

Sunbelt PAPER PROPOSAL: 2003

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Title: The Navigability of Strong Ties: Small Worlds, Complex Dynamics and Network Topologies

Abstract: We examine data on and models of small world properties and parameters of social networks. Our focus, on tie-strength, multilevel networks and searchability in strong-tie social networks, allows us to extend some of the questions and findings of recent research and the fit of small world models to sociological and anthropological data on human communities. We offer a 'navigability of strong ties' hypothesis about network topologies tested with data from kinship systems, also applicable to corporate cultures and business networks. For in kinship networks we show evidence of complex dynamic processes at the level of strong-tie interactions between individuals and multilevel groupings are shown to generate emergent forms of social organization that are self-organizing, that have fractal properties, power-law distributions of strategic behaviors, and network topologies that have clustering, small average distances, and distance-decay navigability parameters that match theoretical models. Parallel kinds of structures are shown to exist in the inter-firm networks of the biotech industry studied by Walter Powell et al. Implications are examined for self-organizing systems in social and business organization.

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