Networks, Social Capital, Autonomy, and Achievement

PAD 637 Week 11
Readings presentation
Yi-Yi Chen
Reading list


STRUCTURAL HOLES
CHAPTER 1 THE SOCIAL STRUCTURE OF COMPETITION

(Burt, 1992)
Social capital

Three kinds of capital in the competitive arena

• Financial capita
• Human capital
• Social capital
  – relationships with other player;
  – for an organization, relations within and beyond the firm are social capital.
Social capital

Distinguishing social capital (from other capital)

• Social capital is owned jointly by the parties to a relationship.

• Rate of return in the market production equation is concerned. Through relationships come the opportunities to transform financial and human capital into profit.

• Under perfect competition, social capital is a constant. When competition imperfect, which is usually the reality, rate of return depends on the relations in which capital is invested.
Social capital

- Two social capital questions frequently asked:

<table>
<thead>
<tr>
<th>question</th>
<th>Who brings the social capital in a network?</th>
<th>*How are networks a form of social capital?</th>
</tr>
</thead>
<tbody>
<tr>
<td>scholars</td>
<td>Nan Lin</td>
<td>Boxman, De Graaf, and Flap</td>
</tr>
<tr>
<td>Social capital is...</td>
<td>The resources contacts hold</td>
<td>The structure of contacts in a network</td>
</tr>
<tr>
<td>evidence</td>
<td>People develop relations with people like themselves.</td>
<td>•Opportunities come from variety in relationship.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>•Two kinds of benefits: information and control.</td>
</tr>
</tbody>
</table>
**Conclusion:** Players with contact networks optimized for structural holes — players with networks providing high structural autonomy — enjoy higher rates of return on their investments because they know about, have a hand in, and exercise control over, more rewarding opportunities.
Information

Three forms of information benefits

• Access:
  The network serves as an screening device. To know about an opportunity is to ask “Whom do I know who is the most likely to know the kind of person I need?”

• Timing:
  Personal contact can make you one of the people who are informed early and be able to take action early.

• Referral:
  The same information has more legitimacy when it comes from someone inside the decision-making process.
Information

• Benefit-Rich contacts
  – centrality: established in the place where useful information is likely to air and
  – Betweenness: providing a reliable flow of information to and from those places.

• Selecting contacts is a matter of trust.
  – whom to trust.
  – If I do for her, will she do for me?
  – A personal more like me is less likely to betray me.
Information

• Diversity is more important than size.
  – A large, diverse network is the best guarantee of having a contact present where useful information is aired.
  – Increasing network size without considering diversity would lead to redundant information and fewer benefits than a sparse network.
  – A dense network is inefficient because it takes considerable time and energy to maintain but produce less information in return.
Structural Holes

• Definition: Nonredundant contacts are connected by a structural hole.
• A structural hole is a relationship of nonredundancy between two contacts.
Structural Holes

Empirical Indicators of redundancy

• Cohesion:
  – A strong relationship defined by emotional closeness and frequent contact.

• Structural equivalence:
  – Two structurally equivalent people have the same contacts so the information are redundant.

• The two indicators are correlated. Redundancy is most likely between structurally equivalent people connected by strong relationships.
Figure 1.2  Structural indicators of redundancy
Structural Holes

Efficiency

• Cost of keeping a network: energy and time
• To optimize the network efficiency, the first principle is to maximize the number of nonredundant contact/concentrate on maintaining the primary contact.

![Network A'](image1)

![Network B'](image2)

![Network C'](image3)

![Network C](image4)

*Figure 1.3* Strategic network expansion
Structural Holes

Effectiveness

- A network with few primary contacts connecting to variety of secondary contacts has broad sources of information.
Structural Holes

Growth pattern of efficiency

Figure 1.5 Efficiency and effectiveness
Structural holes and weak ties

Why “structural hole”
despite “weak ties is” well-known?

• Better refferring to what brings the benefit.
  – Whether a relationship is strong or weak, it generates information benefits when it is a bridge over a structural hole; e.g. the forbidden triad is strong but nonredundant ties.

• emphasizings the benefit of control
Control and the Tertius Gaudens

• Tertius Gaudens: the third who benefits
• Two tertius strategies:
  – (1) Being the third between two or more players after the same relationship. For example, when two or more buyers want to buy the same thing, the seller can play their bids against one another to get a higher price.
  – (2) Being the third between players in two or more relations with conflicting demands. For example, one student is demanded by two professors’ course work.

• Cost of control:
  – Tension(=oppurtunity) in competition/negotiation.
Control and the Tertius Gaudens

The connection with information benefits

• Structural holes are the setting for tertius strategies.

• Information is the substance.

• The two kinds of benefits (information and control) augment and depend on one another.
  – People who bring together contacts have the information early as well as have the control over negotiation.
Entrepreneurs

opportunity and motivation
• Not everyone likes to broker the players, but entrepreneur.
• An entrepreneur is a person who/ a kind of behavior that generates profit from being between others.
• “push” explanation: cultural (good /evil) and psychological (needs/impulse/will...) perspectives
• “pull” explanation: the promise of success
• network is its own explanation of motive
• Motivation=opportunity
Measurement implications

- Increasing likelihood of tertius profi
- Perfectly rational players should be clustered around the line.
- The lower right corner means players underutilizing their opportunities probably because of variation in motivation.

*Figure 1.7  Rate of return and structural holes*
Secondary Holes

- Definition: Secondary holes are the structural holes among the secondary contacts within the cluster around each primary contact play a role in the tertius strategies.
- Control benefits and secondary structural holes
- Withdraw is the threat in negotiation when
  - (1) there is alternatives, secondary contacts who are redundant with your primary contact and capable of replacing the primary contact in your network;
  - (2) there are structural holes among the secondary contacts so they are not able to impose demands freely.
Cluster boundaries

• The image of redundancy is analogous to the concept of substitutable producers in input-output economics.
  – For example, if two bakers purchasing the same ingredients from different venders and make the same bread, they can substitutable for each other.

• Redundancy as **substitutability** is different from structural equivalence or role equivalence.
  – Substitutable players may connect to different people thus not structurally equivalent. Role equivalent people connect with different clusters of contacts so they are not redundant.
The depth of a structural hole

- Definition: The depth of a structural hole is how easy it can be developed for control and information benefits.

- Cohesion is the indicator

<table>
<thead>
<tr>
<th>Cohesion btw players</th>
<th>Equivalent ties to clusters</th>
<th>none</th>
<th>strong</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>Hole</td>
<td></td>
<td>Shallow</td>
</tr>
<tr>
<td>strong</td>
<td>DEEP</td>
<td></td>
<td>No hole</td>
</tr>
</tbody>
</table>
Structural Autonomy

• A player has structural autonomy if his network is rich in structural holes, and thus rich in entrepreneurial opportunity, and thus rich in information and control benefits.

• The rate of return keyed to structural holes is a product of the extent to which there are
  – (1) many primary structural holes between the contact and others in the player’s network and
  – (2) many secondary structural holes between the contact and others outside the network who could replace the contact.

• Players with relationships free of structural holes at their own end and rich in structural holes at the other end are structurally autonomous. They are
  – not substitutable in their close network and
  – they are free play tertius with their secondary contacts.
## Summary

### Competitive Advantage of Structural Holes

<table>
<thead>
<tr>
<th>Kind of Advantage</th>
<th>Substance of Advantage</th>
<th>Social Structural Condition Responsible for the Advantage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information Benefits</td>
<td>Access, Timing and Referrals</td>
<td>Contact Redundancy &amp; Structural Holes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>network trust, size &amp; diversity, cohesion &amp; structural equivalence, efficient-effective networks, structural holes &amp; weak ties</td>
</tr>
<tr>
<td>Control Benefits</td>
<td>Tertius Gaudens, Entrepreneurial Motivation</td>
<td>Structural Autonomy</td>
</tr>
<tr>
<td></td>
<td></td>
<td>holes &amp; entrepreneurial opportunity, primary holes &amp; constraint, secondary holes &amp; constraint, hole signature &amp; structural autonomy</td>
</tr>
</tbody>
</table>

**Conclusion:** Players with contact networks optimized for structural holes — players with networks providing high structural autonomy — enjoy higher rates of return on their investments because they know about, have a hand in, and exercise control over, more rewarding opportunities.

*Figure 1.10 Argument*
CHAPTER 2 FORMALIZING THE ARGUMENT

(Burt, 1992)
Effect size

- **Effect size** is the number of nonredundant contacts in the network (Equ 2.1) — can’t capture the secondary contacts involved.

- **Efficiency** is the effect size divided by number of primary contacts.
constraint

- **Structural autonomy**: an interval scale measuring the extent to which the player, relative to others in a study population, has unconstrained access to structural holes.
  - Constraint of contact \( j \) on player \( i \) is the degree of inefficiency caused by a lack of primary holes around contact \( j \)
    1. how much investment of time and energy you have made to reach \( j \) and
    2. how few structural holes surrounding \( i \) with which you could negotiate to get a favorable return on the investment.

\[
(2.4) \quad \left( p_{ij} + \sum_q p_{iq} p_{qj} \right)^2, \quad q \neq i, j.
\]
## Comparing Two Measures of Potential actions of a player’s network

<table>
<thead>
<tr>
<th>Redundancy measure, Effect size</th>
<th>Autonomy measure, Constraint</th>
</tr>
</thead>
<tbody>
<tr>
<td>equation 2.1</td>
<td>equation 2.4</td>
</tr>
<tr>
<td>number of nonredundant contacts</td>
<td>Lack of structural holes of j</td>
</tr>
<tr>
<td>connection</td>
<td>Dependence, indicated by exclusive access</td>
</tr>
<tr>
<td>Increases linearly with the number of contacts in a sparse network</td>
<td>Decreases when a network expands</td>
</tr>
<tr>
<td>Is constant with increasing contacts in a dense network</td>
<td>Decreases marginally as intensity increases -Density increases constraint, less in large networks than in small ones.</td>
</tr>
</tbody>
</table>
Hole signature

- Hole signature of a player is the distribution of opportunity and constraint across the individual relationships in a player’s network.
Structural autonomy model

• The relations that span the control benefit of holes are ties of exclusive access.

  The worst situation of your negotiation with j is
  – (1) your investment to reach i consumes a large proportion of your time and energy,
  – (2) j has exclusive relations from your other contacts,
  – (3) j is well organized with the people to whom you could turn in place of j, and
  – (4) you are surrounded by people who could easily be used in place of yourself.
Structural autonomy model

• Structural autonomy is a nonlinear function of constraint, decreasing most sharply at low levels of constraint with the initial loss of structural holes.

  – The level of a player’s structural autonomy \( A_i \) increases with the lack of structural holes around the player \( O_i \) and decreases with the lack of structural holes around the player’s contacts \( C_i \).

\[
(2.10) \quad A = \alpha(1 - O)^{\beta_o}C^{\beta_c}.
\]
The benefits are not available for outsiders so they have to find strategic partners (who are rich in structural holes) in the arena.

The return rate increases as the access to structural holes increases.

*Figure 2.9* Performance improves with structural autonomy
PERSONALITY CORRELATES OF STRUCTURAL HOLES
Introduction

• Structural hole theory describe how Individuals with relation to disconnected social groups are positioned for entrepreneurial action.

• Motivation is an issue. Opportunities do not by themselves turn into achievement, and not everyone is comfortable at the position of structural hole.

• Research question: Whether personalities systematically differ across the depth of structural hole?
Hypothesis (measurement)

1. Personality (item clusters) is associated with network structure (network constraint, hierarchy, constraint)
2. Personality (single items) is associated with structural hole (lack of network constraint)
3. Personality (network entrepreneur personality index, 10 items, 0/1) is associated with having an entrepreneurial network (constraint)
4. People with high network entrepreneur index score is more likely to have entrepreneurial networks (constraint & hierarchy scores)
Hypothesis (measurement)

6. Hypothesis 3 is valid when position rank in an organization (clerical, technical, junior, middle, senior managers) is considered.

7. Hypothesis 3 is valid when gender and the interaction of gender and structural hole (entrepreneurial net, network constraint) are considered.
Data

• Sample
  – For Hy 1-3, 51 of 122 MBA students are valid sample. Self-selection bias was not found.
  – For Hy 4 and 5, 217 respondents in a financial association.

• measurement
  – Personal network data measuring structural holes, network size, density, and hierarchy were collected.
  – Personality profile: Management Research Group (MRG) personality instrument, 252 items organized into 84 clusters (3 items for each cluster)
Hy 1: Personality--Network structure

• There are five items statistically proved associated with network structure.

• Predicting constraint variance with personality items, the top 8 items explain 61% of the variance.
Hy2: Personality items--structural hole

- People having the deepest structural holes claim they are independent outsiders, in search of authority, thriving on advocacy and change.
Hy3: Entrepreneur personality--constraint

- Entrepreneur personality index: The number of positive items selected is the total score; the higher, the more like entrepreneur.
  - 1. When evaluating opportunities, I am likely to look...
    A. for a chance to be in a position of authority
    B. for the long-run implications
  - 2. My strength lies in the fact that I have a knack for...
    A. being easygoing
    B. getting a point across clearly

- The index score is highly correlated with network constraint. (-.74)

- Controlling gender, race, and other properties related to self-selection bias, the association is not affected.
Hy4: entrepreneur personality—network categories

- The logit function shows people have lower entrepreneur personality are more likely to have clique network or hierarchical networks (rather that cliques).

<table>
<thead>
<tr>
<th>Network entrepreneur personality index</th>
<th>Probability that respondent has an entrepreneurial network</th>
<th>Respondent with clique networks</th>
<th>Respondent with hierarchical networks</th>
<th>Respondents with entrepreneurial networks</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0.01</td>
<td>2</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>1</td>
<td>0.03</td>
<td>2</td>
<td>4</td>
<td>-</td>
</tr>
<tr>
<td>2</td>
<td>0.08</td>
<td>2</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>3</td>
<td>0.17</td>
<td>2</td>
<td>7</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>0.32</td>
<td>1</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>5</td>
<td>0.52</td>
<td>-</td>
<td>5</td>
<td>4</td>
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<tr>
<td>6</td>
<td>0.72</td>
<td>-</td>
<td>-</td>
<td>3</td>
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<tr>
<td>7</td>
<td>0.86</td>
<td>-</td>
<td>1</td>
<td>3</td>
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<tr>
<td>8</td>
<td>0.94</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<tr>
<td>9</td>
<td>0.97</td>
<td>-</td>
<td>-</td>
<td>2</td>
</tr>
<tr>
<td>10</td>
<td>0.99</td>
<td>-</td>
<td>-</td>
<td>-</td>
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</tbody>
</table>
Hy5: effect of position rank

![Graph showing the effect of position rank on the probability of an entrepreneurial network. The graph has a linear relationship with a slope of 0.591 for Clerical, Technical, and Junior Managers, and a nearly flat line with a slope of 0.004 for Middle and Senior Managers. The x-axis represents the Network Entrepreneur Personality Index (number of positive choices), and the y-axis represents the probability (P) of an entrepreneurial network.]
Hy6: impact on performance

• Neither personality nor network is associated with job evaluations in the lower ranks.
• Interaction effect in higher ranks

<table>
<thead>
<tr>
<th>Table 3</th>
<th>Personality, network structure, and job evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Clerical and technical staff and junior managers ($N = 102$)</td>
</tr>
<tr>
<td>Constant</td>
<td>$-2.049$</td>
</tr>
<tr>
<td>Network entrepreneurial personality index</td>
<td>0.050 (0.4)</td>
</tr>
<tr>
<td>Entrepreneurial network</td>
<td>0.690 (1.3)</td>
</tr>
<tr>
<td>Network constraint</td>
<td>–</td>
</tr>
<tr>
<td>Male</td>
<td>0.146 (0.2)</td>
</tr>
<tr>
<td>Male $\times$ entrepreneurial net</td>
<td>$-0.076 (-0.1)$</td>
</tr>
<tr>
<td>Male $\times$ network constraint</td>
<td>–</td>
</tr>
<tr>
<td>Chi-square (4 d.f.)</td>
<td>2.39</td>
</tr>
<tr>
<td>Probability no effects</td>
<td>$P = 0.66$</td>
</tr>
</tbody>
</table>
Conclusion

• Personality does vary with structural holes. The few items describe three-fourths of the variance in network constraint.

• Respondents with least constraint have the entrepreneur personality; vice versa.

• Caution:
  – No causal order is implied.
  – The MRG personality instrument has a large number of items such that some items are significantly associated by random chance.
  – This is done with convenience sample.
  – The personality items are no substitute for network items in predicting manager performance.
Week 11

Networks, Social Capital, Autonomy & Achievement

PAD637 Presentation (Apr 12, 2011)
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“Bowling alone: America’s declining social capital.”

*Journal of Democracy, 6*(1), 65-78.
Abstract

“The US once had an enviable society, but over the last two or three decades this civic society has shrunk, and more people are watching TV. Possible explanations for this trend include more women in the workplace, increased mobility of families and changing demographics” (p.65)
Underlying Assumptions

1. Strong and active civil society, or civic engagement, is critical to the consolidation of democracy.

2. Social networks influence the quality of public life
   - performance of representative government
   - performance of social institutions such as educational institutions, job placement and many other economic outcomes.
Definition of Social Capital

- Features of social organization such as networks, norms, and social trust that facilitate coordination and cooperation for mutual benefit.
Benefits of Social Capital

• Facilitating coordination, cooperation, collaboration

• Amplifying reputations

• Decreasing opportunistic behaviors

• Developing participants’ sense of “we” instead of “I”
What Happened To Civic Engagement

Changing Patterns of Political Participation (1): steady and sharp decrease in direct engagement in politics and government

• Decline in turnout in elections
• Decline in attending a political rally or speech
• Decline in serving on a committee of some local organization
• Decline in working for a political party
What Happened To Civic Engagement

Changing Patterns of Political Participation (2):

Psychological disengagement from politics and government

Decline in

• trust of government

• membership in “church-related groups” and participation in religious services

• union membership

• participation in the parent-teacher organizations

• membership and volunteering for civic and fraternal organizations
What Happened To Civic Engagement

Changing Patterns of Political Participation (3):
Increase in the number of people who are “bowling alone”

• Total number of bowlers 10% ↑: league bowling 40% ↓(b/w 1980 and 1993)
• solo bowlers ↑ vs. team bowlers↓
• This means decrease in interaction and civic conversations
• Americans went bowling at least once in 1993, nearly a third more than voted in the 1994 congressional elections and roughly the same number as claim to attend church regularly.
Emergence and Growth of New Organizations

(1) The emergence of new mass-membership organizations (Tertiary Organizations)

• E.g. American Association of Retired Persons (AARP), Sierra Club, National Organization for Women

• This “tertiary association” is distinguished from classic “secondary associations”

• Their social connectedness is low. The bonds among members are loose. Their ties are to common symbols, common leaders, and common ideals, but not to one another.
COUNTERTRENDS

Emergence and Growth of New Organizations

(2) The Growth of Nonprofit Organization, especially nonprofit service organizations

• The size of nonprofit sector is getting bigger.
• It does not necessarily mean the increase in social connectedness.
TRENDS & COUNTERTRENDS

In brief,

“American social capital in the form of civic associations has significantly eroded over the last generation.”
GOOD NEIGHBORLINESS AND SOCIAL CAPITAL

Informal Social Capital

(1) Family: bonds within the family are loosening consistent with social decapitalization.

(2) Neighborliness

- The proportion of Americans who socialize with their neighbors: 72% \(\rightarrow\) 61% b/w 1974 and 1993
- Decrease in social trust: 58% (1960) \(\rightarrow\) 37% (1993)
GOOD NEIGHBORLINESSE AND SOCIAL CAPITAL

Close Correlation b/w Associational Membership and Social Trust

• All the forms of social capital are themselves coherently correlated across individuals.
• Members of associations are much more likely than nonmembers to participate in politics, to spend time with neighbors, to express social trust, and so on.
• The close correlation between social trust and associational membership is across time, across individuals, and across countries.
• Evidence1. Across the 35 countries: social trust and civic engagement are strongly correlated
• Evidence2. American still ranks relatively high by crossnational standards on social trust and associational membership.
• Evidence3. In the international ranking of social capital, the position of America stepped down.
WHY IS U.S. SOCIAL CAPITAL ERODING?

More Women in the Workplace

• The sharpest decline in women’s civic participation since 1970s
• Decline in the membership in women’s organizations since 1960s
• Similarly, decline in participation in men’s organizations

Increased Mobility of Family

• “re-potting” tends to disrupt residential stability which is associated with civic engagement.
WHY IS U.S. SOCIAL CAPITAL ERODING?

Other Demographic Transformations

• Fewer marriages, more divorces, fewer children, lower real wages, and so on since 1960s
• Electronic shopping and distant multinational firms

Technological Transformation of Leisure

• Privatized and individualized leisure time
• E.g. TV, VCR
WHAT IS TO BE DONE?

• Sorting out the dimensions of social capital

• Another set of important issues involved in macrosociological crosscurrent.

• Cost and benefit calculations of a rounded assessment of changes in American social capital over the last quarter-century

• How public policy impinges on social-capital formation

• Study of social capital erosion in other advanced democracies

• How to recover social connectedness and to restore civic engagement and civic trust.

“Social Capital in the Creation of Human Capital”

American Journal of Sociology, 94(Supplement), 95-120.
# Two Streams of Description and Explanation of Social Action

<table>
<thead>
<tr>
<th></th>
<th>Sociological Stream</th>
<th>Economic Stream</th>
</tr>
</thead>
<tbody>
<tr>
<td>proponents</td>
<td>most sociologists</td>
<td>most economists</td>
</tr>
<tr>
<td>view of actor</td>
<td>Socialized/shaped by the environment</td>
<td>Self-interested and having goals</td>
</tr>
<tr>
<td></td>
<td></td>
<td>independently</td>
</tr>
<tr>
<td>view of action</td>
<td>governed by social norms, rules, and</td>
<td>acting independently based on</td>
</tr>
<tr>
<td></td>
<td>obligations/a product of the environment</td>
<td>independent goals and</td>
</tr>
<tr>
<td></td>
<td></td>
<td>self-interest/“rational action”</td>
</tr>
<tr>
<td>Strength</td>
<td>Ability to describe action in social context</td>
<td>Having a principle of action, that of</td>
</tr>
<tr>
<td></td>
<td>and to explain the way action is shaped,</td>
<td>maximizing utility</td>
</tr>
<tr>
<td></td>
<td>constrained, and redirected by the social</td>
<td></td>
</tr>
<tr>
<td></td>
<td>context</td>
<td></td>
</tr>
<tr>
<td>Weakness (criticism)</td>
<td>no “engine of action” for the actor</td>
<td>Ignoring social context; but social</td>
</tr>
<tr>
<td></td>
<td>“oversocialized” view</td>
<td>context is important in the functioning</td>
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<tr>
<td></td>
<td></td>
<td>of society and economy</td>
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<tr>
<td>affected theory</td>
<td></td>
<td>Neoclassical economic theory</td>
</tr>
<tr>
<td>revision</td>
<td>Maintaining conception of rational action</td>
<td></td>
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<td></td>
<td>but superimposing on it social and</td>
<td></td>
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<tr>
<td></td>
<td>institutional organizations</td>
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</tr>
</tbody>
</table>
Social Capital

• a variety of different entities with two elements in common: (1) consist of some aspect of social structures, and (2) facilitate certain actions of actors within the structure

• productive and specific to certain activities

• inheres in the structure of relations between actors and among actors
Comparison of Human Capital and Social Capital

Human Capital

• created by changes in persons that bring about skills and capabilities that make them able to act in new ways.
• Less tangible than physical capital
• Embodied in the skills and knowledge acquired by an individual
• Facilitates productive activity

Social Capital

• created by changes in the relations among persons that facilitate action
• less tangible than physical capital and human capital
• exists in the relations among persons
Forms of Social Capital

- Obligations, Expectations, and Trustworthiness of Structures
- Information Channels
- Norms and Effective Sanctions

- Obligations and expectations depend on trustworthiness of the social environment, information-flow capability of the social structure, and norms accompanied by sanctions.
- By identifying the function of certain aspect of social structure, the concept of social capital constitutes both an aid in accounting for different outcomes at the level of individual actors and an aid toward making the micro-to-macro transitions.
- The concept of social capital allows taking organizational resources and showing the way they can be combined with other resources to produce different system-level behavior or, in other cases, different outcomes for individuals.
Forms of Social Capital

Obligations, Expectations, and Trustworthiness of Structures

- Obligation and Expectation: if A does something for B, and trusts B to reciprocate in the future, this establishes an *expectation* on A and an *obligation* on the part of B.

- The social capital depends on two elements: (1) *trustworthiness* of the social environment and (2) the actual extent of obligations held.

- e.g. the rotating-credit associations based on a high degree of trustworthiness among the members of the group

- Differences in social structures appear in both dimensions because there are differences in the actual needs, in the existence of other sources of aid, in the degree of affluence, in cultural differences in the tendency to lend aid and ask for aid in the closure of social networks.
Forms of Social Capital

Obligations, Expectations, and Trustworthiness of Structures (cont.)

- Individuals in social structures with high levels of obligations outstanding at any time have more social capital on which they can draw.

- The density of outstanding obligations: the overall usefulness of the tangible resources of that social structure is amplified by their availability to others when needed.

- Individual actors in a social system differ in the number of credit slips outstanding on which they can draw at any time. (e.g. a patriarch in hierarchically structure extended family settings)
Forms of Social Capital

Information Channels

• Information can be acquired by use of social relations that are maintained for other purposes.

• e.g. a social scientist who is interested in being up-to-date on research in related field can make use of everyday interactions with colleagues to do so, but only in a university in which most colleagues keep up-to-date.

• Social relations constitute a form of social capital that provides information that facilitates action.
Forms of Social Capital

Norms and Effective Sanctions

- Effective norms constitute a powerful form of social capital.
- e.g. Norms in community that support and provide effective rewards for high achievement in school facilitate the school’s task.
- A prescriptive norm within a collectivity: the norm that one should forgo self-interest and act in the interests of the collectivity, and that is reinforced by social support, status, honor, and other rewards. The norms are internalized or largely supported through external rewards.
- Effective norms also constrain others.
Social Structure that Facilitates Social Capital

- Closure of Social Networks
- Appropriable Social Organizations

Closure of Social Networks

- The existence of effective norms depends on “closure” of social structure.
- Action is necessary but not sufficient condition for the emergence of effective norms: lack of closure
- Closure creates trustworthiness in a social structure.
- Reputation cannot arise in an open structure
- Collective sanctions cannot be applied in an open structure.
Closure of Social Networks (Cont.)

- a) Open structure: B&C cannot combine forces to sanction A in order to constrain the actions

- b) Closed structure: B&C can combine to provide a collective sanction, or either can reward the other for sanctioning A.
Social Structure that Facilitates Social Capital

Closure of Social Networks (Cont.)

• Intergenerational closure: relations between parents and child and relations outside the family

(a) No interorganizational closure

(b) Interorganizational closure: A & D are friends → discuss about and monitor “their” children, are reinforced by each other in sanctioning his child’s actions → provides a quantity of social capital available to each parent in raising their children
Social Structure that Facilitates Social Capital

- Appropriable Social Organizations
  - Social organization, once brought into existence for one set of purposes, can also aid others, thus constituting social capital available for use.
  - E.g. South Korean student radicals: study circle consisting of students from the same high school or hometown → organizational resources necessary for effective opposition
  - E.g. a resident organization to confront the builders and to address poor construction problems during house construction → (remain) → a resident organization to improve the quality of life
  - Multiplex relations (M. Gluckman’s concept): persons are linked more than one context, which allow the resources of one relationship to be appropriated for use in others.
Social Capital in the Creation of Human Capital

Social Capital in the Family

- Relations between children and parents and when families include other members, relationship as well
- Family background: financial capital, human capital, and social capital

Child Education

- If the human capital possessed by parents is not complemented by social capital embodied in family relations, it is irrelevant to the child’s educational growth.
- This social capital depends both on the physical presence of adults in the family and on the attention given by the adults to the child (e.g. nuclear family and single-parent family)
- Even if adults are physically present, if there are not strong relations between children and parents, then there is a lack of social capital.
Social Capital in the Creation of Human Capital

- The effect of a lack of social capital: high dropping rates out of school.
- Table 1 shows expected dropout rates for students in different types of families.
- Social capital in the family is a resource for education of the family’s children.

| TABLE 1 |
|------------------|------------------|
| **DROPOUT RATES BETWEEN SPRING, GRADE 10, AND SPRING, GRADE 12, FOR STUDENTS WHOSE FAMILIES DIFFER IN SOCIAL CAPITAL, CONTROLLING FOR HUMAN CAPITAL AND FINANCIAL CAPITAL IN THE FAMILY**a |
| Percentage Dropping Out | Difference in Percentage Points |
| 1. Parents’ presence: | |
| Two parents | 13.1 | 6.0 |
| Single parent | 19.1 |
| 2. Additional children: | |
| One sibling | 10.8 | 6.4 |
| Four siblings | 17.2 |
| 3. Parents and children: | |
| Two parents, one sibling | 10.1 | 12.5 |
| One parent, four siblings | 22.6 |
| 4. Mother’s expectation for child’s education: | |
| Expectation of college | 11.6 | 8.6 |
| No expectation of college | 20.2 |
| 5. Three factors together: | |
| Two parents, one sibling, mother expects college | 8.1 | 22.5 |
| One parent, four siblings, no college expectation | 30.6 |

* Estimates taken from logistic regression reported more fully in App. table A1.
Social Capital
in the Creation of Human Capital

- Social Capital Outside the Family

[Child’s education]

- Social capital outside: in the community of social relationships among parents, in the closure exhibited by this structure of relations, in the parents’ relations with the institutions of the community

- The number of movement: More mobile families $\rightarrow$ less social relations $\rightarrow$ more dropping out of school

- Different dropping rates of different school types: religious based private high school $>$ nonreligiously based private high schools $>$ public high school $\rightarrow$ Religious community provides intergenerational closure and social capital: depress dropping rates
Public Goods Aspects of Social Capital

- Physical capital and human capital have aspects of a private good: my investment → my benefit

- On the other hand, the social structure has the public goods quality.

- The social structure that makes possible social norms and sanctions that enforce them do not benefit primarily the person or persons whose efforts would be necessary to bring them about, but benefit all those who are part of such a structure.

- Reversely the beneficial activity from the point of view of one family yields other persons’ extensive losses including weakened norms and sanctions.
Public Good Aspects of Social Capital

- Underinvestment of social capital: cost < benefit, loss < benefit

- Trustworthiness, information, and norms can be underinvested by the same reason.

- The public goods aspects of social capital: Because the benefits of actions that bring social capital into being are largely experienced by persons other than the actor, most forms of social capital are created or destroyed as by-products of other activities. → less recognized

- Implication of the development of children and youth: the social structural conditions (strong families and strong communities) for encouraging social capital supply keep weakening → declining quantity of human capital embodied in each successive generation

- Solution? building formal organization that replace voluntary and spontaneous social organization
Burt, Ron (2005)

Brokerage and Closure

Chapter 5. Images of Equilibrium
Conclusions

1. The effects of social capital are substantial and concentrated in extreme network conditions.

- With respect to the advantage of brokerage: connecting two contacts in an already densely connected network does not erode vision-performance as much as the first pair of contacts connected in the network.

- With respect to the advantage of closure: breaking the link between two contacts in a completely connected network erodes trust-performance more than breaking the link between two contacts in an already fragmented network.
Conclusions

2. Brokerage and closure are twice complementary.

- They augment one another in creating social capital

- They together define a network concept of social capital and structural autonomy.

- They provide a cure for the other’s failure mode
  ✓ Closure’s reputation mechanism settles down organization chaos created by unrestrained brokerage
  ✓ Brokerage cracks the closure-induced resistance to change.
5.1 Network Model and Austrian Metaphor

• Network models of brokerage and closure measure forces that bear a striking similarity to the market metaphor in the Austrian school of economics, most notably in the work of Schumpeter and Hayek.

• **Inertia of Closure**: closure creates inertia in social boundaries such that the existing segregation between groups is a kind of equilibrium, tightening inward and pulling away from adjacent clusters.

• Thus, equilibrium is a function of brokerage breaking free from the inertia of closure.
5.1.1 Context

- The distribution of belief and behavior in the small world of organizations and markets ensures that information is everywhere imperfect and incomplete.

- Knowledge unevenly distributed across groups creates local advantage.
5.1.2 Action

- There is premium (in compensation, recognition, and responsibility) given to the people (so-called, “bridge-builders”) who do the integrative work of creating valuable new combinations of knowledge otherwise segregated in separate groups.

- Bridge-builders = ‘network entrepreneurs’ in terms of Schumpeter’s concept of entrepreneurs
5.1.3 Price Incentives for Action

• The benefits received for creating new combinations make visible the price for integrative work.

• Austrian school of economics focuses on the process by which markets move toward equilibrium admitting an enormous amount of ignorance in the market systems unlike full information assumed by neoclassical economics.

• Network entrepreneurs play a critical role in this Austrian market metaphor.

→ The premium they receive for their integrative work defines a price for integrative work, which affects others’ decision to join in the integrative work.
5.1.3 Price Incentives for Action

Network entrepreneurs receive disproportionate returns to their integrative efforts

Others are drawn to earn the same returns

Successive bridges are built across a structural hole

Returns diminish

The hole is closed

Equilibrium
5.1.4 The Path of Equilibrium

• Bridge price ( = benefit - cost) should decrease in mean and variance on the path to equilibrium.

• Benefits decrease with additional redundant ties. → The value created by a bridge decreases with the number of bridges across the same structural holes. → When the first entrepreneur benefit from bridging a structural hole, others join them, decreasing the value of bridging the hole.
5.1.4 The Path of Equilibrium (Cont.)

Fig. 5.2: Value of successive bridges
5.1.4 The Path of Equilibrium (Cont.)

- In Fig. 5.2, the benefit of a bridge should decrease across successive bridges.
- The decrease is steeper for the first few bridges than for the last few.
- Value is certainly eliminated long before everyone eligible to span the hole has done so.
- Cost decreases faster than benefit, creating a second-mover advantage.
- Value declines to some equilibrium level at which benefit is marginally higher than the cost of bridging the hole.
- Network entrepreneurs have moved the market to equilibrium by eliminating holes where it was valuable to do so.
5.2 Enduring Advantage

- Brokerage provides a temporary, local advantage on the path of equilibrium because brokerage consumes its incentive as it speeds a system to equilibrium and eventually there is no visible incentive at equilibrium.

- According to Hayek, equilibrium exists because some people have no chance of learning about facts that would induce them to alter their plans.
  - If no one tries to bridge a hole, or the rewards of bridging are not visible, there is no incentive to bridge the hole.
  - If some factors make visible the value latent in unbridged holes, network entrepreneurs move the population to a new equilibrium.

- In this sense, ignorance is an unstable foundation for equilibrium.
5.2.1 Passive and Active Structural Holes

- A brokerage advantage temporary in theory could become an enduring advantage if the move to equilibrium is slowed, or repeatedly disrupted.

- When information of an industry grows quickly out of date, the move toward a new equilibrium offers managers whose networks span structural holes an enduring ‘visible’ advantage in identifying and developing the more rewarding opportunities.

- A temporary brokerage advantage could become enduring if bridges are not absorbed into the social structure around a hole.
5.2.1 Passive and Active Structural Holes (Cont.)

Two Types of Structural Hole

• Passive Structural Hole: a hole is passive if bridges across it are readily absorbed into the surrounding social structure.

• Active Structural Hole: a hole is active if interests attached to the hole resist bridges.

• E.g. Interests can compete to bridge the hole → A bridge established by one group is subject to erosion by the other groups → Progress toward equilibrium with the establishment of a bridge is destabilized. → Continuous disequilibrium around the structural hole

• In reality, bridging between two clusters can have side-effects of more sharply segregating other cluster, or lowering the barriers to bridge relations elsewhere.
5.2.1 Passive and Active Structural Holes (Cont.)

Tilly’s four social mechanisms

→ A structural hole is active if one of these four mechanisms is fulfilled.

1) Providing an opportunity for insiders on one side of the hole to exploit outsider on the other side

2) Permitting insiders to hoard opportunities from outsiders

3) Making it easier for insiders to construct new organization based on existing models in which insiders are advantaged

4) Adaptation: daily routines and values social ties of aid, influence, and information gathering have adapted to the hole – an important mechanism because it is a way in which passive structural holes become active.

→ Active holes can be bridged.
5.2.2 Stability Despite Brokerage

- People aspire benefits without having to pay the high cost.

- Thus, if brokerage is an enduring advantage and the existing network structure continues through time as if in equilibrium, network entrepreneurs would enjoy brokerage benefits.

- In the supply-chain manager case, there were brokerage opportunities were abundant, visible and rewarded, but apparently irrelevant.

- Then, Why?
5.2.2 Stability Despite Brokerage (Cont.)

Why Stability Despite Brokerage appear?

• The problem, here, is network stability despite brokerage. Although there was a brokerage advantage which permits good ideas to emerge, good ideas spread in a way that would continue segregation between the worlds.

• Simply, the people with whom the supply-chain managers representing positive cycle to structural reproduction discussed their ideas were colleagues with whom they were already closely connected. In other words, ideas alone do not disrupt the equilibrium status quo unless good ideas are implemented for coordinating across structural holes in the organization.
5.2.2 Stability Despite Brokerage (Cont.)

Why Stability Despite Brokerage appear?

[An inertia model of social convenience]

• The more a contact is connected with others in a manager’s network, the higher the constraint score for the contact.

• Good ideas were not discussed to change business practice so much as they were discussed to display competence and entertain familiar colleagues.

• There is little evidence of managers action on their ideas.
5.3. Conclusion

- The equilibrium image is one of local balance between closure and brokerage.

- Closure’s inertial forces are obvious (more than brokerage). This is because people advantaged by closure have no incentive to bring in outsiders and echo within closed network reinforces boundaries between insiders and outsiders, deepening the structural holes that segregate groups.

- On the other hand, although brokerage offers a premium for bridge-builders, the productive potential of brokerage is more clear in theory than in fact.
• Structural holes are all around you, for the most part unseen.

• Although a hole is an empty space across which you can see the other side, conventions in thinking, organization and the environment obscure the other side.

• Structural holes are made apparent when a person thinking more broadly than ourselves sketches the value of coordinating across empty spaces.

“When you have an opportunity to learn how someone in another group does what you do differently- go”