Double-Layer Learning, Leaders' Forgetting, and Knowledge Performance in Online Work Community Organizations

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ABSTRACT

This paper constructs an online community organizational double-layer learning structure model based on exploration-exploitation models. In this way, the authors examine the effect how double-layer online community learning as well as heterogeneous teams affects online work community organizational knowledge performance (OWCOKP) with leaders forgetting and without leaders forgetting. First, the results suggest an inverted-U relationship between the degree of different team member connectivity and OWCOKP. Second, as the leaders forgetting rate increases, the degree of different team member connectivity, which leads to the optimum OWCOKP also increases. Third, with or without leaders forgetting, moderate learning between members and that between the leader and members can improve OWCOKP within a team of online community. Fourth, in different teams, slow learning between leaders produces higher OWCOKP without leaders forgetting while moderate learning between leaders produces higher OWCOKP with their forgetting.

INTRODUCTION

With the development of mobile Internet, online work knowledge community (OWKC), as a new organization that can effectively promote innovation, has attracted more and more attention (Hamidi & Jahanshahifard, 2018; Oh, Moon, Hahn, & Kim, 2016).Among them, knowledge, as the carrier of innovation and communication, is one of the core contents of research (Zablith, Faraj, & Azad, 2016). Recently, OWKC emerges more and more as organizations increasingly regard open innovation as important external sources of knowledge and innovation (Piller & West, 2014; Randhawa, Josserand, Schweitzer, & Logue, 2017). Organizational learning in online work communities is an important

channel to create and transfer knowledge, and it is a key factor affecting organizational performance (Berends & Antonacopoulou, 2014; Chang, Wong, Eng, & Chen, 2018). There is a positive and significant relationship between organizational learning and organizational innovation in online work community (Hurley & Hult, 1998; Saki, Shakiba, & Savari, 2013; Sanz-Valle, Naranjo-Valencia, Jimenez-Jimenez, & Perez-Caballero, 2011). In complex and changeable environments, organizational learning can enable enterprises to gain competitive advantage through sustainable, healthy and harmonious development (Argote & Ingram, 2000; Argote & Miron-Spektor, 2011). Because OWKC has the characteristics of autonomy, spontaneity, mutuality and shared identities among members (Dahlander & Frederiksen, 2012; West, Salter, Vanhaverbeke, & Chesbrough, 2014), how to manage organizational learning in OWKC has become an important issue. Some empirical studies showed that the degree centrality and members' social interactions of online community members had a significant positive effect on knowledge sharing and organizational learning (J. Fang, Chen, Wang, & George, 2018), however, centralized structure of communication is not associated with the collaboration performance (Lee, Jang, & Baek, 2019).

There are many types of organizational learning, two of which are exploitative learning and exploratory learning (Li, Lin, Cui, & Qian, 2018). March (1991) posed the concepts of exploration and exploitation in relation to organizational learning. Since March's classical exploration-exploitation model was created, researchers had discussed the balance between exploration and exploitation from different perspectives, such as organizational structure (e.g., Bunderson & Boumgarden, 2010). The balancing of exploration and exploitation through structural design has been given considerable attention (e.g., C. Fang, Lee, & Schilling, 2010; Schilling & Fang, 2014). However, most previous studies have focused on a single-layer structure between individuals in an organization; specifically, in their simulation models, previous studies treat individuals within an organization as a homogeneous group, neglecting the different roles that individuals (such as leaders and members) play within an organization. There is little focus on multi-layer structures and multi-level learning between individuals in an organization. The aim of our study is thus to contribute to filling this gap in the literature on organizational learning.

In addition to organizational learning, forgetting has also been examined by various researchers. Managing organizational learning and knowledge must also include efforts to understand and manage forgetting (Holan & Phillips, 2013). Brunsson (1998) proposed that it might also help organizations to unlearn (forget). Organizational forgetting may lead to the ability of an organization to innovate and may even directly impact the organization's survival (Huang, Chen, Zhang, & Ye, 2018). With continuous organizational development, it must also be considered whether the original knowledge owned by an organization is useful for the present (Hislop, Bosley, Coombs, & Holland, 2014; Martinez-Plumed, Ferri, Hernandez-Orallo, & Ramirez-Quintana, 2015). For example, if the existing knowledge is extraneous or is actively interfering with the application of more appropriate knowledge, forgetting is a positive occurrence (Holan & Phillips, 2013; Wu, Ma, Wang, Tsai, & Lin, 2019). Therefore, investigating the effect of knowledge forgetting on online work community knowledge performance (OWCOKP) is very important. Drawing on this, our study combines organizational learning and forgetting to examine the joint influence of them on OWCOKP.

This paper focuses on the problem of how multi-layer structures and multi-level learning between individuals in an online work community organization influence OWCOKP. In addition, in the multi-layer structures of an online work community organization, the role of leaders, who guide organizations, identify environmental needs, and facilitate appropriate development, is very important (Waddell & Pio, 2015). Therefore, we emphasize the role of leaders and mainly examine how leaders' forgetting in multi-layer structures affects OWCOKP. We thus investigate the effect of double-layer learning on OWCOKP in two situations: with leaders' forgetting and without leaders' forgetting. We construct an organizational double-layer learning structure model using computer simulation methods to investigate these problems. Our study contributes to online work community organizational learning in two main ways. First, by constructing an online work community organizational double-layer learning

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