: email attachments were restricted to 2 or 4 MB, and many Internet-based applications (notably Web 2.0 communication tools) were blocked altogether. Hotel General Managers (GMs) and IT managers were not free to amend this IT policy, since all IT related matters were coordinated through regional and global HQ, where the policies were enacted. However, as described below, some hotel GMs were complicit in enabling employees to work around these restrictions.

The first author of this paper gained access to Ravine's China operations through his own guanxi with a number of Ravine hotel GMs (he was a frequent guest at some Ravine hotels) who introduced him to a Senior Vice President (SVP) of Asia Pacific. In conversation with this and subsequently other SVPs, he was able to negotiate access to collect data for research purposes in any China hotel property. Over the course of 18 months, he interviewed over 150 hotel employees (from GMs and functional managers to clerical and secretarial staff) at 16 different hotel properties in all major Chinese cities: Beijing (3), Chengdu (1), Chongqing (1), Guangzhou (2), Hong Kong (3), Macau (1), Shanghai (2), Shenzhen (1), Suzhou (2), Wuhan (1). The purpose of these interviews was to develop an understanding of how employees used technology at work, the barriers they faced and the workarounds they created. The interview protocols were informed by both Western theoretical perspectives, such as Bandura's (1997) Self Efficacy Theory and Wegner's (1987) Theory of Transactive Memory Systems, Chinese cultural antecedents of KS such as guanxi, face, reciprocity and in-groups. Subsequently, a socio-technical theory approach (cf. Bostrom and Heinen, 1977; Eason, 2008) was taken in the interpretation of the findings. From this rich body of qualitative data, we now draw examples to illustrate two cases of technology deficient situations which Ravine's employees experienced, and the workarounds that they created.

4 Cases

4.1 Guanxi Network Maintenance

A primary area of concern to employees involves the guanxi that each employee needs to develop and nurture in order to be able to access resources. The importance of guanxi should not be underestimated in the Chinese context. Many interviewees indicated that without guanxi, they simply couldn't complete certain tasks. Guanxi functions as a form of social glue that ties people together. As discussed in the literature review, guanxi embodies concepts like reciprocal obligation, face maintenance and relationship harmony. Guanxi is commonly experienced between people who maintain close relations in a work context. However, guanxi is not limited to a single firm or work

place. Knowledge professionals typically maintain guanxi with tens or even hundreds of other people, many of whom are not immediate colleagues but may work for other firms and in other locations.

Guanxi is essential because China is a society where third party information is hard to come by (Martinsons, 2008) and where there is a cultural propensity to distrust unknown others (Ou et al., 2007). Guanxi takes time and effort to build, and must usually be created on a one-to-one basis, i.e. one person at a time. With good guanxi, one can gain access to knowledgeable others who may be in a position to provide assistance, information, knowledge or connections to other people/resources (Qing, 2008). Guanxi thus constitutes both a key that can open up access to knowledge resources and a firm's most valuable asset (Björkstén et al., 2008), or for the Economist (2000) to remark ironically, in reference to non-Chinese people working in China, "if you don't have the patience to learn about guanxi, old boy, you might as well pack your bags and go home".

In order to build and maintain guanxi, frequent interaction is needed between guanxi partners. For working professionals, face-to-face interaction is ideal yet impractical, given the exigencies of working life. In consequence, guanxi is developed, maintained and leveraged online: people maintain online contact with each other using social media applications like instant messengers (MSN, QQ, Skype), microblogs (Twitter, Weibo) and other social platforms (Facebook, Renren, Kaixin). Prior research (e.g. Davison et al., 2013) has noted the critical importance of these Web 2.0 applications in the Chinese context, with some working professionals interacting with a dozen or more contacts simultaneously.

4.1.1 The Nature of the Problem

Ravine operates a very restrictive set of Internet access policies. Access to Web 2.0 applications like MSN/QQ and Twitter/Weibo is simply not permitted at all – they are blocked. Conversations with Ravine's SVPs revealed that Ravine has a conservative attitude towards social media primarily out of a fear that it will be abused or will lead to the introduction of viruses. Ravine's restrictive Internet policies complicate the ease with which employees at any level can gain access to the requisite social media that they need in order to build and maintain guanxi. As a Front Office Manager in Beijing remarked "I am not allowed to use MSN at work, and my guanxi network has suffered in consequence. It is harder to work effectively". More directly, a Wuhan Public Relations manager commented "Without QQ I cannot work. I use QQ to contact many external parties, who don't want to use other applications". The precise value of guanxi became clear in conversation with the Director of Revenue at a large Shanghai hotel: "I have experts within my in-groups – for gifts, media, and printing. I need to contact these people on a regular basis". These 'experts' are people with whom the Director has a close relationship, imbued with a spirit of mutual obligation to help each other. They are tied to each other through guanxi. In order to contact each other, they rely on both traditional (telephone, email) and more contemporary (instant messenger) technologies. Staying in touch with each other is a normal practice, yet it is frustrated by the restrictive IT policies.

The value of guanxi is greater than simply knowing who is an expert – and asking them for help. In some cases, the immediate network of experts will not know the answer to a question. However, each of those experts has his/her own network of experts (a concept similar to transactive memory systems) – many of whom are not in the network of the person who first initiated the quest for knowledge. It is perfectly normal for someone who has been contacted in this way to pass on the request to the next level (see Figure 1). Thus, the guanxi network functions as a network of networks. Although the original seeker of knowledge doesn't have direct contact with anyone beyond the immediate network, there is an implicit trust in remote sources of knowledge, borrowed from the most proximate contact. In all of this guanxi-related communication, online tools are essential – whether email, instant messenger or some other application. However, if the online tools are inaccessible due to corporate policy limitations, access to the extended guanxi network is much more difficult to achieve. As a result, the guanxi network may slowly decay and access to information is hindered.

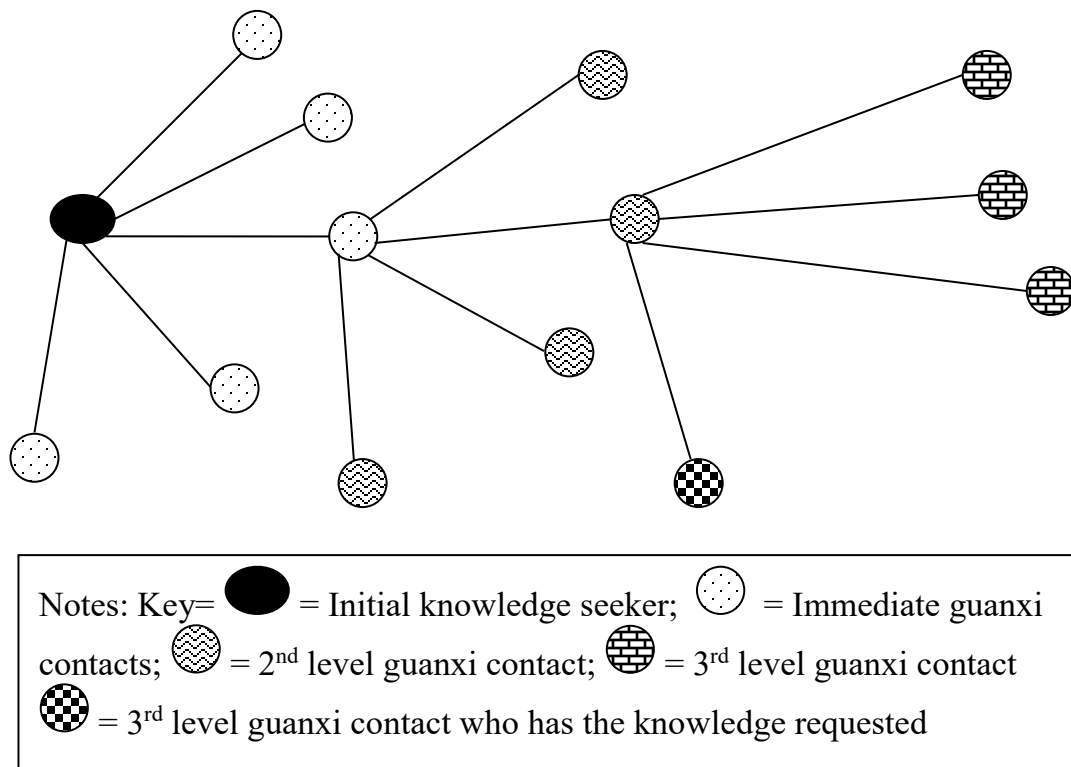


Figure 1. Networks of Guanxi Networks Used for Knowledge Seeking and Exchange

4.1.2 Workarounds

In the face of corporate obstruction, Ravine’s employees have identified a number of workarounds. The simplest is not to use Ravine’s networks at all, and typically there are two alternative network solutions: the guest network and regular cell phone networks. The guest network is provided for hotel guests and strictly speaking is reserved for their use. Guest networks are typically not subject to IP blocking, though they are still restricted by government censorship, so applications like Twitter, Facebook and YouTube are not available in China unless one has VPN access to an international IP host. However, the guest network can be accessed wirelessly by employees using mobile devices such as notebooks, tablets and smart phones. As a senior manager at a Macau hotel related “it is easy to tap into the guest network with a mobile device. However, it is impossible to log into corporate systems from the guest network. This means that one must use different networks for different purposes”. The extent to which the guest network is wirelessly available varies from property to property. In some hotels it is available throughout the building, but in others it is restricted to guest rooms, public areas (such as the lobby and restaurants) and executive lounges; it may not be available in back-office areas where most hotel employees work. Further, Ravine’s regulations prohibit most employees (especially those in customer facing roles) from using mobile devices when they are on duty. Therefore, using a mobile device to access the guest network may have to be undertaken surreptitiously.

An alternative to the guest network is simply to use regular cell phone networks. However, this is an expensive option that few of our interviewees considered for anything other than telephone conversations. Certainly, they evinced little interest in paying exorbitant fees for Internet access and data transfer. Nevertheless, in some hotels, the property owner (not Ravine but the company that owns the physical structure of the building) provided each manager with a cell phone with the intention that they use it for work. This constituted a formal workaround initiated by the owner. With this

arrangement, use of the phone would not be charged to the user but to the property owner. We interviewed the property owner's representative in a Beijing hotel that provided iPhone 4s to all managers to ask the reason for doing this. The response was that the property owner wanted all managers to be online and to have access to online resources at all times. The only way to do this was to provide them with a mobile device that was not dependent on the restricted hotel network. Many of these managers are not desk-bound, but rather need to walk around the property and also visit other locations in the city – as part of their work. Since the phone was to be used for work, it seemed perfectly reasonable to them to provide the phone as a means of staying in contact to exchange information/knowledge and solve problems.

The underlying trend in finding means of accessing networks is consistent, as indeed is the purpose. Maintaining *guanxi* networks requires extensive and frequent communication with one's contacts. Without the technology, it is hard for employees to maintain *guanxi* networks and engage in effective information and knowledge sharing. If hotel resources are not available for this purpose, then alternative channels must be located. In most cases, employees do not experience major problems in accessing these resources, with the guest network unwittingly being the primary channel for these workarounds. Some employees are formally granted permission to use the guest network in this way, while others do so surreptitiously. The problem of how to stay in contact with one's *guanxi* network is a taxing one. Each employee faces this problem and must find a solution, lest s/he is to suffer from a slow impoverishment of the network with all the negative consequences that this will entail.

4.2 Marketing, Communication and Public Relations Activities

Most hotels employ both a Marketing and Communication (MarCom) Manager and a Public Relations (PR) Manager. The role of a MarCom Manager is to promote the hotel and its facilities locally, nationally and globally. Unlike a Sales Manager, the MarCom Manager is not so interested in selling room-nights as selling hotel space, notably for meetings and events. The clients who may book this space include both companies and individuals. Clients often need rooms as well, so the MarCom Manager needs to communicate internally with Rooms/Reservations Managers, as well as Banqueting/Sales Managers. PR managers communicate with a variety of primarily external contacts including the hotel owners, government officials, travel agents and other parties with whom the hotel wishes to maintain relations, including professional PR firms.

Marketing, communication and PR activities, whether internal or external, are information and knowledge intensive. There is a continuous need to create new knowledge for internal and external clients, and then to disseminate it effectively. Knowledge may also be sourced from external parties such as media firms, interior designers and architects. Outgoing communications, which advertise the facilities that the hotel can offer, may be presented in graphical or multimedia formats. PR activities tend to require less bandwidth, but they do require unfettered access to Internet-based communication tools. PR and MarCom Managers are thus heavy users of communication technology, spending much of their time online for exchanging information and knowledge.

4.2.1 The Nature of the Problem

As already mentioned, Ravine's current IT setup is very restrictive with respect to Internet bandwidth and access to Internet-based communication tools. Large file transfers can be very slow or are simply impossible to undertake. Even cloud-based resources like Dropbox are blocked. This makes it very difficult to transfer large files. The MarCom Manager at a property in Guangzhou commented: "A one minute task, like sending an email with attachments to corporate clients, can take two to four hours". This was corroborated by the IT Manager at the same property who *complained* that "the Sales Manager sends 10-15 emails, each with a 2MB attachment, every afternoon. It slows down the whole network because we only have a 2 Mbps line to the Shanghai office for all emails". In contrast, the guest network at most Ravine hotels has a line speed between 50 Mbps and 1 Gbps – far in excess of

what is available to employees. The MarCom Manager at a Beijing property talked of a need to email a 5-6 MB attachment to 5000 people – clearly an impossible task under the present Internet regime. The attachment would need to be split into multiple parts, each part sent separately. Quite apart from the inconvenience, many of the people we spoke with complained about the colossal waste of time – time that could profitably be spent on other activities.

Apart from problems associated with large file transfer, Ravine’s Internet policy also blocks access to social media and Web 2.0 applications. The views of the hotel GMs with respect to social media vary. A regional GM in Southern China commented “There is no value in chatting. Web 2.0 applications have no role to play in Ravine’s corporate culture”; at the same time, he accepted that “social media were very much part of the social fabric” in China. On the other hand, a GM in Suzhou was more open-minded and suggested that functional managers in particular should be trusted, since they were working professionals who needed these tools to get their work done.

Interviews with functional managers revealed a widespread frustration with the block on social media. The Front Office Manager of a Guangzhou hotel commented that she “would prefer to use MSN or QQ to contact corporate clients and frequent guests, but this is impossible”. The Secretary to the GM at a Macau hotel similarly voiced a preference for social media when contacting corporate clients, yet was not permitted to do so. These and other functional managers and executive secretaries reported having between 20 and 60 work related contacts on the MSN and QQ platforms. At a Wuhan hotel, a PR manager talked of having “several hundred contacts – whom she must be able to contact. Some of these people never use email – they prefer QQ for all communications”.

4.2.2 Workarounds

The most effective workaround that MarCom and PR managers have is simply to ignore the official Ravine systems and policies. They know that they cannot fight with corporate policy. It is more effective to use alternative network strategies. A Guangzhou MarCom Manager described how he “set up an offshore microsite to host media information for his clients”. He accesses the microsite through a VPN, which he pays for personally (approx 20 Euros/month). However, he cannot activate the VPN nor access the microsite in the office due to Ravine’s IP blocking. Therefore, he must work from home to accomplish this. His immediate boss and the hotel’s GM are aware of what he is doing, so he has their tacit approval – even though this is explicitly not permitted under Ravine’s regulations. Each time there is new marketing content for clients, he uploads it to his private microsite and sends a simple text message to all his clients with a link that they can click so as to access the material.

In the case of social media applications being blocked, some employees have gained approval from their GMs to access the hotel’s guest network. They cannot risk overwhelming the guest network with high volume file transfers, but they can use it to access resources that Ravine blocks as a matter of policy. Through this back channel, hotel GMs are complicit in creating an unauthorised solution. They do so because they recognise the futility of trying to change corporate policy, the legitimate need for access to network resources such as social media, and the potential benefits that this can bring to individual hotel properties. The GM’s position is not an enviable one. Although appointed by Ravine’s Group HQ, and thus nominally Ravine’s representative on the ground, his/her salary is paid by the hotel owner, and so s/he is very much an employee of the hotel owner. From the hotel’s perspective, it is perfectly reasonable to bypass restrictive IT policies if that is necessary to get work done effectively, i.e. to ensure that the hotel satisfies its guests and earns a decent profit.

In one Beijing hotel, the MarCom Manager is permitted to use the guest network, though she has to access it in the executive lounge as it is not accessible at her desk. With a fast network available, she contacts potential and existing clients through MSN. She described IM-based communication as critical, because many of her clients prefer to use IM – or refuse to use email – and so this is the only way to contact them. She is also initiating use of Weibo as a digital marketing channel for contacting new clients – an initiative that would be impossible normally as access to Weibo is blocked. All guests receive a Weibo QR code in advance through their cell phone (if they check in online), or physically at

the hotel when they arrive. This code is linked to a unique guest account that enables the guest to earn points for redemption in the hotel, as well as entry to a lucky draw. Through this and similar promotions, she has been able to grow the number of Weibo followers quickly, which has led to an increase in restaurant and room bookings – evidence of the value of social media.

In all the situations that we witnessed or heard described, employees explicitly referred to a need to maintain and leverage *guanxi* with external partners. MarCom managers thus do not see external partners merely as clients, but as members of their extended relationship network. In several cases, the hotel GM was under pressure from employees to create a solution to work around the corporate IT restrictions, and very often the guest network was the only solution. In general, the GMs did recognise the legitimate need of selected employees to access fast Internet and social media in order to get their jobs done, and thus were willingly compliant in meeting employees' requests.

5 Discussion

In this paper we have examined how employees working at hotels under the Ravine Hotel Management Group experience the negative effects of a strict Internet access policy, and the workarounds that they create. These include accessing the Internet via the guest network, setting up a VPN at home, using cell phone networks and bringing their own devices. The corporate policy was established out of a fear that the Internet would be abused by employees and that unfettered Internet access could lead to unwanted viruses and other malware being downloaded into hotel systems. The policy was originally created at corporate HQ and is now standard practice globally at all hotel properties that have signed up for Ravine's global IT platform. Hotel GMs who disagree with the policy have a limited number of options to ensure that their employees can complete their work effectively and efficiently. The most extreme reaction is to permit selected employees to access the unrestricted guest network. IT managers suggested that while it might be possible in principle for individual people to gain a more liberal access to the Internet, the GM would need to apply for permission for each person on a case by case basis, with all applications being considered and processed by the regional HQ. However, while more liberal access might entail less restrictions on access to external websites, it would not increase the available bandwidth.

From an employee perspective, the situation is puzzling. Many have previously worked in other hotel chains, where they reported that such strict Internet access policies are the exception rather than the rule. Internet bandwidth is typically much faster than Ravine makes available and blocking of external sites generally does not occur. Since hotels operate in an information and knowledge rich environment, it seems reasonable to expect that employees would have access to the information and knowledge resources that they need in order to accomplish their work. *Guanxi* is very much part of work in China, since employees regularly and routinely expect to contact their *guanxi* network in order to share their work practices, learn from others and seek solutions to intractable problems. As Davison et al. (2013) report in their study of PR firms in China, employees develop a near symbiotic relationship with their instant messenger applications, which are embedded into their work processes as they contact people in their *guanxi* networks during the normal course of their work. Expecting employees not to leverage technology in order to access their *guanxi* networks is both unreasonable and naïve, suggesting a poor understanding of the working culture prevalent in China. As it turns out, most employees are ingenious in ensuring that they can access the resources that they need for work, one way or the other.

There is a growing literature on the empowering role of Web 2.0 applications in the workplace (e.g. McKinsey, 2009; Riemer et al., 2010). Initial corporate suspicion has slowly been replaced with reluctant acceptance of the positive impact that Web 2.0 applications can bring to communication and networking activities. However, there is clearly a strong resistance to Web 2.0 as well, with many firms rejecting the potential for positive impacts that others have seen. A particular concern is that social media use both interrupts regular work (Chang and Ian, 2012; Nardi et al., 2000) and consists of little more than chatting, an opinion shared by some interviewees in this study. While the jury is still

out, we do see evidence of an increasing acceptance of the positive impacts that Web 2.0 applications can bring to the workplace (cf. Ou and Davison, 2011), a view that was accepted by a few hotel GMs, as well as most functional managers and other employees we interviewed. We suggest that corporate policy will change when senior managers realise the extent of the dysfunctional effects that their restrictive Internet policy is bringing. In the mean time, employees need to resort to workarounds, as we have demonstrated. Workarounds are recognised in the literature as a valid response to poorly designed systems that fail to cater to employee needs. Two recent studies (Ignatiadis and Nandhakumar, 2009; Yang et al., 2012) report on employees developing workarounds in order to bypass controls in ERP systems and health care systems respectively.

From a socio-technical perspective, our case material exemplifies the complexities involved in designing systems for work. The prevailing social context in China, including the way people interact at work, is one that is characterised by strong *guanxi*. Individual employees not only form in-group-based *guanxi* with others, but expect to maintain and strengthen that *guanxi* continually. They feel more comfortable exchanging knowledge, answering questions and generally helping other in-group members, yet would not want to engage in the same interaction with unknown others. In order to ensure that *guanxi* is preserved, it must be actively used. This requires regular communication. The preferred channel for communication, in the absence of face-to-face interaction, involves Web 2.0 technology, including Weibo (a microblog), QQ and MSN (instant messengers), as well as email. On the other hand, from a managerial perspective there is a need to restrict access to technologies that are deemed potentially harmful to the organisation. Unfortunately, these technologies are the very same ones that employees desire to use. This creates a remarkable misalignment of interests between employees and management, as well as a tension that is not easily resolved. In an additional twist, the manager-employee distinction is opaque because local managers are equally the victims of corporate policy, which is set by the SVP for IT – a remote individual who neither works in a hotel nor uses the systems to which he restricts access! Resolving the tension either requires corporate compromise and a new IT policy, or, as we see here, wilful neglect of the policy and the system, replaced with workarounds that essentially subvert corporate authority as the price to pay for getting work done.

The initial findings that we reveal in this exploratory study of how Chinese hotel employees deal with restrictive corporate IT and Internet policy open up a number of areas for future research. Firstly, an investigation of IT policy and strategy across different organisational sectors would help clarify the extent to which access to Web 2.0 and social media applications exists in different industries. Secondly, a more detailed study of *guanxi*, relationships and social connectedness would reveal to what extent employees benefit from their online interactions with knowledgeable others. Thirdly, we hope to stimulate more research into the informal knowledge sharing that we suspects underpins contemporary work environments – whether or not formal knowledge management initiatives exist. Unlike formal KMS, informal KS requires minimal financial or technical investment. However, it does require an open access Internet policy if it is to be successful.

6 Conclusions

In this study, we have investigated the Internet-based barriers faced by knowledge workers in the Chinese hotel industry, drawing upon data obtained from interviews with employees in 16 hotel properties. Key problems identified are limited bandwidth and tight restrictions on websites and services that can be accessed. These problems have a significant negative impact on their ability to: develop and maintain *guanxi*; seek and share knowledge; and deliver materials to clients and customers. We have also documented the workarounds that employees create as they endeavour to complete their work. These workarounds may subvert corporate policies, yet they are often supported by hotel GMs, suggesting an appreciation of the significance of the problems and a willingness to work with employees in order to reach solutions. In this respect, managers are also victims of corporate policy, not perpetrators of it. From a sociotechnical perspective, this constitutes an

interesting tension, as the misalignment of work practices and technological affordances exerts a significantly negative impact on work.

We recommend that corporate policy makers be more sensitive to local norms, since these are powerful determinants of employee behaviour and not easily thwarted. As Voelpel and Han (2005) found in their study of Siemens (China), most knowledge is shared by in-group members, despite a corporate preference for employees to use the corporate KMS. However, a balance can be achieved, as Choi et al. (2010) demonstrate in their analysis of a formal KMS in South Korea that also enables informal KS between members of in-groups.

A major limitation of this research is that it was undertaken in a limited number of hotels, all located in the People's Republic of China, and all belonging to the same global hotel management chain. Therefore, we recommend that researchers undertake intensive studies into indigenous phenomena that may exhibit quite different characteristics to those encountered in the literature. The Chinese concepts that we briefly mentioned in this study need further exploration and theorisation. These Chinese cultural concepts may not be restricted to the Chinese context, but actually enjoy a wider applicability in other cultures. Establishing the veracity of their applicability, and assessing the extent to which they may influence individual, team and corporate behaviours presents research opportunities.

References

- Bandura, A. (1997). *Self-efficacy: The exercise of control*. Freeman, New York.
- Björkstén, J., Wang, L.S. and Yin, T. (2008) *Chinese Public Relations (中国式公关)*. Beijing: CITIC Press.
- Bostrom, R.P. and Heinen, J.S. (1977) MIS problems and failures: A socio-technical perspective, Part II: The application of socio-technical theory, *MIS Quarterly*, 1, 4, 11-28.
- Chang, H.J. and Ian, W.Z. (2012) Instant messaging and interruption in organizational settings: A Social Presence's Perspective, *First Monday*, 17(3):
<http://firstmonday.org/htbin/cgiwrap/bin/ojs/index.php/fm/article/view/3741/3180>
- Choi, S.Y., Lee, H.S. and Yoo, Y.J. (2010). The impact of information technology and transactive memory systems on knowledge sharing, application and team performance: A field study, *MIS Quarterly*, 34(4), 855-870.
- 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.
- Chua, A. and Lam, W. (2005). Why KM projects fail: A multi-case analysis, *Journal of Knowledge Management*, 9 (3), 6-17.
- Davenport, T.H., De Long, W. and Beers, M.C. (1998). Successful knowledge management projects. *Sloan Management Review*, 39, 43-57.
- Davison, R.M., Martinsons, M.G. and Ou, C.X.J. (2012) The roles of theory in canonical action research, *MIS Quarterly*, 36 (3), 763-786.
- Dennis, A.R. and Vessey, I. (2005). Three knowledge management strategies: Knowledge hierarchies, knowledge markets and knowledge communities. *MISQ Executive*, 4, 399-412.
- Eason, K. (2008) Sociotechnical systems theory in the 21st century: Another half-filled glass? In Graves, D. (Ed.) *Sense in social science: A collection of essays in honour of Dr Lisl Klein*, Broughton, 123-134.
- Economist (2000) Tangled web: A survey of China, *The Economist*, April 6th.
<http://www.economist.com/node/299613>
- Edmondson, A.C. (2011) Keynote address at the Organisational Learning, Knowledge and Capabilities Conference, Hull, April 12-14.
- Fu, P.P., Tsui, A.S. and Dess, G. (2006). Dynamics of guanxi in Chinese high-tech firms: Implications for knowledge management and decision making, *Management International Review*, 46(3), 277-305.

- Ignatiadis, I. and Nandhakumar, J. (2009) The effect of ERP system workarounds on organizational control, *Scandinavian Journal of Information Systems*, 21 (2), 59-90.
- Kiong, T.C., & Kee, Y.P. (1998). Guanxi bases, xinyong and Chinese business networks, *British Journal of Sociology*, 49(1), 75-96.
- Leung, T.K.P., & Chan, R.Y.K. (2003). Face, favor and positioning – A Chinese power game, *European Journal of Marketing*, 37(11/12), 1575-1598.
- Lu, L., Leung, K. and Koch, P.T. (2006). Managerial knowledge sharing: The role of individual, interpersonal, and organizational factors. *Management and Organization Review*, 2(1), 15-41.
- Martinsons, M.G. and Westwood, R.I. (1997). Management information systems in the Chinese business culture: An explanatory theory. *Information and Management*, 32, 215-228.
- Martinsons, M.G. (2008). Relationship-based e-commerce: Theory and evidence from China, *Information Systems Journal*, 18 (4), 331-356.
- McKinsey (2009) McKinsey global survey results: How companies are benefiting from Web 2.0, https://www.mckinseyquarterly.com/How_companies_are_benefiting_from_Web_20_McKinsey_Global_Survey_Results_2432
- Nardi, B., Whittaker, S. and Bradner, E. (2000) Interaction and outeraction: Instant messaging in action, in: *Proceedings of the 2000 ACM Conference on Computer Supported Cooperative Work*, Philadelphia, USA, 79-88.
- Newell, S., Robertson, M., Scarborough, H. and Swan, J. (2009) *Managing Knowledge Work and Innovation*. Palgrave-Macmillan, New York.
- Oshri, I., Fenema, P. and Kotlarsky, J. (2008) Knowledge transfer in globally distributed teams: The role of transactive memory. *Information Systems Journal*, 18, 593-616.
- Ou, C.X.J. and Davison, R.M. (2011) Interactive or interruptive: Instant messaging at work, *Decision Support Systems*, 52(1), 61-72.
- Ou, C.X.J., Sia, C.L. and Banerjee, P.K. (2007) What is hampering online shopping in China? *Journal of Information Technology Management*, 18 (1), 16-32.
- Qing, X. (2008) The culture relativity in the knowledge flow: An integrative framework in the Chinese context. *Chinese Management Studies* 2 (2), 109-121.
- Riemer, K., Richter, A., and Seltikas, P. (2010) Enterprise microblogging: Procrastination or productive use?" *Proceedings of the America's Conference on Information Systems*, Lima, Peru, August 12-15.
- Su, W.B., Li, X. and Chow, C.W. (2008) Exploring the extent and impediments of knowledge sharing in Chinese business enterprise, *International Journal of Knowledge Management*, 6(4), 24-46.
- 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, 557-574.
- Triandis, H.C. (1989). The self and social behavior in differing cultural contexts. *Psychological Review*, 93, 506-520.
- Voelpel, S.C. and Han, Z. (2005). Managing knowledge sharing in China: The case of Siemens ShareNet. *Journal of Knowledge Management*, 9, 51-63.
- Wegner, D.M. (1987) Transactive Memory: A Contemporary Analysis of the Group Mind, in Mullen, B. and Goethals, G.R. (Eds.) *Theories of Group Behavior*, 185-208. Springer-Verlag, New York.
- Weir, D., and Hutchings, K. (2005). Culture embeddedness and contextual constraints: Knowledge sharing in Chinese and Arab cultures. *Knowledge and Process Management*, 12, 89-98.
- Yang, Z.B., Ng, B.Y., Kankanhalli, A. and Yip, J.W.L. (2012) Workarounds in the use of IS in healthcare: A case study of an electronic medication administration system, *International Journal of Human-Computer Studies*, 70 (1), 43-65.
- Young, M.L., Kuo, F.Y. and Myers, M.D. (2012). To share or not to share: A critical research perspective on knowledge management systems. *European Journal of Information Systems*, 21 (5), 496-511.