Abstract Submitted
for the MAR12 Meeting of
The American Physical Society

Information Spreading in Context DASHUN WANG, Center for Complex Network Research, Northeastern University, ZHEN WEN, HANGHANG TONG, CHING-YUNG LIN, IBM T.J. Watson Research Center, CHAOMING SONG, ALBERT-LASZLO BARABASI, Center for Complex Network Research, Northeastern University — Information spreading processes are central to human interactions. Despite recent studies in online domains, little is known about factors that could affect the dissemination of a single piece of information. In this paper, we address this challenge by combining two related but distinct datasets, collected from a large scale privacy-preserving distributed social sensor system. We find that the social and organizational context significantly impacts to whom and how fast people forward information. Yet the structures within spreading processes can be well captured by a simple stochastic branching model, indicating surprising independence of context. Our results build the foundation of future predictive models of information flow and provide significant insights towards design of communication platforms.

Dashun Wang
Center for Complex Network Research, Northeastern University

Date submitted: 11 Nov 2011 Electronic form version 1.4