

The Interplay of Transformational Leadership, Emergent Organisation Culture, and Complex Adaptive Systems: A Longitudinal Framework

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ABSTRACT

This literature review examines the dynamic interrelationships among transformational leadership, organisational culture, and complex adaptive systems (CAS) through the lens of a longitudinal research framework. Synthesising empirical studies from 2019 to 2025, we analyse five hypotheses concerning (1) the adaptive trajectory of transformational leadership; (2) cultural shifts toward emergent properties; (3) leadership-culture covariation; (4) operational outcome correlations; and (5) non-linear micro-change impacts. Our analysis integrates Bass and Avolio's transformational leadership theory, Schein's organisational culture model, and Plsek and Greenhalgh's CAS framework, with Bloom's Taxonomy informing methodological design. The findings indicate that transformational leaders function as system attractors who amplify cultural adaptability through feedback reinforcement cycles, with even minor behavioural adjustments triggering disproportionate cultural shifts via nonlinear amplification. The CAS perspective reveals that emergent cultural properties co-evolve with leadership practices through reciprocal adaptation mechanisms, explaining why 70% of traditional initiatives fail, whereas CAS-informed approaches show higher success rates. Practical implications include designing micro-intervention protocols targeting leadership communication patterns and implementing cultural sensing systems to monitor emergent properties. This review establishes a temporal-causal framework for the longitudinal analysis of organisational change dynamics, addressing critical gaps in the understanding of how leadership adaptations catalyse cultural evolution in complex systems.

Keywords: complex adaptive systems, emergent properties, leadership-culture covariation, longitudinal research, transformational leadership