Governing the knowledge sharing for repatriates with SECI model:An empirical test

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Abstract. Knowledge sharing of repatriates is embedded in a complex project environment and affected by the organizational knowledge governance mechanisms. This paper seeks to find out the mechanisms that promote repatriates to share their knowledge achieved in international construction projects after returning to domestic projects. We collect data from 245 respondents in 33 Chinese contractors. The test results indicate that adoption of knowledge governance mechanisms influence repatriates' knowledge sharing via the knowledge sharing process generated from SECI model, namely, socialization, externalization, combination, and internalization. Through knowledge socialization and externalization, knowledge governance mechanisms can be stronger motivation to inspire repatriates' tacit knowledge sharing than explicit knowledge sharing. This paper provides both theoretical implications for knowledge sharing theory and managerial suggestions for professional construction projects in sharing repatriates' knowledge.

Introduction

Organizations are attaching more and more importance to knowledge sharing (KS) as it promotes creating and sustaining competitive advantages in the long run. Every member of the organization with different positions has unique knowledge to share, especially the repatriates, who have long served as facilitators of external knowledge transfer and application in corporations with transnational affairs. However, it has long been regarded as one of the weakest links for corporations to provide proper strategies for the repatriates to share their special knowledge [1]. Repatriates are defined as employees who complete their international assignments and return to subsequent positions at their parent companies [2]. Most companies view repatriates only as a necessary resource for affairs in foreign contexts and therefore seldom see value in KS [1]. Meanwhile, global forces are reshaping our society and workplaces. Numerous expatriation and repatriation knowledge of international construction projects represents a challenge for the managers，however，little attention has been paid to the research of repatriates' KS [3]. What's more, every bit of the precious knowledge is based on a unique project, and it can easily disappear with the passage of time. So the managers should pay much more attention to repatriates of international construction projects.

Much of the existing literature on KS offers a conceptual framework where KS plays complex mediating roles in a successful project [4]. Among these frameworks, knowledge governance mechanisms (KGMs) serves as an effective mechanism which not only encourages KS motivations but also creates KS opportunities for knowledge senders [2]. KGMs refers to the way that governance mechanisms influences knowledge processes, such as sharing, retaining and creating knowledge. This study argues that whether the KGMs to motivate KS are efficient to repatriates in international construction projects. We introduced in SECI module to divide this process into four phase to explore tacit KS and explicit KS [5]. To verify this research model, we conduct an empirical test by Structural Equation Modeling (SEM) method. The goal of this study is to shed light on how the KGMs can guide tacit KS and explicit KS and finally explore the highly personalized repatriates' knowledge. The study may contribute to providing a new thinking of treating repatriates' knowledge of international construction projects.

Theory and hypothesis

The impact of SECI model on KS. How can KGMs act on KS, directly or indirectly? In fact, preliminary studies were not in agreement concerning the existence of natural links between important knowledge task units such as governance mechanisms and relevant sharing process [6]. However, works that approve the close relationship of KGMs and KS outcomes do exist, much of them empirical [6]. Among them, some even decisively point out the mediating variables, such as guanxi effect [7] or motivation and opportunity [2]. In this study we invite in SECI model to define the performance of KGMs on KS. Nonaka and Konno proposed the SECI model originated in studies of information creation in innovating companies and shed light on the four steps of knowledge process, namely, socialization, externalization, combination, and internalization [5]. The SECI model itself can completely explain the transformation of tacit and explicit KS in the knowledge creation process, thus correspond well with our issue. SECI is a model that can help the circulation of knowledge. That is to say, SECI model can provide motivations and opportunities for KS. Knowledge socialization process seeks to collectivize knowledge embedded in individual members through direct contact, one distributes his unique tacit knowledge and another accepts it. Externalization facilitates employees to express their ideas, experience and skills as substantial concepts and notions through some forms of explicit knowledge. Through combination, dispersed explicit knowledge is transformed through sublimation process into an integrated, relatively high level explicit knowledge. Internalization makes explicit knowledge to organizational memory and actualized in practical operations thus circulate the SECI model of knowledge. Accordingly, the SECI model emphasizes the dynamics of transforming tacit-to-explicit interplay. Thus we propose the hypothesis as Fig.1.

The impact of KGMs on SECI model. The disciplines that govern KGMs have yet to be fully defined. Governance of knowledge management implies strategic thinking - both in the medium term and in the long term that identify work towards the purpose, vision and values of organization. Accordingly, KGMs research tends to emphasize a rational, design-oriented approach. Foss et al. suggested that managerial rationality like KGMs are deployed in the belief of influencing the conditions of actions in a certain manner that leaded employees to make KS decisions and favorable organizational KS outcomes[6]. These KS decisions of individual can be both tacit or explicit, and could also make the SECI knowledge process operate well, thus we hypothesized as Fig.1.

Methodology

Research instrument and data collection. The data was collected from international construction projects in corporations which were selected from the 2013 ENR (Engineering news-record) top 250 international contractors. Conducted in the unique Chinese context, we picked out 33 Chinese contractors from the top 250 and searched their official website for the project information and contact information. To the 33 We sent website of the questionnaire and explanation to the HR department and received 184 responses

Survey design and measurements. Item scales were developed for each variable of the theoretical structural model. The items used to measure KGMs of project were organizational structure, authority, established routines of cooperation, information system, incentives, social networks, friendship and alliance, recognition for leadership, culture, and relationship with stakeholders [6]. The four dimensions of SECI were measured each by three items as reciprocity norms, interpersonal trust, relationship expectations; teamwork, freedom, self-efficacy; shared interpretation, information quality, communication; cognitive distance, timeliness, knowledge background [8]. Additionally, items used to rate tacit and explicit KS were based on the studies developed by Yang et al. to describe one's KS behavior and frequency [9]. A five-point Likert-type scale ranging from "strongly disagree" to "strongly agree" was used for feedback.

Reliability and validity. Since the survey was based on the perceptions of a single respondent, we adopted the methods that reflected data internal consistency to measure the reliability of the data. We applied Cronbach's alpha to find the seven coefficients all exceed 0.8 except one a little less. To

evaluate the validity of the measurements, we conducted a confirmatory factor analysis (CFA) using SPSS 19.0 and AMOS 21.0. Our results indicated that the standardized factor loadings all exceed the recommend value of 0.5 at the five percent level. Composite reliability of all constructs was greater than the 0.7 level. Also, the average variance extracted (AVE) of constructs were all above the 0.5 level. Thus several tests based on the measurement model demonstrated good convergent validity. For all the data were collected through the same questionnaire during the same period of time without repeat, the single respondent and mono-source bias may result in a common method variance (CMV). In this study, the Harman's one-factor method test result suggested that unrotated factor analysis demonstrated that the first factor explained 49.44 percent of the variance, which was under the critical value of 50 percent to confirm CMV was not a significant threat.
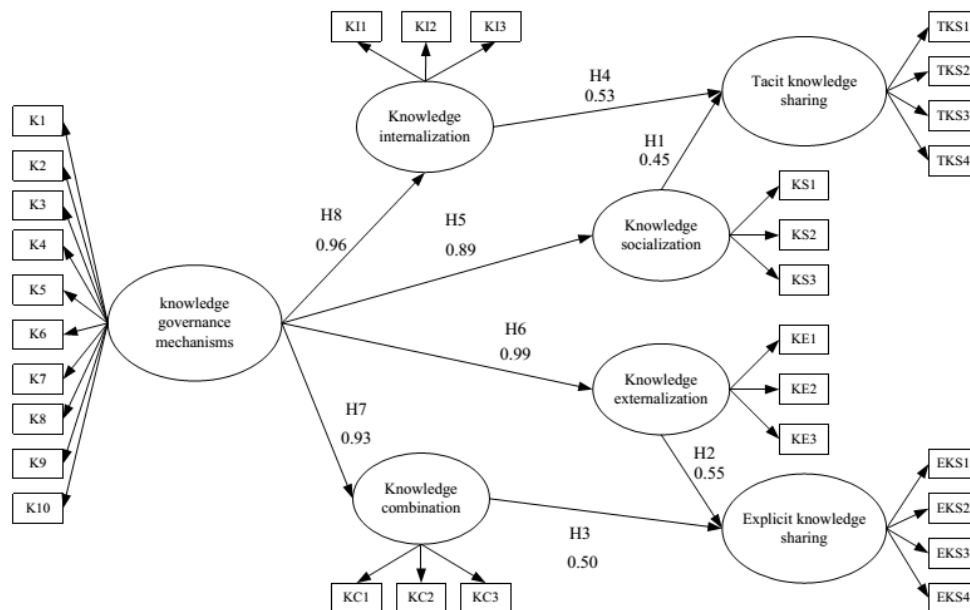
Results and discussion

Figure.1. Research model estimation results

Results and discussion. The theoretical model was tested and supposed an adequate fit to the data (c^2=558.301, df=364, c^2/df=1.534, GFI=0.861, AGFI=0.834, CFI=0.956, NFI=0.885 RMSEA=0.047). Figure 1 shows the overall parameter estimate in the structural equation model. The empirical findings of structural coefficients indicated the test results of hypotheses. H1 proposed that there was a positive influence between knowledge socialization and tacit KS by repatriates' experience sharing activities with the standardized coefficient of 0.45. H4 showed a relatively higher effect on tacit KS performed by knowledge internalization ,such as generating new opinion from the organizational files about international construction projects (coefficient=0.53). H2 and H3 confirmed that both knowledge externalization and knowledge combination had a positive effect on explicit KS in the trend of formalization (coefficient=0.55; 0.50). KGMs largely influenced the exploiting of repatriates' inherent knowledge during knowledge socialization and knowledge externalization phase in informal and informal manners (coefficient=0.89; 0.99; 0.93; 0.96), thus supported H5, H6, H7 and H8. Through the comparison of the coefficients, we can draw a conclusion that both tacit KS and explicit KS were susceptible to KGMs.

   Conclusions. This paper addressed the SECI model to examine the relationship between KGMs and KS with a focus on the repatriates in international construction projects. It revealed the importance of extracting unique knowledge from the repatriates who just came back from abroad. The findings supported the guiding role of KGMs on knowledge socialization, knowledge externalization, knowledge combination and knowledge internalization. The model developed in this study goes beyond previous efforts on KS by including in SECI model to put the governance function of KGMs into effect.

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