Leader Emergence in Virtual Work: Using Machine Learning to Explore Group Dynamics

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As the use of virtual groups continues to grow in breadth and importance in many organizations, leader emergence in virtual environments has attracted tremendous research attention. Interestingly, the literature suggests that leadership in virtual environments is more likely to emerge from group dynamics over time and behaviors which identify leaders from non-leaders may be distinct from those seen in traditional work settings. This is because the lack of physical co-presence in virtual worlds and heavy reliance on communication technologies may trigger different information processing among group members, which in turn influences the mechanisms by which members perceive leadership behaviors and relationships with others in such environments. In this presentation, I will discuss some preliminary findings on which communication-related behaviors are critical for the emergence of leaders in virtual group dynamics. The sample for this study is drawn from a set of group dynamics video data in which we apply machine learning techniques and subsequent social network analysis to investigate multiple behavioral dimensions embedded in group dynamics. Through these exploratory efforts, I hope this study can stimulate interesting conversations and new ideas from a broad multidisciplinary audience.

Fuhe Jin is a fourth-year Ph.D. candidate in School of Management and Bass Center for Leadership Studies at Binghamton University. This fall, she will become an Assistant Professor in the School of Business at the College of New Jersey. With her experiences in remote work, she studies how leadership can effectively mitigate conflict and foster virtual collaboration. Her publications focus on intra- and interpersonal relationship dynamics and the role of leader distance in virtual teams. Her multidisciplinary research interests include information systems, human-computer interaction, and virtual reality.

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