

## Commentaries on Albert-László Barabási's books

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This chapter is pretty transparent on the importance of scale-free hubs in the diffusion and control of contagion and fads and needs little further comment. It is of special importance in epidemiology and the security of the internet and other infrastructure, as well, of course, of marketing, commercial and political. Here is a small postscript taken from Easley, D, & Kleinberg, J (2010). *Networks, Crowds, and Markets*. Cornell. p. 565:

“Other important studies in the diffusion of innovations focused on settings in which decisions about adoption were driven primarily by direct-benefit effects rather than informational ones. A long line of diffusion research on communication technologies has explored such direct-benefit effects; the spread of technologies such as the telephone, the fax machine, and e-mail has depended on the incentives people have to communicate with friends who have already adopted the technology [M. Lynne Markus. Toward a critical mass" theory of interactive media: Universal access, interdependence and diffusion. *Communication Research*, 14(5):491{511, 1987].

“As studies of this type began proliferating, researchers started to identify some of the common principles that applied across many different domains. In his influential book on the diffusion of innovations, Everett Rogers gathered together and articulated a number of these principles, including a set of recurring reasons why an innovation can fail to spread through a population, even when it has significant relative advantage compared to existing practices. In particular, the success of an innovation also depends on its complexity for people to understand and implement; its observability, so that people can become aware that others are using it; its trialability, so that people can mitigate its risks by adopting it gradually and incrementally; and perhaps most crucially, its overall compatibility with the social system that it is entering. Related to this, the principle of homophily that we have encountered in earlier chapters can sometimes act as a barrier to diffusion: since people tend to interact with others who are like themselves, while new innovations tend to arrive from outside" the system, it can be difficult for these innovations to make their way into a tightly-knit social community. Everett Rogers. *Diffusion of Innovations*. Free Press, fourth edition, 1995