

Emergent Roles in Self-Organizing Knowledge Co-Production: Turbulence and Stability

Extended Abstract

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1 Summary of the Research

Increasingly, new forms of organizing for knowledge production are built around self-organizing co-production community models with ambiguous role definitions [2, 12]. This self-organizing is incommensurate with the logic of traditional organizations that is based on a Chandlerian logic [3] and current theories struggle to explain how high-quality knowledge is developed in these settings and how participants self-organize in the absence of role definitions, traditional organizational controls, or formal coordination mechanisms [7, 11, 4, 5, 8, 9].

Investigating the dynamics underlying knowledge co-production work requires a focus on the emergent roles that individuals enact based on the work itself and the tasks that

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are performed as they emerge [10]. This perspective on roles, that focuses on individuals' role behavior in relation to their work [1], and stands in contrast to the traditional structural perspective of roles that understands roles as based on social expectation, norms, and status positions [6].

2 Design/Methodology/Approach

Comprised of a multi-level large-scale empirical study of Wikipedia stretching over a decade, our study investigates emergent roles in terms of prototypical activity patterns that organically emerge from individuals' knowledge production actions. Employing a stratified sample of a thousand Wikipedia articles, we tracked two hundred thousand distinct participants and seven hundred thousand co-production activities, and recorded each activity's type.

3 Findings

We found that participants' role taking behavior is turbulent across roles, with substantial flow in and out of co-production work. Our findings at the organizational level, however, show that work is organized around a highly stable set of emergent roles, despite the absence of traditional stabilizing mechanisms such as pre-defined work procedures or role expectations. This dualism in emergent work is conceptualized as "Turbulent Stability". We attribute the stabilizing factor to the artifact-centric production process and present evidence to illustrate the mutual adjustment of role taking according to the artifacts needs and phases.

4 Originality/Value for Knowledge Commons Research

We discuss the importance of the affordances of Wikipedia in enabling such tacit coordination. This study advances our theoretical understandings of the nature of emergent roles and self-organizing knowledge co-production. In particular, this study suggests several theoretical contributions to our understanding of: (I) the nature of emergent roles; (II) the dualistic nature of self-organizing knowledge co-production; and (III) artifact-centric co-production. We also discuss the implications for custodians of on-line communities, as well as for managers of firms engaging in self-organized knowledge collaboration.

References

- [1] B. A. Bechky. Gaffers, Gofers, and Grips: Role-Based Coordination in Temporary Organizations. *Organ. Sci.*, 17(1):3–21, 2006.
- [2] Y. Benkler. *The Wealth of Networks: How Social Production Transforms Markets and Freedom*. Yale University Press, 2006.

- [3] A. D. Chandler. *Strategy and structure*. MIT Press, Cambridge, 1962.
- [4] S. Faraj, S. Jarvenpaa, and A. Majchrzak. Knowledge collaboration in online communities. *Organ. Sci.*, 22(5):1224 – 1239, 2011.
- [5] G. Kane, J. Johnson, and A. Majchrzak. Emergent Life Cycle: The Tension Between Knowledge Change and Knowledge Retention in Open Online Coproduction Communities. *Management Science*, 60(12):3026 – 3048, 2014.
- [6] D. Katz and R. Kahn. *The Social Psychology of Organizations*. Wiley, 1978.
- [7] K. R. Lakhani, H. Lifshitz-Assaf, and M. Tushman. Open Innovation and Organizational Boundaries: Task Decomposition, Knowledge Distribution and the Locus of Innovation. In *Handbook of Economic Organization: Integrating Economic and Organization Theory*, pages 355–382. 2013.
- [8] G. A. Okhuysen and B. A. Bechky. Coordination in Organizations: An Integrative Perspective. *Academy of Management Annals*, 3(1):463–502, 2009.
- [9] S. O’Mahony and K. Lakhani. Organizations in the Shadow of Communities. In *Research in the Sociology of Organizations*, pages 3–36. Emerald Group Publishing, 2011.
- [10] W. J. Orlikowski. Using Technology and Constituting Structures: A Practice Lens for Studying Technology in Organizations. *Organ. Sci.*, 11(4):404 – 428, 2000.
- [11] G. Schreyögg and J. Sydow. CROSSROADS-Organizing for Fluidity? Dilemmas of New Organizational Forms. *Organ. Sci.*, 21(6):1251–1262, 2010.
- [12] G. Von Krogh and E. Von Hippel. The Promise of Research on Open Source Software. *Management Science*, 52(7):975–983, 2006.