netdiffuseR
An R Package to Estimate Diffusion Network Models

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Acknowledgements

Background (15 mins)

- Introduction to Diffusion Networks
- Motivation for **netdiffuseR**

Simulating Diffusion Network Objects (15 mins)

- How to simulate objects
- Demonstrate **netdiffuseR** core functions

Empirical Showcases (30 mins)

- Analyze the 3 classic network diffusion datasets
- They come with the package
- Demonstrate Analysis w/n **netdiffuseR**
- Event History Analysis/Survival Analysis

Outline (2)

Reading Data (30 mins)

- Data format Types
    - Survey
    - Edgelist
    - Cohort
    - Fake survey

Break (10 mins)

FCTC diffusion network data (30 mins)

- Background
- Reading Data
- Conducting Analyses

Social Networks and Networking Study (30 mins)

- Background
- Reading Data
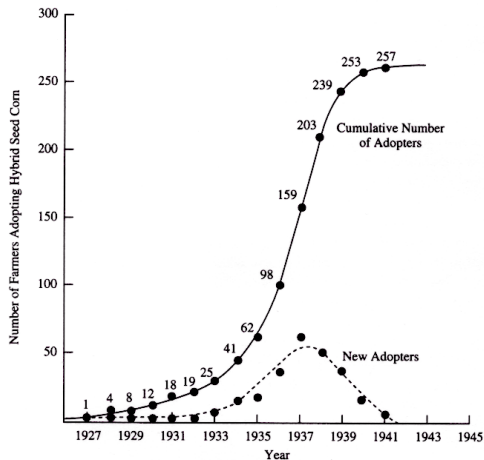- Conducting Analyses

Q&A New Data (20 mins)

Diffusion Networks

- Unique set of studies that combine social network data with behavioral data
    - Typically have data from zero or low prevalence to saturation or high prevalence.
    - Multiple time points presents unique opportunities and challenges.
    - Models often do not include dis-adoption but can.
- Network data may be static or dynamic.
- Can have one or multiple networks
- We do not yet address multiple behaviors (e.g., tobacco & alcohol, awareness & adoption, VHS & Betamax)
- Because we combine networks and behavior
    - Can have people in the network with no adoption data
    - People with adoption data but not in the network

Diffusion of Innovations

- Explains how new ideas and practices spread within and between communities.
- One of the oldest and richest social science theories.
- Many factors have been shown to influence diffusion
  - Spatial
  - Economic
  - Cultural
  - Developmental
  - Biological
  - Etc.
- One of the most significant is social networks

Figure 7–1. The Number of New Adopters Each Year, and the Cumulative Number of Adopters, of Hybrid Seed Corn in Two Iowa Communities

(IMAGE HERE)

Social Contagion and Innovation:
Cohesion versus Structural Equivalence[1]

Ronald S. Burt
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(IMAGE HERE)