

## KNOWLEDGE SHARING INITIATIVES IN A CHINESE PROFESSIONAL SERVICES FIRM

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### **Abstract**

In this paper, we draw on multiple research methods to examine the impact of knowledge sharing initiatives on organisational outcomes in a Chinese professional services firm. Firstly we conducted a case study that draws on interviews and conversations in order to delineate our research model. This is followed by an extensive survey of employees' perceptions and ethnographically-informed observation of employees at work so as to collect both qualitative and quantitative data to validate the research model. Combining these methods, we find that transformational and transactional leadership and in-group knowledge sharing exert different but significant influences on the achievement of two key organisational attributes: teamwork outcomes and organisational agility. Meanwhile, our ethnographical observation of employees' work behaviour suggests that a social networking tool - the instant messenger - has proved both popular and effective as an informal channel for employees to share knowledge both internally (inside the firm) and externally (with off-site contacts). The 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 (KM), leadership, in-group sharing, teamwork outcomes, organizational agility

## **1. 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 thrive, such knowledge-intensive organisations increasingly seek to develop both team-based resources (Fuller et al., 2006) and organisational agility (Sambamurthy et al., 2003). However, meeting each of these targets is complex, since neither is it easy to improve the effectiveness of teams (Srivastava and Bartol, 2006) nor can the structural adjustments associated with enhanced organisational agility be implemented without significant organisational change (Breu et al., 2001). However, research and practice have demonstrated that a carefully designed programme of knowledge management (KM) initiatives offers organisations the opportunity to enhance both teamwork and agility.

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 more quickly and more effectively. Indeed, the last few years have seen an increased recognition of the potential for KM in organisations, with considerable investments of finance and energy. Notwithstanding advances in technology, IT-driven KM systems (KMS) are still a burning issue for organisations, not least because the costs can be exorbitant which is controversial when the benefits are unclear and the return on investment is at best unpredictable. Indeed, KMS are often abandoned or underutilised (Akhavan et al., 2005; DeSouza and Awazu, 2005), and KM impacts on teamwork and organisation performance are difficult to measure and quantify (c.f. Srivastava et al., 2006).

In this study, we investigate the factors contributing to teamwork quality and organisational agility from the leadership-based management perspective and the grassroots level, IT-facilitated, in-group knowledge sharing perspective. Recognising the difficulties associated with measuring group- and organisation-level impacts, we first develop appropriate survey measures by integrating previous findings from the KM literature with data elicited from 35 hours of interviews with knowledge workers. Our survey findings are then enriched by an analysis of data obtained during four person-days of ethnographically-informed observations of selected knowledge workers. The focus organisation of the study is Eastwei, a Public Relations firm headquartered in Beijing (China), with branch offices in Shanghai, Chengdu and Guangzhou.

Following this introduction, we review the relevant literatures on knowledge, organisational agility, teamwork, leadership and guanxi-facilitated knowledge networks. We then introduce our research methods and research context, before describing the development of our research model. The data analysis follows and leads into an extended discussion. Finally we conclude the article with an exposition of the main contributions of the study, implications for research and practice, and limitations.

## **2. Literature Review**

This literature review is organised into three sections. While the overall theme of the literature concerns KM topics, we first review the relevant literature on organisational agility and team work, before proceeding to research on leadership, then knowledge networks and the way these networks are facilitated with guanxi in group settings. For each of these sections, we review the Western and Chinese literatures independently, though the Chinese literature is often constrained in its depth and breadth.

### **2.1 Linking KM with Organisational Agility and Teamwork**

A number of studies have focused on the contributors to and outcomes of teamwork quality (e.g., Fuller et al., 2006; Srivastava et al., 2006) and organisational agility (e.g., Sambamurthy et al., 2003; Zain et al., 2005). Sambamurthy and colleagues (2003) suggest that knowledge reach and richness are two important digital options for enhancing organisational speed and responsiveness, i.e., agility, and called for empirical studies to evaluate the linkage between KM processes and organisational agility. Consistent with this view, KM is asserted to increase the competitive advantage of a firm, including innovativeness and responsiveness (Awazu, 2004), improving operational processes (Halverson, 2004), business agility and financial performance (Voelpel and Davenport, 2004). In a more specific focus on the linkage between IT and agility, Zain et al. (2005, p.831) claim that agility is related to “a firm’s ability to generate the required information for management decision-making in a turbulent environment”. Notwithstanding the diversity of research on agility and KM, the above studies do provide a solid conceptual basis for the further investigation of a direct link between KM and organisational agility.

Specific to China, Voelpel and Han’s (2005) case study of the ShareNet KMS at Siemens documents a variety of contributions of successful KM initiatives, including different work teams’ reuse of shared knowledge so as to respond to local market/customer demand in a speedy manner. Similarly, Srivastava et al. (2006) provide empirical evidence of the impact of knowledge sharing on team performance. Given the availability of sophisticated technology to support teamwork, a variety of group outcomes can be used as measurable indicators of team performance (cf. Fuller et al., 2006). These studies highlight the linkage between collaboration, KM processes and team work outcomes.

### **2.2 Leadership**

In recent years, leadership in organisation management has shifted from a top-down, bureaucratic paradigm to a more interactive and dynamic process in the knowledge-based economy (Uhl-Bien et al., 2007). McLean and Smits (2003) suggest that the new role of leadership in the information era has been re-defined as the use of non-coercive influence to direct and coordinate the activities of group members toward goal attainment. Based on how

leaders motivate their subordinates to work, and in line with recent research (Bass et al., 2003; Srivastava et al., 2006; Uhl-Bien et al., 2007; Yukl, 2005), leadership styles can be classified as transactional or transformational.

Transactional leadership emphasises contingent incentives and tangible rewards, as well as punishments, monitoring and control, to influence the motivation to work (Yukl, 2005). Therefore, it is based on the exchange of rewards for compliance (Bass et al., 2003). The emphasis on (tangible) incentives is also consistent with cost and benefit analysis when the motivation is applied to knowledge sharing (Kankanhalli et al., 2005).

Compared to the top-down character of transactional leadership, a transformational leader encourages inspirational motivation, which includes participative decision making, coaching, informing, leading by example and showing concern/interacting with members of a team (Arnold et al., 2000). This perspective encourages emotional encouragement from leaders: when subordinates feel trust, loyalty and respect towards a leader, they will be motivated to perform at a higher level than was originally expected (Yukl, 2005). Therefore a transformational leader empowers followers to be imitative, participative and to 'go above and beyond' the instrumental contract or tangible promises offered by transactional leaders (Klein and House, 1995). For this reason, transformational leadership is also sometimes referred to as empowering leadership (Srivastava et al., 2006).

The Western literature suggests that the transactional and transformational styles of leadership are critical for efficacious organisational management in general (Bass et al., 2003). An appropriate leadership style is crucial for KM success because it should support and encourage knowledge workers to share and re-use solutions to work-related problems, as well as to practice open communication (Armstrong and Sambamurthy, 1999). It has been pointed out that a leader who strongly supports KM is likely both to view KM as having strategic importance and to promote an organisation-wide knowledge sharing culture where knowledge exchange and reuse become the norm (Kulkarni et al., 2006). Therefore, the importance of leaders co-ordinating and encouraging participation, instead of simply mandating the sharing of knowledge, has been emphasised (Srivastava et al., 2006). Indeed, it is cogently argued that "knowledge can only be volunteered – it cannot be conscripted" (Snowden, 2008). When effective leadership motivates employees to create, disseminate and internalize knowledge, it may be possible to establish an active KS community. Given this background, it is not surprising that leadership should have been empirically identified as a critical factor for KM success (Kulkarni et al., 2006).

Compared to the voluminous Western literature on leadership in KM, the Chinese literature is much sparser. While generic studies of KM in China do exist, either comparing China with other countries (Burrows et al., 2005; Chow et al., 2000; Weir and Hutchings, 2005) or examining the transfer of knowledge to China (Hutchings and Michailova, 2004; Li

and Scullion, 2006), only a few articles address leadership issues to any significant extent in the Chinese context (Davison et al., 2007; Huang et al., 2008).

Davison et al. (2007) report on a KM failure case involving an executive search firm, where the failure was associated with both very weak leadership and the fact that many employees experienced neither the interest nor the incentive to share knowledge. In a second paper, Huang et al. (2008) discuss the relative impact of two leadership styles - initiating structure and consideration - on the propensity of employees to share their knowledge. Initiating structure (Robbins, 1997) involves top-down supervision and instruction that is typical of both transactional leadership and indeed traditional Chinese management (Huang et al., 2008). On the other hand, consideration involves leaders displaying mutual respect and trust for their subordinates (Robbins, 1997) and so corresponds more closely to transformational leadership.

### **2.3 Guanxi Facilitated Knowledge Networks**

*Guanxi* describes “the existence of direct particularistic ties between two or more individuals” (Tsui and Farh, 1997, cited in Fu et al., 2006) and is a critical and ubiquitous dynamic in Chinese society. Guanxi is comparable to the western concepts of relationships and connections, reflecting the ties and interdependencies that comprise a social network. However, guanxi emphasises personal and interpersonal relationships with a base of social networks, favour, reciprocity and long-term benefit (Xin and Pearce, 1996). The importance of guanxi has been well recognized in Chinese business management (Xin and Pearce, 1996; Fu et al., 2006; Tsui and Farh, 1997). Guanxi is very much related to the practice of sharing knowledge, given that reliable knowledge is considered a scarce and intangible resource in China (Burrows et al., 2005) and so it is entirely consistent that people who engage in information exchange should also seek, in parallel, to develop guanxi with one another in a mutually collaborative support system.

Compared to studies of leadership and KM, much less attention has been paid to the importance of relationships though this situation is changing slowly (Awazu, 2004; Kulkarni et al., 2006). For example, McDermott and O’Dell (2001) suggest that existing networks which people use in their daily work help to ensure smooth knowledge sharing and transfer within an organisation or as a form of inter-firm knowledge exchange. Similarly, Lu et al. (2005) suggest that “positive interpersonal relationships are conducive to ... knowledge sharing”. This is consistent with social network theory (Barnes, 1954) which can be used to explain that differences in knowledge exchange depend on the strength of relationship between two parties.

By engaging the members of a social network through trust building and favour exchanging, the coordination of activities, pooling of knowledge resources, and knowledge transfer from one person to another are carried out on the basis of the strength of the guanxi

that individuals have with one another (Peng and Heath, 1996). As elucidated by social network theory, a communication network, consisting of “interconnected individuals who are linked by patterned communication flows” (Rogers and Kincaid, 1981), provides ways for individual members in the social network to gather information and seek opportunities for innovation. It is important to note that notwithstanding the potential organisational benefits of *guanxi* (Björkstén et al., 2008), it is predominantly an individual level construct, at least in the KM context, and so each individual employee will need to develop his/her own *guanxi* networks in order to secure knowledge resources. With respect to knowledge quality, *guanxi* could also play a role, as individuals who share strong *guanxi* will provide mutual assurance of the reliability, richness and trustworthiness of the knowledge (Luo, 1997). In this regard, *guanxi* helps a receiver to reduce searching costs and leads to better informed decisions at work (Ramasamy et al., 2006). At the same time, inter-partner activities tend to be highly informal in China, so it is not surprising that informal methods of transferring knowledge are more desirable and practical (ibid.). Consistently, it has been suggested (Awazu, 2004; Michailova and Hutchings, 2006) that *guanxi* can be effectively used as a facilitator of knowledge diffusion because of the flexible and practical informality of *guanxi* networks that enable creative interaction and communication processes.

In Chinese, three types of *guanxi* are recognised (Fu et al., 2006; Tsui and Farh, 1997), viz.: *qinren* (family members), *shuren* (acquaintances, friends, classmates, fellow villagers, and in the case of Eastwei, colleagues) and *shengren* (strangers). The second type, *shuren*, is the type most commonly found in organisations (except family-owned businesses, where *qinren* would apply) and a notable feature of *shuren* *guanxi* in organisations is the potential for these people to form what is known as an ‘in-group’. Understanding the psychology of in-groups is critical to an appreciation of how the Chinese share knowledge in organisational contexts.

An in-group comprises a psychologically and communicationally proximate group of people, including colleagues, peers, kinsmen or friends with whom one has mutual and reciprocal obligations (Chow et al., 2000). Sharing knowledge within the in-group is psychologically easier (Triandis, 1989) because it both enhances one’s face and personal reputation (Voelpel and Han, 2005) and embodies a preference for informal and implicit forms of communication (Martinsons and Westwood, 1997). In such in-group sharing, knowledge is communicated “through interpersonal contact, rather than through formal and/or written means” (Burrows et al., 2005): IT applications are rarely used for this purpose. This suggests that interpersonal socialisation is more likely to be an effective facilitator of tacit knowledge sharing than IT: “In the digital era, there is still no perfect substitute for the motivational effects of human bonding and social connectedness” (Lu et al., 2005). Notwithstanding the importance of in-group knowledge sharing, its actual contribution to teamwork and organizational performance is yet to be determined.

### **3. Research Context and Methodology**

In this paper, we focus on a Chinese firm, Eastwei, which is in the dynamic business of media relations and which characterises its value position as “knowledge-driven media relations”. Headquartered in Beijing, with offices in Shanghai, Chengdu and Guangzhou, Eastwei provides a variety of Public Relations (PR) services to its clients: typically large multinational corporations with a need to maintain ongoing PR efforts in China. Through journalists and the mass media, these organizations communicate with various stakeholders. Eastwei consultants need to interact with journalists for several reasons, viz.: making arrangements for the writing of stories covering client product and press releases; following-up on the reception of recent product and press releases; continuously updating their knowledge about the professional needs and expectations of journalists – and vicariously of the reading public; building and maintaining strong connections in a work context that is highly relationship-oriented. Eastwei consultants must also interact with media event organisers and client employees such as PR Managers or technically proficient staff who can provide details on products, services and industry trends in response to media questions.

Guanxi are of critical importance in media work, and Eastwei has built a corporate positioning around the concept of “knowledge-driven communications”, emphasizing the importance of providing added value in the client-media relationship. Eastwei adds value by actively exploiting interests, needs and knowledge gaps in the mass media, rendering not just client information, but also more general information, perspectives and analysis on the client’s entire industry. Successful project outcomes directly depend on the ability of Eastwei consultants to create, collate and disseminate knowledge. The creation, sharing and re-use of knowledge is therefore a key aspect of Eastwei’s expertise and success and is strongly promoted internally through business processes and lines of accountability/reporting, as well as deliberate culture-building efforts.

Over the last two years, the authors have been engaged in a longitudinal and multimethodological investigation into knowledge sharing practices at Eastwei, involving interviews, a survey and an ethnographically-informed observation of work practices. These methods have been subsumed under a broader action research framework that follows the principles for Canonical Action Research (Davison et al., 2004). In the following sections, we highlight the key activities and findings from the research project, divided into five phases.

#### **3.1 Phase 1 (November – December, 2006)**

After introducing the project to Eastwei’s CEO, Johan Björkstén, in mid-November 2006, we conducted a series of semi-structured interviews with 77 (approximately 80%) of Eastwei’s employees at the Beijing, Shanghai and Guangzhou offices in person, and at the Chengdu office by telephone. In this interview cycle, we focused on gaining a detailed understanding

of Eastwei's business nature and environment, competitive pressures, communication issues and knowledge sharing activities from all valid internal perspectives (junior through senior employees; clerical and secretarial staff; managers). All interview conversations were recorded with interviewee consent. The average interview length was 25.36 minutes, with a minimum of 13.08 minutes and a maximum of 50.22 minutes. From a research perspective, the purpose of conducting these 77 interviews was to facilitate our development of research propositions that would integrate the KM literature with Eastwei's unique situation. In terms of Action Research, we needed both to develop a detailed and comprehensive understanding of the research context, and to gain the confidence of as many employees as possible, as part of the process of developing a healthy researcher-client relationship. The interviews also helped us to diagnose the nature of the organisational position with respect to our future knowledge management-related interventions.

### **3.2 Phase 2 (January – April, 2007)**

In Phase 2, we discussed the findings of Phase 1 with Johan via email, face-to-face discussions and two structured reports (a 4900 word long business process report and a 2000 word long technology analysis report). We achieved consensus with Johan with respect to the current organisational positioning and the basic KM requirements that needed to be operationalised.

### **3.3 Phase 3 (May – September, 2007)**

In Phase 3, we designed and implemented a survey of all Eastwei employees, drawing on our extensive interviews conducted in Phase 1, our discussions from Phase 2 and our review of the literature. The purpose of the survey was to further verify our interpretation of the motivations for and barriers to KM at Eastwei, as well as the influence of KM on their business operations. The survey was originally developed in English, integrating the Western and Chinese literatures, as well as Eastwei's practices, and then translated into Chinese and back-translated into English to ensure equivalence of meaning. The survey administration process took 6 weeks, including online and offline data collection methods. 75 responses were collected on a voluntary basis, a response rate of 68%<sup>1</sup>. This survey data not only corroborated our previous thoughts about the future direction of the project, but also enabled us to suggest how more effective KM arrangements could be explored in the next phase. We wrote up a 1500 word report that summarised the survey findings for Johan towards the end of Phase 3. This document aroused considerable interest and provoked an animated and extended discussion as to how to implement its key findings.

### **3.4 Phase 4 (October – December, 2007)**

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<sup>1</sup> Eastwei grows at about 20% a year, hence the apparently inconsistent response rates.

In Phase 4, we conducted two intensive days of ethnographically-inspired observation at each of the Beijing and Shanghai offices of Eastwei. This resulted in a further 2900 word report to Johan that both reflected on the work completed so far and outlined six specific knowledge-related actions for future implementation. It was notable that this observation of people at work at Eastwei revealed nuances of their knowledge-related behaviour that had hitherto escaped us, notably the quasi-symbiotic relationship that many of the junior employees have with their instant messaging (IM) tools. For instance, one employee in Shanghai had no less than 17 IM chats taking place simultaneously, with a variety of interlocutors inside and outside Eastwei. Her IM was thus deeply embedded into and an integral part of her work practice.

### **3.5 Hiatus (January – September, 2008)**

During this 9-month long period, research work on the project ceased almost entirely, though we maintained sporadic contact with Johan by email. The causes of this hiatus were several. Firstly, both the Beijing and Shanghai offices moved to new locations, a major disruption to their work. Secondly, Eastwei was inundated with new work projects (many related to the forthcoming Beijing Olympic games), and at the same time suffered from several senior staff leaving the firm. This greatly reduced their flexibility and meant that there was insufficient time to engage in the research project. Thirdly, the key researcher was unable to obtain a new multiple-entry China visa due to restrictions associated with the Olympic games. The cost of obtaining multiple double-entry visas is prohibitive. This situation only changed in mid-October, 2008.

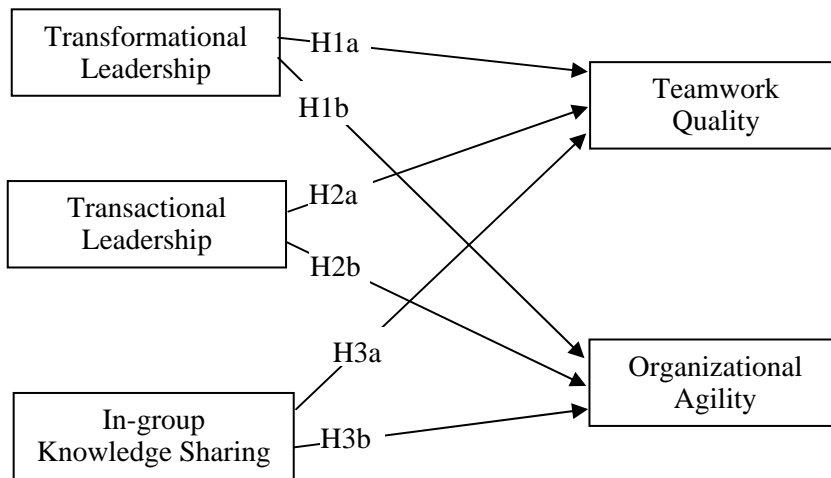
### **3.6 Phase 5 (October 2008 – January, 2009)**

In October, the first author and key researcher on the project was able to visit Beijing again and resumed work on the project. In a strategic brainstorming session, plans were made for measuring the strategic impact of KM initiatives using the Balanced Scorecard (cf. Martinsons et al., 1999). Furthermore, we drew up plans for a new integrated knowledge sharing system based on wiki technology to be implemented in January 2009 in order to further improve Eastwei's team work and agility based on the previous research findings. However, the current paper will only draw on activities described under Phases 1-4 above.

## **4. Research Model**

In developing a conceptual model (see Figure 1) that relates leadership, in-group knowledge sharing and organisational impacts, we have relied on two primary sources of evidence: the belief elicitation interviews that we conducted in Phases 1 and 2, and the literature review.

**Figure 1: Proposed Research Model**



Knowledge-focused leadership comprises two distinct leadership types – transformational and transactional. Both Yukl (2005) and Bass et al. (2003) have pointed out that these two styles of leadership are conceptually distinct. Following these two studies, we use the term *leadership* to refer to the way in which followers are led in knowledge sharing activities. Meanwhile, knowledge is also shared within guanxi-lubricated in-groups, which may function independently of leadership initiatives, transcending selfish knowledge-hoarding in favour of a behaviour that benefits members of the knowledge network, and ultimately the organisation as a whole (cf. Chow et al., 2000; Voelpel and Han, 2005). Organisational impacts are multifarious, but in this study we focus on the quality of work produced by teams (teamwork quality) and organisational agility (cf. Fuller et al., 2006; Srivastava et al., 2006; Voelpel and Davenport, 2004). In the following sections, we briefly review the literature on these constructs and develop appropriate hypotheses.

#### **4.1 Knowledge Focused Transformational Leadership**

Grounded on prior leadership research and applying the concepts to KM, we consider transformational leadership to relate to the process of building employee commitment to and participation in these activities. Transformational leadership includes leading by example, participative decision-making, showing concern for and interest in employees, as well as informing and coaching them on appropriate work processes (Srivastava et al., 2006). Transformational leadership in the context of KM is effective when it motivates followers’ intrinsic incentives to share their knowledge and enhance organisational outcomes, even if this is seen as a form of self-sacrifice.

According to Srivastava et al. (2006), team members are more likely to receive recognition from a transformational leader if they share work-related ideas, information and suggestions with each other. Similarly, if employees are encouraged to participate more

frequently in decision making activities, they are likely to generate more ideas and knowledge as more opportunities will be offered by leaders for followers to express their opinions and suggestions. Ultimately, this should be beneficial for organisational performance as the knowledge generated will help foster the effective and efficient completion of team work to respond to customer and market requirements. Since organizational agility concerns service report time, quality and responsiveness (Sambamurthy et al., 2003; Swafford et al., 2006), sharing decision-making ideas, appropriate coaching and the discussion of concerns, which are greatly facilitated by the empowering style of leadership, can help the whole work team to solve problems more effectively, thereby enhancing agility.

In similar vein, the more a leader models KM practices by communicating with employees about organisational information and by providing support, demonstrating concern, enabling interaction, encouraging and coaching so as to solve problems and stimulate followers, so the more employees will be inspired to transcend their self-interest and share their knowledge for the benefit of the organisation as a whole. Meanwhile, under a more democratic environment, team members are more likely to appreciate both the nature of work and each other, helping establish individual team satisfaction, effective relationships and work quality with greater participation and enhanced information sharing (Yukongdi, 2004). As knowledge is shared voluntarily, few team members will deliberately withhold their knowledge (Snowden, 2008).

As we have discovered in Eastwei, transformational leadership, as practiced by managers and team leaders, is prevalent. Moreover, it plays a critical role in teamwork and the whole organisational culture. As a Phase 1 interviewee remarked:

“The first time I became a small team leader and needed to train new staff, my boss reminded me that I need to share my experience, not just let them learn by themselves. My method is to tell people my personal lessons and experience when I know others meet the similar situation. My aim is to prevent people from repeating my mistakes. Eastwei encourages people to make mistakes, but not to repeat mistakes”.

Accordingly, we hypothesise that:

*H1a: Knowledge-focused transformational leadership is positively related to teamwork quality.*

*H1b: Knowledge-focused transformational leadership is positively related to organisational agility.*

#### **4.2 Knowledge Focused Transactional Leadership**

Compared with the intrinsic stimulation of transformational leadership, transactional leadership focuses on extrinsic motivation. The identification of the transactional leadership style can also be traced to Bass et al. (2003). Applying this concept to KM, transactional

leadership refers to a management style whereby both monitoring and tangible incentives and rewards, as well as punishments, are used to manage knowledge sharing. This transactional view is consistent with the perspective of extrinsic motivators used in recent KM research, e.g. Bock et al. (2005) and Kankanhalli et al. (2005). Although in Western cultures scholars tend to emphasize the importance of an empowering leadership style, (e.g. Kulkarni et al., 2006; Srivastava et al., 2006), the transactional style is believed, nevertheless, to constitute quite an effective influence on employee behaviour in China (cf. Huang et al., 2008). This is due to the long tradition of the transactional management style in monitoring, since punishment and extrinsic rewards are still widespread. The high power distance that is prevalent in China (Hwang, 1987) creates effective managerial pressure for employees to work for desirable organisation objectives – in this case, group outcomes and organizational agility. A transactional leadership regime sets up clear performance targets for each individual and team, motivating goal attainment and improved performance through reward structures (Yukl, 2005). By focusing on ‘getting work done’, transactional leadership usually encourages high standards of quality as well as work productivity (Bass et al., 2003), therefore exerting an impact on organisational agility in terms of improving the service time and responsiveness to customer requests. Meanwhile, a transactional leader manages rewards for the work team, in return for their compliance and effort, so as to improve the outcome for the whole team.

Consistently, Eastwei interviewees indicated that reinforcement from managers as to the importance of knowledge sharing helps to establish good practices: “Top management should constantly reinforce the concept of sharing and give valuable and concrete feedback”. Interviewees also indicated that Eastwei employees would prefer more incentives to stimulate good knowledge sharing practices: “Some incentives would work, e.g. let people feel that they gain their face in the office or set up a positive image for themselves”, as well as other tangible rewards (for example, money or overseas training opportunities, as well as links to annual appraisals and their career development). Overall, at Eastwei we found that the establishment of clear monitoring, rewarding and punishment criteria induce desirable behaviour in knowledge workers. This finding is consistent with Brazier (2005) who found that transactional leadership is an effective style in Asia given the strongly collectivistic environment.

According to our interviews at Eastwei, transactional leadership motivates employees with extrinsic rewards and punishments and thus we hypothesise that:

*H2a: Knowledge-focused transactional leadership is positively related to teamwork quality.*

*H2b: Knowledge-focused transactional leadership is positively related to organisational agility.*

### **4.3 Guanxi-Lubricated In-Group Knowledge Sharing**

Given the recognised critical influence of guanxi in Chinese businesses (Fu et al., 2006; Tsui and Farh, 1997; Xin and Pearce, 1996), we believe that guanxi-lubricated, in-group-based, knowledge-sharing constitutes an effective practice in the Chinese organisational context. *Guanxi* in this study refers to the personalized *shuren* networks of knowledge sharing in an organisation which emphasise reciprocal relationships between network members. From a network perspective, the existing networks that people have built in their daily work facilitate the smooth sharing of knowledge and thus provide insights relevant to their daily work (McDermott and O'Dell, 2001). The knowledge shared with guanxi partners ensures the reciprocal return of favours in the future (Hwang, 1987), which in turn increases the whole network's social capital (Wellman et al., 2002). Meanwhile, the reciprocal nature of the network helps to overcome employees' concerns about knowledge loss. Indeed, as we found in interviews, the guanxi-lubricated knowledge sharing process facilitates group work at Eastwei: "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, thereby supporting teamwork and ultimately enabling better organisational performance.

By engaging in networking activities through trust building and favour exchanging, learning and resource partners form a loosely structured knowledge sharing network that is primarily facilitated with guanxi (Li and Scullion, 2006; Lu et al., 2005). Thus guanxi works as an enabler of knowledge sharing by reducing the search costs of receivers and assuring the quality of knowledge, thereby allowing knowledge recipients to achieve a higher level of teamwork outcomes. Similarly, the speed and responsiveness in accomplishing projects and providing service can be enhanced, considering the in-group knowledge, answers to problems, and innovative ideas that are available and mobilized through ties in the networks. As one Eastwei employee remarked: "Sharing can improve efficiency. It can help save the company resources, time and money, for establishing new relationships. Meanwhile, Eastwei demonstrates a good image of teamwork to the outsiders. Sharing means ensuring that the resources are available for the whole company". Consequently, we hypothesise:

*H3a: In-group-based knowledge networks are positively associated with teamwork quality.*

*H3b: In-group-based knowledge networks are positively associated with organisational agility.*

## **5. Measure Development and Data Analysis**

### **5.1 Measures**

The survey instrument has been developed from a number of sources. We originally developed the instrument in English, later translating it into Chinese (and back-translating into English to ensure equivalence of meaning). Instrument items (English version) are shown in Appendix 1.

Teamwork quality and organisational agility constitute the two dependent variables in the study. We adapted measures from Fuller et al.'s (2006) study of team efficacy in technology-mediated, distributed teams to suit our KM context. The organisational agility measures were adapted from the work of Swafford et al. (2006), who studied supply chain agility. The final scale of organisational agility included: service cycle time, report cycle time, whole project cycle time, problem solving cycle time, level of customer service, responsiveness to changing market needs and service reliability.

The measures of transformational leadership come from Arnold et al. (2000), covering five aspects: leading by example, participative decision making, coaching, informing, and showing concern for/interacting with the team. Notwithstanding a 68% response rate to our survey, the actual data set is quite small and so we only used the first item from each of the above five aspects of transformational leadership.

The measures of transactional leadership are based on the work of Yukl (2005) and Bass et al. (2003), both of whom emphasise incentives, monitoring and punishment. In this study, we adapted the items to the knowledge sharing context. The final items include “provides incentives and rewards for sharing knowledge appropriately”; “monitors the way knowledge is shared and suggests improvements where necessary”; and “punishes people who deviate from established norms regarding knowledge sharing”.

Considering that no literature has empirically examined in-group knowledge sharing, we developed a new scale grounded on both the literature (Chow et al., 2000; Lu et al., 2005; Peng and Heath, 1996) and our interview data. Scale items to measure in-group knowledge sharing refer to: “sharing knowledge with people with whom I have a relationship”, “sharing knowledge with members of my in-group”, and “building and maintaining a social relationship with others to ensure knowledge sharing”.

### **5.2 Measurement Validation**

In order to test the reliability and validity of the study's new items for in-group sharing and the adapted measurement items for the remaining measures, card sorting exercises were conducted. In the card pools, a total of 24 measurement items proposed for five constructs were evaluated by a panel of judges that consisted of an academic professional, a non-academic working adult, and a PhD student. Following the steps suggested by (Moore and Benbasat 1991), we achieved an average correct hit ratio of 95.8% after two rounds of

card sorting exercises. As this number suggests a satisfactory level of reliability for the items corresponding to the new scales (Moore and Benbasat 1991), we did not conduct a third-round of card sorting. All 24 items were used in the survey.

As indicated in the methodology section above, we sent the hard copy questionnaires to Eastwei. We collected a total of 75 responses on a voluntary basis from Eastwei employees, a response rate of 68%. The respondents' demographics are presented in Table 1.

**Table 1. Demographic Data (n=75)**

	<b>Items</b>	<b>Percentage</b>		<b>Items</b>	<b>Percentage</b>
<b>Gender</b>	Male	28%	<b>Employment History at Eastwei</b>	Below 6 months	38.7%
	Female	72%		6 months – 2 years	42.7%
<b>Education</b>	College Undergraduate	12%	<b>Extent of Media Work Experience</b>	2 years – 5 years	14.7%
	Graduate/ Masters/PhD	68%		Over 5 years	4.0%
<b>Age</b>	18–25	42.7%		1. No experience	1.3%
	26–33	54.7%		2.	21.3%
	34–40	2.7%		3.	18.7%
				4.	28.0%
			5.	26.7%	
			6. Very experienced	4%	

Non-response bias was assessed by comparing the demographic characteristics of the respondents with those currently employed at Eastwei, and running a t-test to determine the difference between the demographics of the respondents who submitted the survey in the first two weeks and those who responded in the second two weeks. For the first test, the demographic profiles are similar and for the second test, the two samples are not significantly different ( $p < 0.10$ ). Therefore, response bias was not considered to be a serious concern for this study.

We used the Statistical Package for the Social Sciences 15 (SPSS) and Partial Least Squares-Graph 3.0 (PLS) to calculate construct validity and reliability. The Kaiser-Meyer-Olkin score generated from SPSS is 0.77, indicating sufficient sampling adequacy. Factor analysis results indicated six constructs instead of the proposed five constructs. The seven items of organisational agility from Swafford et al. (2006) were split into two factors, representing two dimensions of agility in terms of speed (four items) and market responsiveness (three items). This result is consistent with the two-dimensional aspect of organisational agility suggested by Swafford et al. (2006), although these seven items were loaded together as a reflective measure of agility in their study. According to Chin (1998), a reflective model would render extremely high correlations (often above 0.80) and a formative model appears more likely when the correlations are modest. Given that the correlation of these two factors (speed and responsiveness) is not significant (Table 2), we thus treated organisational agility as a second-order construct with two formative measures of speed and responsiveness.

**Table 2. Descriptive Statistics, Correlation Matrix, and AVEs of Principal Constructs**

<b>Principal Constructs</b>	Mean (STD)	Reliability	1	2	3	4	5	6a	6b
1. Transformational Leadership	5.62 (0.85)	<b>0.92</b>	<b>.83</b>						
2. Transactional Leadership	5.08 (1.15)	<b>0.93</b>	.60**	<b>.91</b>					
3. In-group Sharing	5.08 (0.97)	<b>0.83</b>	.30*	.45**	<b>.79</b>				
4. Group Outcome Perceptions	5.60 (0.93)	<b>0.96</b>	.60**	.69**	.42	<b>.90</b>			
5. Agility (Second Order Factor)	-- <sup>2</sup>	<b>0.70</b>	.36**	.22	.33**	.30**	<b>.73</b>		
6a. <u>Agility</u> : Speed	3.61 (0.86)	<b>0.82</b>	.23**	.17	.29*	.156	<b>.73**</b>	<b>.82</b>	
6b. <u>Agility</u> : Responsiveness	5.45 (0.70)	<b>0.85</b>	.29**	.15	.20	.29*	<b>.73**</b>	.066	<b>.85</b>

\*Significant at  $p < 0.05$ ; \*\* Significant at  $p < 0.01$

In order to further verify the validity of the formative constructs, we used Multitrait-Multimethod Matrix (MTMM) analysis suggested by Loch et al. (2003). The MTMM test examines whether the items used to measure each latent formative construct (i.e., second-order construct) are more highly correlated with their own second-order construct than other variables. The MTMM analysis results indicate that items used to measure agility (i.e., speed and responsiveness) are significantly correlated with their own second-order construct, agility, much higher than all other item-construct correlations (highlighted in grey in Table 2). Therefore, the MTMM test, together with the factor analysis results, confirms the existence of sufficient discriminate and convergent validity for the formative latent constructs.

The convergent and discriminant validity of the remaining constructs were first confirmed by the factor analysis (see Appendix 2). The factor loading scores on their expected factors are all above 0.6. Moreover, the factor loading scores are much higher on their expected factors than the other factors (i.e., own loading scores are higher than the cross loading scores). Furthermore, all eigenvalues of the first-order constructs are larger than the suggested value of 1.0. Finally, the communality scores are all higher than the suggested value (0.50). These results indicate adequate reliability (Hair et al., 1995). The measurement items whose individual factor loadings were lower than 0.60 were dropped. This resulted in 24 items for six first-order principal constructs in the research model (see Appendix 1).

Second, construct reliability was assessed by identifying the composite reliability scores of the constructs generated from PLS. All are above 0.80 (see Table 2), suggesting

<sup>2</sup> Speed and Responsiveness are second-order variables whose measurement items are restandardised using a principal components factor analysis. Their means are zero with a standard deviation of 1.

acceptable internal consistency. Meanwhile, the square roots of the Average Variance Extracted (AVE) are all above 0.70, which are greater than all other cross correlations.

We also tested for common method bias (i.e., variance attributed to measurement method rather than explained by the study's constructs). First, evidence for common method bias exists if one principal factor counts for the majority of the variance explained (Podsakoff and Organ, 1986). Our principal components factor analysis indicates that each principal factor explains roughly equal variance (9.28%~17.82%) (see Appendix 2), suggesting the lack of substantial common method bias. Second, the correlation matrix (Table 2) shows that the highest inter-construct correlations are all below 0.57, while common method bias is usually evidenced by extremely high correlations ( $r > .90$ ) (Bagozzi et al., 1991). These two tests provided evidence that common method bias is not a problem in this study.

Finally, to test for multicollinearity, collinearity diagnostics for constructs were also conducted. The analysis shows that the collinearity indicators – tolerance values and variance inflation factors – are all less than the acceptable cut-off points suggested by Amoroso and Cheney (1991) and Hair et al. (1995). These findings suggest that the study does not suffer from severe multicollinearity problems.

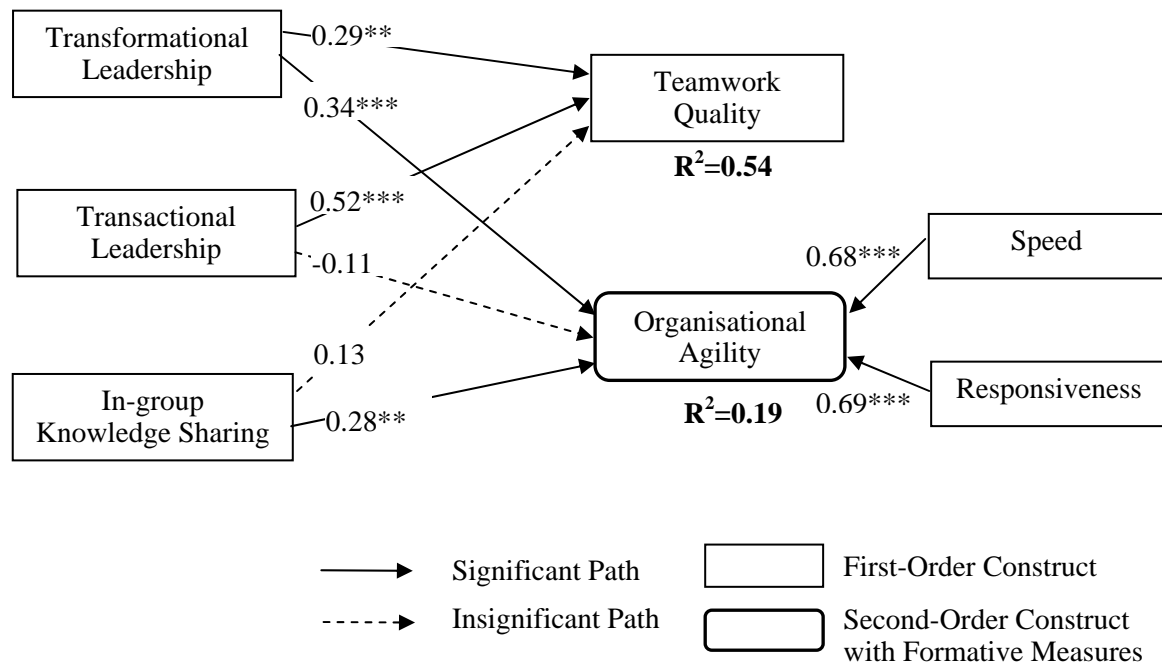
### **5.3 Testing the Structural Model**

The structural model in this study was examined using Partial Least Squares (PLS) regression. According to Chin<sup>3</sup>, PLS is suitable to handle models with a small sample size. More importantly, PLS is suitable to handle formative factors (Chin et al., 2003; Pavlou and Gefen, 2004). To accommodate the formative factors, PLS was chosen. Figure 2 shows the analytical result of the full structural model with formative measures.

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<sup>3</sup> <http://disc-nt.cba.uh.edu/chin/plsfaq/plsfaq.htm>

**Figure 2 PLS Results of Structural Model with Formative Measures**



\*\* Significant at  $p < 0.05$ ; \*\*\* Significant at  $p < 0.01$

As shown in Figure 2, the PLS results indicate that the research model is partially supported by the data. The explained variance in group outcomes perceptions and organizational agility are 54% and 19% respectively. The results show that transformational leadership has significant impacts on both teamwork quality ( $b=0.29$ ,  $p < 0.05$ ) and organisational agility ( $b=0.34$ ,  $p < 0.01$ ), thus supporting H1a and H1b. In terms of the effects of transactional leadership, the results indicate that it significantly contributes to teamwork quality ( $b=0.45$ ,  $p < 0.01$ ), but only has a modest effect on organisational agility ( $b=-0.11$ ,  $p > 0.10$ ), thus supporting H2a, but rejecting H2b. In-group knowledge sharing is found to have a significant influence on organisational agility (H3b:  $b=0.28$ ,  $b < 0.05$ ), but only a modest impact on group outcomes perceptions (H3a:  $b=0.13$ ,  $p > 0.10$ ).

## 6. Discussion

Considering the organisational environment at Eastwei, we observed that the CEO and his colleagues deliberately include both transformational and transactional elements in their leadership styles. Our survey data indicates that these two leadership styles have distinct influences on the perceptions of teamwork quality and organisational agility. Transformational leadership is significantly predictive of teamwork quality and exhibits a strongly significant link with organisational agility. Meanwhile, transactional leadership is

also strongly predictive of teamwork quality, though not of organisational agility. Apart from the leadership constructs, guanxi-lubricated, in-group knowledge-sharing demonstrates a significant link with organisational agility, though not with teamwork quality. As predictors of positive organisational outcomes, the transformational-transactional leadership style constitutes a potent blend, combining intrinsic empowerment with extrinsic rewards.

Transformational leadership is effectively seen at Eastwei in terms of the firm's transparent organisational culture, with open communications, clear strategic direction and a positive attitude towards individual, team and organisational learning. The openness of the organisational culture extends to Eastwei's offices, which incorporate an open plan design, with no walls, partitions or other forms of separation, or even identification, of individual space. Each employee can sit wherever s/he likes and no one can reserve a space. The CEO and his senior colleagues lead by example and switch their seats frequently. The CEO's personal style is to encourage and empower: he engages with individual employees, often sitting across the table from them, and facilitating their work through a mix of coaching, discussion, decision making and shared problem solving. From our observation and conversations with employees, we learned that no one is afraid to approach him for advice.

Furthermore, employees are free to use whichever communication tools they find most appropriate and convenient: the instant messenger (IM) is the tool of choice for all but the oldest employees (those in their 40s) who still prefer 'old-fashioned' telephones and email. Employees who are so thoroughly empowered are also well prepared to take on new tasks, thus effectively enhancing both the quality of their teamwork (most work is undertaken in teams) and also the ability of the organisation as a whole to react to emerging circumstances. The media business is noticeably dynamic, and organisational agility is correlated with the extent to which individual employees can function independently.

Transactional leadership at Eastwei is manifested in primarily positive terms – punishments are rare, but rewards are clear. Employees who excel find that they, and their families, are rewarded with dinners or paid-holidays. Such rewards operate at both individual and team levels, encouraging cooperation rather than competition, as well as high quality team work. The criteria of excellence vary, but knowledge sharing behaviours are key among these. At the same time, the integrated nature of work means that the working environment is characterised by employees engaging with their supervisors or seniors on a regular basis, providing many opportunities for both cross-level knowledge sharing and monitoring of the effectiveness of knowledge sharing processes. Meanwhile, best practices (amongst them knowledge practices) are regularly aired in public so that all can benefit, notably at the Monday morning meetings that start each week. These meetings are characterised by open and frank discussion and criticism, where anyone from the CEO downwards can legitimately be the target of (constructive) criticism. Employee turnover at Eastwei is low for the industry at around 20% and explicit punishment for poorly performing employees is rare, but as the

CEO commented, “employees who do not fit the Eastwei mould quickly find out and tend to move on”.

Our survey results indicate that although transactional leadership exerts a significant impact on teamwork quality, it only has a modest effect on organisational agility. According to our ethnographic observations of employees and conversations with Johan, many projects at Eastwei are rather ambiguous. The precise nature of their outcomes cannot be predicted and they often involve significant innovation given the dynamic nature of the competitive and regulatory environment. As documented in Eastwei’s website ([www.eastwei.com](http://www.eastwei.com)), delivering innovative and unique solutions to clients’ problems is critical to survival in this market: “Clients look to us to be creative – to have good ideas for the implementation of their events or messages. We take ‘creative’ to mean ideas that are new, fresh, interesting to the media, and support the client’s message”. In such a context, transformational leadership is more effective than transactional leadership, so long as individual employees are naturally creative and innovative with respect to the specific problems that they encounter. These findings are consistent with prior research (e.g., Keller, 1992; Limsila and Ogunlana, 2008) in comparing the effects of transformational and transactional leadership style on organizational performance, in which a transformational-style leader challenges followers with new ideas and approaches (Burns, 1978). From another perspective, this rationale also provides additional insights into the significant impact of guanxi-lubricated in-group sharing on organisational agility: many opportunities for enhancing the innovative capability exist, increasing flexibility and efficiency through the free sharing of knowledge in a social network (Shin et al., 2007).

Guanxi-lubricated, in-group knowledge sharing is paradoxically not significantly associated with teamwork quality, though it is significantly predictive of organisational agility. Such a finding, at first glance, seems highly counter-intuitive. Why wouldn’t sharing knowledge with in-group members also help improve teamwork quality? Our own observations of Eastwei employees at work suggests that in-group based knowledge sharing is directly linked to the quality of work. However, there are two important distinctions to be made.

Firstly, the knowledge-sharing in-group’s membership is not restricted to the work team. In-group members may be physically located in the same office, or if not, may still be employees of Eastwei at other locations. But employees typically belong to a large number of in-groups, each of which may comprise a myriad of internal and external contacts, friends, former colleagues (now potentially competitors) and journalists. We observed several Eastwei employees having 500+ contacts in their IM contact lists. With at most 100 of these inside Eastwei (and probably far fewer), the majority are clearly elsewhere – and so are not engaged on internal ‘team work’. Moreover, we also saw how multiple independent IM conversations could be conducted simultaneously, with one lady in Shanghai conducting 17

simultaneous conversations. Any of these conversations may cross the border of the work team as defined in this study and so not contribute directly to teamwork quality.

Secondly, knowledge sharing is primarily an interpersonal activity performed in dyads. Teamwork, on the other hand, is primarily an activity involving several people (teams typically comprise 5-6 members). Within each project team, there is undeniably a need for close cooperation and communication, but each team member tends to work alone, albeit under the virtual eye of a team leader or supervisor. Therefore leadership tends to exert a more significant impact than guanxi-based in-group knowledge sharing. Thus, much of the knowledge sharing may in fact not be perceived as being work-team centric, instead relating to the individual work performed by the individual.

Where the significant relationship between in-group knowledge sharing and organisational agility is concerned, the organisation is, in effect, able to tap in to the collective knowledge of a huge pool of in-group knowledge-network members. This is rather a vicarious form of contribution to agility, i.e. agility that depends on the ability of employees to leverage a variety of more or less exclusive resources, some of which may even 'belong' to competitors. However, it is doubtless effective and thus far has proved impermeable to change, though it does raise interesting issues of knowledge asset management which we discuss further below.

Teamwork quality is significantly predicted by the two styles of leadership with a respectable variance explained of 54%, comprising measures that focus on the quality of work achieved by the team and the appropriate supervision of the team leader. This suggests that leadership at Eastwei is instrumental in influencing the achievement of team and organisational goals, a finding we triangulated across interviews, survey data and ethnographic observation. Meanwhile, we noted that employees have a strong sense of team-efficacy, desiring to enhance their skill sets through experience, coached by supervisors and stimulated by shared knowledge. At the same time, the reward system significantly contributes to teamwork development.

Organisational agility, on the other hand, is a second-order construct, comprising speed and responsiveness, each of which is equally significant a contributing factor. Speed refers to a variety of cycle time measures (service, report, project, problem solving), whereas responsiveness is measured by three items that indicate ability to deliver quality service to the market. The net effect of knowledge sharing is to ensure that Eastwei is able to respond with agility to both specific client projects and the market more generally, though the variance explained of 19% is lower than that attributed to teamwork quality. As a supplement to the transformational leadership that relates to knowledge sharing, Eastwei's corporate blog<sup>4</sup> is used to demonstrate knowledge sharing actions in a deliberate and public way, illustrating client-oriented success stories, the ways in which innovative problem solving skills can be

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<sup>4</sup> Available at <http://eastvoice.eastwei.com/>

developed and enhanced, and personal insights and experiences learned from each project. Overall, we find that the combination of leadership-driven and grassroots-facilitated knowledge sharing is strongly associated with Eastwei's success.

## **7. Conclusions**

The sharing and management of knowledge is widely recognised as being an important organisational activity. Opinions differ on the best ways to manage knowledge, but the research literature has tended to focus on both Western organisational contexts and formal knowledge sharing systems. In this paper, we have investigated the knowledge sharing practices of a single Chinese professional services firm – Eastwei – through a combination of surveys, ethnographically-informed observation and rich conversations with employees. In the following sections, we first consider the limitations of the research, then examine the implications for future research and the implications for practice.

### **7.1 Limitations**

The primary limitation of this research is that we have only studied a single organisation and its employees. Even though we were able to interview close to 80% of employees, and collected data from 68%, the absolute number of data points is on the small side. This has necessarily restricted the size of our research model. Sampling a single organisation also restricts the extent to which the findings can be generalised. Future research should consider multiple organisations – both in this industry and in others that may exhibit quite different organisational cultures.

### **7.2 Implications for Research**

This study confirms the relevance of two prominent leadership styles – transactional and transformational – for the Chinese context, specifically in a PR firm. This is significant because Chinese organisations have traditionally tended to rely on transactional leadership, with clear demarcations of responsibility supported by explicit rewards and punishments that are designed to control the way people work. Transformational leadership, where employee empowerment is encouraged, has not been so common in the Chinese context, with some researchers suggesting that Chinese employees would actively seek to avoid such empowerment (cf. Davison and Martinsons, 2002).

Guanxi-lubricated, informal, voluntary, in-group knowledge sharing is not at all new in Chinese organisations, but its significance may not be restricted to this context. Indeed, we suspect that it may represent a potent alternative to more formal knowledge management arrangements that are notoriously expensive and failure inclined. The challenge is to embed knowledge sharing practices into regular business processes, and then to ensure that shared knowledge is available for reuse by others. We are presently extending the current research

project at Eastwei, looking at the use of wiki technology as a medium for both sharing and storing knowledge.

To the best of our knowledge, this is the first study to empirically examine the relationship between KM initiatives and organisational agility. Our results indicate that agility can be enhanced by a transformational relationship between leaders and employees in the context of a guanxi-lubricated knowledge-sharing culture. Such a working environment helps inspire employees both to perform at a high level and thus to become committed to superior organisational performance. Confronted with a keen state of competition in the knowledge economy, the synthesis of knowledge from both leadership-driven and grassroots-facilitated practices demonstrates how both teamwork quality and organisational agility can be achieved.

### **7.3 Implications for Practice**

Eastwei is a remarkably successful firm in its chosen market segment. When we first approached Eastwei, the CEO was actively exploring opportunities for leveraging knowledge, at the same time recognising that any initiative that demanded significant employee time would very likely fail. To date, we have identified a range of good practices at Eastwei and in this paper we highlight those associated with leadership and guanxi-lubricated in-group knowledge sharing that is mediated by IM tools, together with the consequent impacts on the quality of team work and organisational agility. These two dependent variables are critically important to organisations that function on the edge in a dynamic market, with a constant need both to ensure that employees are delivering high quality work to clients, and indeed are also well positioned for the future by inculcating both a culture and a practice of organisational agility.

The specific role of IM tools is to facilitate the sharing of knowledge. The next challenge is to move beyond sharing to archiving and reuse in order to further improve work efficiency and so increase organisational agility. This may be achieved when not only knowledge sharing but also knowledge archiving is formally embedded into business processes. While Eastwei is noticeably successful, this may not be the norm in China, where large firms, notably in the state sector, are transactionally stolid rather than transformationally agile, focusing more on command and control systems, not the empowerment of employees. Organisational change, however, is but a fact of life: those that don't change are either unchallenged state monopolies or else destined to sink. In this respect, Eastwei's knowledge-driven media communications and knowledge sharing work gives us a glimpse into the future of knowledge work in China. This emerging business model, while familiar to Western eyes, is as yet quite novel in China. Practicing managers in China, as well as other emerging economies, should take note: balance the transactional and transformative, reward rather than punish, empower rather than command. Eastwei's employees share their

knowledge not because they have to, but because they need to, choose to and in a reflection of the organisational culture, feel comfortable to.

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## Appendix 1. Survey Measurement Items

### 1. Transformational Leadership (Scale 1~7: Strongly disagree ~ Strongly agree)

- (1) My supervisor sets a high standard for performance.
- (2) My supervisor encourages work team members to express ideas/suggestions.
- (3) My supervisor suggests ways to improve my team's performance.
- (4) My supervisor explains company goals and decisions.
- (5) My supervisor gives team members honest and fair answers to their questions.

### 2. Transactional Leadership (Scale 1~7: Strongly disagree ~ Strongly agree)

- (1) My supervisor provides incentives and rewards for sharing knowledge appropriately.
- (2) My supervisor monitors the way knowledge is shared and suggests improvements where necessary.
- (3) My supervisor punishes people who deviate from established norms regarding knowledge sharing.

*3. In-group Knowledge Sharing* (Scale 1~7: Strongly disagree ~ Strongly agree)

- (1) I need to build and maintain social relationships with others so as to ensure that they will share knowledge with me in the future.
- (2) I prefer to share knowledge with members of my in-group.
- (3) My membership of an in-group ensures that I can obtain preferential knowledge.

*4. Team Work Quality* (Scale 1~7: Strongly disagree ~ Strongly agree)

- (1) I am satisfied with the quality of work produced by my team members. (GOP1)
- (2) I am pleased with the quality of work in my team. (GOP2)
- (3) I am satisfied with my team members. (GOP3)
- (4) I am pleased with the way my team members and I work together. (GOP4)
- (5) The work produced by my team is high quality. (GOP5)
- (6) The quality of work produced by my team is excellent. (GOP6)

*5. Organisational Agility*

Please indicate the speed or responsiveness with which your business unit engage

*Service cycle time* (Scale 1~7: Very long ~ Very short)

- (1) Service cycle time
- (2) Report cycle time
- (3) Whole project cycle time
- (4) Problem solving cycle time

*Responsiveness* (Scale 1~ 7: Very bad ~ Very good)

- (5) Level of customer service
- (6) Responsiveness to changing market needs.
- (7) Service reliability.

**Appendix 2. Principal Components Analysis of Principal Constructs**

<b>Factor Loading</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>Communalities</b>
1. Transformational Leadership 1	<b>.793</b>	.250	-.028	.103	.064	.135	.725
1. Transformational Leadership 2	<b>.624</b>	.443	-.012	.238	-.036	.084	.650
1. Transformational Leadership 3	<b>.810</b>	.152	.249	.209	.076	.114	.803
1. Transformational Leadership 4	<b>.788</b>	.120	-.020	.122	.222	.275	.775
1. Transformational Leadership 5	<b>.704</b>	.233	.128	.402	.130	.055	.748
2. Transactional Leadership 1	.294	<b>.780</b>	.248	.370	-.011	-.017	.894
2. Transactional Leadership 2	.375	<b>.796</b>	.134	.314	.018	.049	.893
2. Transactional Leadership 3	.049	<b>.765</b>	.226	.143	.149	.088	.689
3. In-group Sharing 1	-.063	.293	<b>.639</b>	.103	.226	-.053	.562
3. In-group Sharing 2	.256	.203	<b>.728</b>	.116	.141	.183	.704
3. In-group Sharing 3	-.047	-.015	<b>.864</b>	.080	-.033	.085	.764
4. Group Outcomes Perceptions 1	.231	.257	.260	<b>.831</b>	-.048	.054	.884
4. Group Outcomes Perceptions 2	.310	.382	.184	<b>.709</b>	.040	.152	.802
4. Group Outcomes Perceptions 3	.252	.187	.175	<b>.848</b>	.063	-.107	.864
4. Group Outcomes Perceptions 4	.060	.308	.135	<b>.814</b>	.124	.137	.814
4. Group Outcomes Perceptions 5	.225	.337	.100	<b>.765</b>	.033	.316	.859
4. Group Outcomes Perceptions 6	.273	.351	.135	<b>.696</b>	.107	.341	.828
5. <u>Agility</u> : Speed 1	.243	-.081	.141	.063	<b>.779</b>	-.153	.720
5. <u>Agility</u> : Speed 2	-.188	-.072	.291	.011	<b>.752</b>	-.060	.695
5. <u>Agility</u> : Speed 3	.070	.169	.036	.058	<b>.888</b>	.034	.828
5. <u>Agility</u> : Speed 4	.161	.151	-.089	-.020	<b>.766</b>	.279	.722
7. <u>Agility</u> : Responsiveness 1	.132	.004	-.046	.060	.121	<b>.869</b>	.793
6. <u>Agility</u> : Responsiveness 2	.006	.177	.131	-.054	-.020	<b>.863</b>	.796
6. <u>Agility</u> : Responsiveness 3	.149	-.089	.135	.208	-.077	<b>.836</b>	.796
EigenValues	3.60	2.98	2.23	4.28	2.78	2.75	Total Variance
Variance Explained	14.99	12.43	9.28	17.82	11.57	11.44	Explained: <b>77.5%</b>