

## Chunlei Wang

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### EDUCATION

<b>Ph.D.</b> (Expected June 2008)	Stanford University	Sociology
<b>M.A.</b> June 2002	Stanford University	Sociology
<b>M.A.</b> June 2001	The Ohio State University	Sociology
<b>B.A.</b> July 1996	Peking University, Beijing, P.R.China	Philosophy

### DISSERTATION

**Title:** Social Networks, Competition, and Institutionalization: An Integrated Perspective on Social Influence in Innovation Diffusion.

*The Diffusion of Market Entry into the Internet Industry among Worldwide Venture Capital Firms from 1994 to 2002.*

**Abstract:** How does social structure influence social action? The diffusion of an innovation across actors in a social system is an ideal setting to investigate this question. Previous research argues that the decision of an actor to adopt an innovation is influenced by those of network contacts, those of competitors, and the institutional legitimacy of the innovation. However, few efforts have been made to synthesize the various theoretical themes that have characterized research on innovation diffusion. This dissertation contends that the efficacy of relational social structure, either cohesive or competitive, in predicting innovation adoption is contingent on the institutional environment of an innovation. Actors are more likely to imitate their network contacts and competitors when they are uncertain about the essence and merits of an innovation. As an innovation becomes institutionalized, namely comprehensible and legitimated, the influence of network connections and competition decreases. I study the diffusion of market entry into the Internet industry across worldwide venture capital firms from 1994 to 2002. The results of event history analysis models show that the decision of a venture capital firm was influenced by those of network contacts and competitors in the early uncertain period when investing in the Internet industry was less well understood or acknowledged. As the practice became taken for granted, the effects of relational social structure, both cohesive and competitive, weakened. The dissertation synthesizes social network theory, ecological theory, and neo-institutionalism to make sense of the process of innovation diffusion. Its findings also shed light on a classic debate among social network theorists on cohesion versus structural equivalence as the effective medium of social contagion.

**Committee:** Mark Granovetter (Chair), John Meyer, Andrew Walder, Xueguang Zhou

### RESEARCH AND TEACHING INTERESTS

Economic Sociology	Business Policy and Strategy
Organization and Management Theory	Entrepreneurship
Technology and Innovation Management	Quantitative Methods
Social Network Analysis	Social-Economic Transition in Post-Communist Societies

## TEACHING EXPERIENCE

Fall, 2007 Course Assistant Graduate School of Business, Stanford University

- Global Context of Management

2002-2007 Teaching Assistant Department of Sociology, Stanford University

- Economic Sociology
- The Social Science of Entrepreneurship
- Introduction to Social Networks
- Formal Organizations
- Classics of Modern Social Theory
- Sex and Love in Modern Society
- The Urban Underclass
- American Indians in Comparative Historical Perspective
- Introduction to Sociology

## WORKING AND RESEARCH EXPERIENCE

- *Stanford Program on Regions of Innovation and Entrepreneurship (SPRIE)*,
  - Spring, 2007 – Present
  - Graduate Research Fellow
  - Responsibilities include research designs, field interviews, data analysis, and report writing.
- *The Silicon Valley Network Analysis Project* led by Professor Mark Granovetter,
  - 2002 – 2006
  - An active member
  - Conducted research on social networks, business policy and strategy, entrepreneurship, and innovation diffusion.
- *Social Science Data and Software*, Green Library, Stanford University,
  - Winter and Spring, 2007
  - Statistical and Software Consultant
  - Provided statistical consulting services to faculty and students.
- *Stanford Institute for the Quantitative Study of Society (SIQSS)*,
  - Fall 2003
  - Research Assistant
  - Responsibilities included data analysis of the Stanford Faculty Quality of Life Survey and report writing.
- *Hone Training Center*, Beijing, P.R.China
  - August 1998 to September 1999
  - Co-founder
  - I co-founded with my wife the training center in collaboration with Beijing Xiangbo Catholic School. The center offered training courses in Spoken English and in the use of computer applications. It enrolled more than 1,000 part-time students in the first year.

- *Zhong-Yin-Li-Hua Investment Consulting Ltd.*, Beijing, P.R.China
  - January 1998 to August 1998
  - Consulting associate
  - Got involved with establishing a management training program.
- *Intergoal International Ltd.*, Beijing, P.R.China
  - January 1997 to January 1998
  - Assistant to a Vice President
  - Assisted the vice president with administration and public relations.
- *Ke-Li-Hua Ltd.*, Beijing, P.R. China
  - July 1996 to January 1997
  - Marketing Analyst.
  - My role in the computer software startup was to conduct market analysis and participate in the design of customized software packages for restaurants.

## RESEARCH PROJECTS BESIDES THE DISSERTATION

### 1. Status, Horizontal Network Centrality, and Resource Acquisition

I propose a population based model of network analysis, which incorporates the concept of an organizational population into network analysis. Residing in the same niche, organizations embedded within a population collectively adapt to environments while engaging in competition against one another. Horizontal networks refer to connections among organizations within a population. An organization's status emerges within a population, based on its performance in comparison to that of others. Horizontal network centrality and status are analytically distinct. Status is valuable in front stage situations, where the audience is numerous, market uncertainty is high, and connections with vertical and cross-institutional networks are pivotal. Status is effective in acquiring new resources and in expanding the boundary of the population's niche. In contrast, horizontal network centrality is valuable in back stage situations, where information is scarce, and resource mobilization is necessary. Horizontal networks are effective in utilizing and redistributing the internal resources of the population. Using the Venture Capital industry as an empirical setting, this research shows that high-tech companies funded by high status Venture Capital firms are more likely to go public (IPO), whereas companies backed by firms central in co-investing networks have advantages in seeking acquirers. Findings provide initial evidence for the proposed model.

### 2. Social Networks, Patenting, and the Generation of Good Ideas

How do an inventor's social networks influence the quality of his/her ideas? As knowledge is cumulative, any breakthrough is necessarily based on the efforts and achievement of previous inventors. Further, due to limits in time, energy, and attention, an inventor is bounded in terms of his/her knowledge base. Interaction with other inventors enables an inventor to learn from peers. More importantly, heuristic communications among inventors may lead to serendipitous findings. Therefore, advantageous network positions tend to influence an inventor's ability to capitalize upon others' knowledge pools and thereby to generate good ideas. Using patent data from the U.S. Patent and Trademark Office, I, with Professor Henry Rowen and Mrs. Marguerite Gong Hancock at *Stanford Program on Regions of Innovation and Entrepreneurship* (SPRIE), have chosen the Intel Corporation as a case to study how collaboration networks between inventors influence the citation rate of a patent. We take this rate as a proxy for its quality. Preliminary results show that a patent by inventors with diverse networks is likely to have a higher citation rate, indicating a positive relation between network diversity and the generation of good ideas.

### 3. Reputation, Social Networks, and Small Business Financing.

Using survey data on small business finances in US, I study the effects of friendship ties to bankers and reputation deriving from credit history on a small business to get loans from banks. The results of preliminary analyses show that while both reputation and network ties are important for getting loans, reputation has a stronger effect than network ties. In addition, younger firms benefit less from network ties than older counterparts, indicating that the efficacy of networks is not universal but contingent upon certain firm characteristics. Moreover, minority business owners are less likely to get loans, whereas female owners are not significantly disadvantaged.

#### **PUBLICATIONS**

- Chunlei Wang. 2007. “A Population Based Model of Network Analysis”. In George T. Solomon (Ed.), *The Academy of Management Best Paper Proceedings (CD)*. Philadelphia, PA
- Chunlei Wang. 2002. “Meritocratic Allocation of Persons to Jobs”, Pp. 57 – 78, in *Social Structure: Changes and Linkages, the Advanced Phase of the Post-Communist Transition in Poland*, edited by Kazimierz M. Slomczynski. Warsaw, Poland: IfiS Publishers.

#### **WORKING PAPERS**

- Chunlei Wang. “Social Networks, Competition, and Institutionalization: An Integrated Perspective on Social Influence in Innovation Diffusion. The Diffusion of Market Entry into the Internet Industry among Worldwide Venture Capital Firms from 1994 to 2002.” (*Job Market Paper & Part of my Dissertation*) Under review at *Administrative Science Quarterly*
- Chunlei Wang. “A Population Based Model of Network Analysis: The Effects of a Venture Capital Firm’s Status and Horizontal Network Centrality on the Prospects of Its Investee Companies to Go Public or to Be Acquired.”
- Chunlei Wang. “Status Homophily or Not? Co-investing between Venture Capital Firms in Silicon Valley and in Massachusetts.”

#### **WORK IN PROGRESS**

- Chunlei Wang. “The China Concept: Mass Media, Social Networks, Competition and the Diffusion of Investing in China among U.S. Venture Capital Firms from 1990 to 2006.”
- Chunlei Wang, Henry S. Rowen and Marguerite Gong Hancock. “Generating Good Ideas: How do Inventors’ Network Positions Influence Patent Citations?”
- Chunlei Wang. “Dancing with Wolves: Competition and Inter-organizational Learning.”

- Chunlei Wang. “An Institutionalized Reputation System versus Friendship Ties: Do Networks Really Matter for Small Businesses to Get Loans?”

## **PROFESSIONAL PRESENTATIONS**

- “A Population Based Model of Network Analysis”, *the Annual Meeting of the Academy of Management*, Philadelphia, PA, August, 2007
- “A Contingent Model of Competitor Influence on Innovation Adoption: Market Entry into the Internet Industry by Venture Capital Firms from 1994 to 2002”, Regular Session, Economic Sociology Section, *American Sociological Association Annual Meeting*, Montreal, Quebec, Canada, August, 2006.
- “Instrumental Rationality or Embeddedness: Tie Formation and Renewal between Limited Partners and Venture Capital Firms”, *International Sunbelt Social Network Conference, Sunbelt XXVI*, Vancouver, British Columbia, Canada, April, 2006.
- “Networks, Competition and Strategic Decision Making”, Presented at Industrial Advisory Committee Meeting of *the Alliance for Innovative Manufacturing (AIM)* at Stanford, November 11-12, 2004.

## **FELLOWSHIPS, SERVICE, MEMBERSHIPS, AND SKILLS**

### Fellowships

- Graduate Research Fellowship, Stanford Program on Regions of Innovations and Entrepreneurship (SPRIE), Spring 2007 – Spring 2008.
- Graduate Fellowship, The Sociology Department, Stanford University, Fall 2001- Spring 2002.
- University Fellowship, The Ohio State University, Fall 1999 – Spring 2000.

### Service

- *Curriculum, Enrollment and Staffing committee*, The Sociology Department, Stanford University, 2003 – 2004.
- *Ad Hoc Reviewer*, the Annual Meeting of the Academy of Management, 2007.
- *Ad Hoc Reviewer*, Forty-First Hawai’i International Conference on System Sciences, 2007.

### Professional Memberships

- American Sociological Association
- Academy of Management, BPS and OMT divisions
- SUNBELT International Network for Social Network Analysis

### Skills

- Statistical Software Packages: SAS, STATA, SPSS, LISREL

- Network Analysis Software Packages: Ucinet and Pajek
- Other software Packages: ArcGIS and C++

## REFERENCES

**Mark Granovetter**, Joan Butler Ford Professor of Sociology, Stanford University.

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**John Meyer**, Professor of Sociology, Stanford University.

Phone: (650) 723-1868, E-mail: [meyer@stanford.edu](mailto:meyer@stanford.edu)

**Andrew Walder**, The Denise O'Leary and Kent Thiry Professor of Sociology, Stanford

University. Phone: (650) 723-0174/723-4560, E-mail: [walder@stanford.edu](mailto:walder@stanford.edu)

**Xueguang Zhou**, Professor of Sociology, Stanford University.

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