**Title:** Inter-unit Knowledge Transfer Structures for the Transfer of Complex Knowledge

**Abstract:**
The most durable competitive advantage of a firm is likely to be embodied in its 'complex' knowledge because such knowledge is least imitable by its competitors. However, the challenge with such complex knowledge is that it is not only very difficult for competitors to imitate, but also to transfer it voluntarily within the firm or to its partners. This paper studies the performance of different inter-unit organizational structures to voluntarily transfer complex knowledge between organizational units using an agent-based simulation with NK parameters. This study considers knowledge complexity in its entirety, by examining the effects of the number of knowledge elements (N), the number of interdependencies among knowledge elements (K), and the interaction between N and K. We consider boundary spanner and collective bridge as two archetypical inter-unit structures for complex knowledge transfer. With respect to bounded rationality, we specifically examine information overload in terms of both volume and scope. Formal modeling and simulation analyses show that the inter-unit knowledge transfer structure significantly affects how interdependent knowledge elements are coordinated and how information overload is optimally distributed and managed. Furthermore, the simulation results indicate that both N and K affect the effectiveness and efficiency of the two structures. This highlights the need to include both N and K in studies involving knowledge complexity. We also found N and K interactively affect the comparative efficiency of the two knowledge transfer structures: when N is below a threshold, the boundary spanner structure always outperforms the collective bridge in efficiency at all levels of K. When N exceeds a higher limit, collective bridge is always more efficient than boundary spanner structure even at all levels of K. Between the lower and the higher limits, the efficiency of collective bridge surpasses that of the boundary spanner structure when K reaches a threshold value (K*), which decreases as N increases. We derive theoretical and managerial implications of these results.