
SUGGESTION: Read Burt’s summary of every chapter to have a framework before go into (my summary of) his argument.

Chapter 1 The Social Structure of Competition

Opportunity and Capital

Three kinds of capital

1. Financial capita: such as cash in hand and reserves in banks;
2. Human capital: such as natural qualities like charm and health and skills acquired in education and jobs;
3. Social capital: relationships with other player in the competitive arena; for an organization, relations within and beyond the firm are social capital.

Property and human assets define a firm’s production capabilities; those people have ability to deliver clients and make it possible for all to profit from the work are valued as “rain makers”.

Distinguishing social capital (from other capital)

- Financial and human capital (1) are property of individuals and (2) concern the investment term in the market production equation.
- Social capital is a thing owned jointly by the parties to a relationship. It concerns rate of return in the market production equation.
- Through relationships come the opportunities to transform financial and human capital into profit.
- Under perfect competition, social capital is a constant in the production equation. When competition imperfect, which is usually the reality, rate of return depends on the relations in which capital is invested.

Two social capital questions frequently asked

1. Who? –contacts as capital
   - A network works as your access to people with specific resources, which has circulated as power, prestige, social resources, and recently, social capital.
   - For example, Nan Lin’s research about the association between job prestige and personal contacts. –Association between contact resources and the actor’s own resources, and variation in the association across kinds of relationships.
   - Network structure is used to predict similarity between attitudes and behaviors. People develop relations with people like themselves and go to similar places. Relations emerge.
2. How? –social structure as capital in its own right
- Network range, indicated by size, is the primary measure.
- How a player is connected in social structure indicates the volume of resources held by the player and the volume to which the player is connected.
- The matter is to describe network benefits in the competitive arena in order to be able to describe how certain structures enhance those benefits, information and control.

<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. Two kinds of benefits: information and control.</td>
</tr>
<tr>
<td>In this book</td>
<td>To be ignored in the book.</td>
<td>Concerned in this book!</td>
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</table>

Information

Access, timing and referrals

- The information benefits of a network define who knows about these opportunities, when they know, and who gets to participate in them.
- Three forms of information benefits: access, timing, and referrals
- Access: The issue is that players are unevenly connected and overwhelmed by the flow of information. The volume of information you can use is limited so 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: There are benefits in the information flow going from you to others. The same information has more legitimacy when it comes from someone inside the decision-making process.

Benefit-Rich contacts

- A player with a benefit-rich networks if he has contacts (1) established in the place where useful information is likely to air and (2) providing a reliable flow of information to and from those places.
- Selecting contacts
  - It is a matter of trust, whom to trust. In the imperfect competitive arena, the matter comes down to a question of interpersonal debt. If I do for her, will she do for me? There is no general and sure answer until the trusted person helps us when we need it.
Strong relationships and mutual acquaintances tend to develop between people with similar social attributes, and link to trust. A personal more like me is less likely to betray me.

- Siting contacts
  - Everything else constant, a large, diverse network is the best guarantee of having a contact present where useful information is aired.
  - Size is the common criterion but a mixed blessing. 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. Opportunity cost is to adding nonredundant contacts to the dense network.

Structural Holes

- Definition: nonredundant contacts are connected by a structural hole. A structural hole is a relationship of nonredundancy between two contacts.

Empirical Indicators of redundancy (A structural hole can be identified if two actors have no...)

- Cohesion: A strong relationship indicates the absence of a structural hole. The strength of relationship is defined by emotional closeness and frequent contact.
- Structural equivalence: Two structurally equivalent people have the same contacts so the information coming to them and the people they send information are redundant.
- The two indicators are neither absolute nor independent; they are correlated. Redundancy is most likely between structurally equivalent people connected by strong relationships.

The efficient-effective network

- Efficiency: To optimize the network efficiency, the first principle is to maximize the number of nonredundant contact. Concentrating on maintaining the primary contact (most easily maintained and most likely to redeem interpersonal debt to you in a network) saves time and energy in keeping a large network.
- Effectiveness: Distinguishing primary from secondary contacts in order to focus resources on preserving the primary contacts. A network with few primary contacts connecting to variety of secondary contacts has broad sources of information and assures you will be informed of opportunities and impending disasters.
- Growth pattern (of efficiency):
  - Figure 1.5: maximum, minimum, decreasing, increasing efficiency in relative to size
  - There are two kinds of clusters in which optimizing size is wiser than efficiency. (1) Leisure and domestic network in which efficiency mixes poorly with friendship. (2) A cluster is of dense resources and worth treating each person in it as primary contact regardless of redundancy.
Structural holes and weak ties

- **History**
  - Harrison White, Ronal Breiger, Scott Boorman, and their colleagues were engaged in studying the importance of gaps in social structural from the late 60s. As people move up the hierarchy, they create opportunities for people below them.
  - Mark Granovetter found the men he interviewed never found job through close contacts and published the article “The Strength of Weak Ties”.
  - Social psychologists, Festinger and Homans found that people live in a cluster of others with whom they have strong relations. Information circulates in within these clusters. Each person tends to know what other people know. Therefore, new ideas and opportunities must come through the weak ties connecting people in separate clusters.

- **Why did Burt create the “structural hole” argument despite the weak tie concept is well-known and simple?** (1) Better name: The weakness of a tie doesn’t bring the benefit but the hole does. Whether a relationship is strong or weak, it generates information benefits when it is a bridge over a structural hole. Granovetter rulled out the strong but nonredundant ties (the forbidden triad). (2) The structural hole argument emphasizes the benefit of control besides information.

  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.

- **Control and pressure are simultaneous products in competition/negotiation. Failure is possible.** If the strategy is successful, the pressure on you is replaced with an element of control over the negotiation.

The essential tension

- **Control emerges from tertius brokering tension between other players. No tension, no tertius.**
- **Where there is any uncertainty about whose preferences should dominate a relationship, there is an opportunity for the tertius to broker the negotiation for control by playing demands against one another.**

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. For example, having the information early is the difference between being the one who brings together contacts versus being just another person who hears about the negotiation.

Entrepreneurs

The issue of motivation, opportunity and motivation

• What prompts a player to pursue the benefits? Negotiation contains a motivational component.
• The control benefits require an active hand in the distribution of information. Not everyone likes to broker the players, but an entrepreneur does.
• An entrepreneur is a person who/ a kind of behavior that generates profit from being between others. The issue is who chooses to have a hand in the distribution of profit.
• Motivation has cultural (good /evil) and psychological (needs/impulse/will…) perspectives, which are considered “push” explanation. The “pull” explanation that is concerned by Burt is the promise of success. A player is more likely to act on the opportunity with clear path to success.
• If your network is composed of contacts from different walks of life, you will end up be the bridger connecting other people. Then the network is its own explanation of motive. Being willing and able to act entrepreneurially is just your social life.
• Motivation and opportunity are treated as the same in this book.

Measurement implications

• Figure 1.7: The association between rate of return on player’s investment (vertical axis) and numbers of structural holes (horizontal axis) is positively with an increasing slope, indicating the increasing likelihood of tertius profit.
• Figure 1.7: Burt expects empirical data will distribute around the association line (shaded grey in Figure 1.7). If players are perfectly rational, they should be clustered around the line. The lower right corner means players underutilizing their entrepreneurial opportunities probably because of variation in motivation.

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 negotiating a relationship.
• Withdraw happens 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
- Secondary contacts are a cluster of redundant players in the competitive arena beyond any one player’s network.
- Given the redundancy within clusters, players are redundant contacts in the same cluster to the extent that they are connected with the same clusters of redundant contacts. In such case, the clusters can be pooled as one big network surrounding substitutable players in a diagram (Figure 1.9).
- 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 vendors 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 the ease with which it can be developed for control and information benefits. When the hole is deep between two individuals, it is easy to play them against one another with tertius strategies.
- Cohesion is a good indicator relative to equivalence. Equivalence is the frame and cohesion is the indicator. Equivalent ties to the same clusters frame two players as competitors in the same market. Cohesion defines the depth of the hole between them.

<table>
<thead>
<tr>
<th>Cohesion btw players</th>
<th>none</th>
<th>strong</th>
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<tbody>
<tr>
<td>None</td>
<td>Hole</td>
<td>Shallow</td>
</tr>
<tr>
<td>strong</td>
<td>DEEP</td>
<td>No hole</td>
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</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 (for investment of time and energy which are limited) keyed to structural holds 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.
Chapter 2 Formalizing the Argument, in *Structural Holes*

This chapter makes the structural hole argument ready for empirical research. Functions of related terms are defined.

**Network data**

- Network data are in three formats: sociometric (binary) data, joint involvement (e.g. counts of times the two actors interact), and direct measure of interaction (e.g. dollars flowing between buyer and seller).
- This chapter assumes the higher value of a relationship variable $Z_{ij}$ indicates a stronger relationship from player $i$ to $j$.

**Potential actions of a player’s network**

1. **Effect size** is the number of nonredundant contacts in the network (Equ 2.1)
   - Effect size can’t capture the secondary contacts envolved.
   - Efficiency is the effect size divided by number of primary contacts. It is between 1 and 0. The smaller the value means the more efficiency.

2. **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 $j$.
   - The measure of constraint (Equ 2.4 on page 55) captures (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.
   - A contact is the strongest constraint if he is most connected with other players in the network. His demand will be the most difficult to avoid or negotiate. Connecting to important (higher constraint) contacts would increase one’s constraint.

<table>
<thead>
<tr>
<th>Redundancy measure, Effect size</th>
<th>Constraint measure</th>
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<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 - Size and density work together. Density increases constraint, less in large networks than in small networks.</td>
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</tbody>
</table>

- Burt additionally mentioned a loosen measure of structural hole to emphasize the effect of network size and density.
- The lack of holes around $j$, including absent primary and secondary holes, is measured as Equ 2.6. Comparing to Equ 2.4, a measure ($O_i$) of “the organization of
players within the cluster around contact j such that it would be difficult to replace j or threaten him with being replaces by some other player in the cluster” is included. Asymmetry doesn’t matter because constraint is based on the degree of exclusive connection, not the direction.

3. Hole signature: summarizing the distribution of opportunity and constraint across each relationship in the network.
   - Hole signature of a player is the distribution of opportunity and constraint across the individual relationships in a player’s network (shaded area in Figure 2.6).
   - Three kinds of relationship: A large band in the hole signature indicates an opportunity relationship. A high and narrow band indicates constraint relationship. A low and narrow band indicates a sleeper, the relationship given little attention in the player’s current activities.
   - Hole signature distinguishes kinds of opportunity and constraint environments in a study population, such as Clique, center-periphery, and hierarchy with leader or not in Figure 2.7.

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 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 ($C_i$).
   - The boundary around a competitive arena is an issue for players outside the arena. The benefits are not available for outsiders so they have to find strategic partners (who are rich in structural holes) in the arena.
     - Figure 2.9 are two empirical model of structural autonomy. One is of markets; the other is of managers. The return rate increases as the access to structural holes increases.

Introduction

- Structural hole theory describe how social capital is a function of the brokerage opportunities in a network. Individuals with relation to disconnected social groups are positioned for entrepreneurial action, building bridges between groups where it is valuable to do so.
- Motivation is an issue in structural hole studies. Network structure can be measured for its entrepreneurial opportunities but opportunities do not by themselves turn into achievement and not every person 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)
5. Hypothesis 3 is valid when position rank in an organization (clerical, technical, junior, middle, senior managers) is considered.
6. Hypothesis 3 is valid when gender and the interaction of gender and structural hole (entrepreneurial net, network constraint) are considered.

--Hy 4 and 5 are not mentioned directly in the article but serves as reference for cautions about the findings.

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.
- Data:
  - 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 of 3 items

Analysis and Result of Hy 1

• 26 personality items are found highly associated with network density, hierarchy, or constraint (Pearson’s $R^2>0.3$). Their clusters of items are selected. Then, the item of lowest score is its cluster is dropped to simply the analysis.
• There are five items statistically proved associated with network structure. They have the highest aggregate correlation (Canonical correlation) with the three network structure properties. (Table 1)
• Predicting constraint variance with personality items, the top 8 items explain 61% of the variance, which is unexpectedly high for the authors.

Analysis and result of Hy2

• The assumption is people who have deeper structural holes see themselves responsible for coordination and change, and they are used to being outsiders brokering conflicts. On the contrary, people in more constraint see themselves as provider of stability and cohesion, thus they are risk-averse supports rather than entrepreneurs.
• The test of association between personality items and network constraint is supported. People having the deepest structural holes claim they are independent outsiders, in search of authority, thriving on advocacy and change.

Analysis and result of Hy3

• Entrepreneur personality index is created by (1) selecting the clusters that are most correlated with network structure; (2) simplifying three items into two in one cluster, one positive, one negative; (3) making items binary. The number of positive items selected is the total score, the higher, the more like entrepreneur.
• The index score is highly correlated with network constraint. (-.74)
• Controlling gender, race, and other properties in Table 2 (variables related to self-selection bias such as enrolled in the evening/weekend program and final grade in course), the association is not affected. (regression, Figure 8)

Analysis and result of Hy4

• Sorting respondents into 3 categories, entrepreneurial networks, cliques, and hierarchical networks (with constraint and hierarchy scores), the logit function shows people have lower entrepreneur personality are more likely to have clique network or hierarchical networks.
Analysis and result of Hy5

Figure 9 (from p.82, the reference study for the limitation of convenience sample of MBA students)

- The association of entrepreneur personality scores and probability of having entrepreneurial networks only exists in clerical, technical, and junior managers.
- The network of middle and senior managers are less discretionary. Networking is part of their job.

Analysis and result of Hy6

- Table 3 (from p.84, the reference study in response to concern about performance)
- Neither personality nor network is associated with job evaluations in the lower ranks.
- In higher ranks, having an entrepreneurial network increase a woman’s job evaluation. There is interaction effect of gender and structural hole.
- High job evaluation is associated with low scores on the personality index.
- In summary, the strength and consequences of association between personality and network structure are complicated. Variables other than gender and rank may involve.

Conclusion

- Personality does vary with structural holes. The few items describe three-fourths of the variance in network constraint.
- The association is consistent with the structural argument. Respondents with least constraint have the entrepreneur personality. The people having higher score of entrepreneur personality index are more likely to have entrepreneur network.
- Caution:
  - It is association, not causality. No causal order is implied.
  - The MRG personality instrument has a large number of items such that some items are significant 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, and Achievement – April 12, 2011
(Summarized by Eunhyoung Kim, PAD637)


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 including the performance of representative government, performance of social institutions such as educational institutions, job placement and many other economic outcomes.

Alexis de Tocqueville’s Democracy in America: various kinds of civic associations in America are the key to America’s ability to make democracy work.

Definition of Social Capital: features of social organization such as networks, norms, and social trust that facilitate coordination and cooperation for mutual benefit.

The benefits of substantial stock of social capital: sturdy norms of generalized reciprocity, emergence of social trust, facilitated coordination and coordination, amplified reputations, lower opportunistic behaviors, successful collaboration, broaden participants’ sense of self that leads to sense of “we” instead of that of “I”.

Focus of the article: contemporary America (Remember that this article was published in 1995!)

WHATEVER HAPPENED TO CIVIC ENGAGEMENT

Changing patterns of political participation

1. American’s direct engagement in politics and government has fallen steadily and sharply over the last generation

   - Evidence1. Decline in turnout in national, state, and local elections over the last three decades
   - Evidence2. Decline in attending a political rally or speech, serving on a committee of some local organization, and working for a political party
2. Americans have disengaged psychologically from politics and government

- Evidence1: decline in American’s trust of government in part due to Americans’ disgust for politics and government caused by political tragedies and scandals
- Evidence2. Weakened “churched society”: decline in membership in “church-related groups” and participation in religious services
- Evidence3. Decline in union membership
- Evidence4. Drastic decline in participation in the parent-teacher organizations
- Evidence5. Striking decline in membership and volunteering for civic and fraternal organizations
  - membership in the national Federation of Women’s Clubs: 59%↓(1964~),
  - membership in the League of Women Voters: 42%↓(1969~)
  - membership in Boy Scout: 26%↓(1970~), Red Cross: 61%↓(1970~)
  - “Regular” volunteering: 24% → 20% b/w 1974 and 1989

3. Increase in people who are “bowling alone”

- Total number of bowlers increased by 10% but league bowling decreased by 40% (b/w 1980 and 1993): increase in the number of solo bowlers and decrease in the number of team bowlers → 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.

COUNTERTRENDS

Tertiary organizations, nonprofit organizations, and support groups have increased.

1. The emergence of new mass-membership organizations
   - E.g. American Association of Retired Persons(AARP), Sierra Club, National Organization for Women
   - However, they can be called “tertiary association” 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.

2. The growth of nonprofit organizations, especially nonprofit service agencies
   - Although the size of nonprofit sector is getting bigger, it does not necessarily mean the increase in social connectedness.

3. Rapid expansion of “support groups” or “self-help” groups (Robert Wuthnow Report)
   - Small groups that meets regularly and provides support or caring for participants
   - E.g. Alcoholics Anonymous, book-discussion groups and hobby clubs
• While these small groups represent an important form of social capital, they do not play the same role as traditional civic associations that lead to community growth because these groups focus more on individuals and show weakest obligations.

The erosion of conventional civic organizations

• Within all educational categories, more Americans are in social circumstances that faster associational memberships, but nevertheless aggregate associational membership appears to be stagnant or declining
• Downward trend of church-related groups, labor unions, fraternal and veterans’ organizations, school-service groups vs. Upward trend of professional associations.

In sum, American social capital in the form of civic associations has significantly eroded over the last generation.

GOOD NEIGHBORLINESS AND SOCIAL TRUST

Informal Social Capital

1. Family: (the most fundamental form of social capital) bonds within the family are loosening consistent with social decapitalization.

2. Neighborliness

• The proportion of Americans who socialize with their neighbors has steadily declined over the last two decades (72% → 61% b/w 1974 and 1993)
• Decrease in social trust: 58% (1960) → 37% (1993)

The Close Correlation between Social Trust and Associational Membership

• 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?

1. 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, declines in participation in men’s organizations

2. Mobility
   - “re-potting” tends to disrupt residential stability which is associated with civic engagement.

3. Other demographic transformations
   - Fewer marriages, more divorces, fewer children, lower real wages, and so on since 1960s
   - Electronic shopping and distant multinational firms

4. Technological transformation of leisure
   - Privatized and individualized leisure time
   - E.g. TV, VCR

WHAT IS TO BE DONE?

1. Sorting out the dimensions of social capital
2. Another set of important issues involved in macrosociological crosscurrent.
3. Cost and benefit calculations of a rounded assessment of changes in American social capital over the last quarter-century
4. How public policy impinges on social-capital formation
5. Study of social capital erosion in other advanced democracies
6. How to recover social connectedness and to restore civic engagement and civic trust.

<Two Intellectual Streams in the Description and Explanation of Social Action>

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<thead>
<tr>
<th></th>
<th>Sociological Stream</th>
<th>Economic Stream</th>
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<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 independently</td>
</tr>
<tr>
<td>view of action</td>
<td>governed by social norms, rules, and obligations/ a product of the environment</td>
<td>acting independently based on independent goals and self-interest/ “rational action”</td>
</tr>
<tr>
<td>Strength</td>
<td>Ability to describe action in social context and to explain the way action is shaped, constrained, and redirected by the social context</td>
<td>Having a principle of action, that of maximizing utility</td>
</tr>
<tr>
<td>Weakness (criticism)</td>
<td>no “engine of action” for the actor “oversocialized” view</td>
<td>Ignoring social context; but social context is important in the functioning of society and economy</td>
</tr>
<tr>
<td>affected theory</td>
<td>Neoclassical economic theory</td>
<td></td>
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<tr>
<td>revision</td>
<td>Maintaining conception of rational action but superimposing on it social and institutional organizations</td>
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**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 (a given form of social capital that is valuable in facilitating certain actions may be useless or even harmful for others)
- inheres in the structure of relations between actors and among actors

**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
- facilitates productive activity

FORMS OF SOCIAL CAPITAL

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

Obligations and expectations, which depend on trustworthiness of the social environment, information-flow capability of the social structure, and norms accompanied by sanctions.

- The concept of social capital identifies certain aspects of social structure by their functions
- 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 without elaborating the social structural details through which this occurs.
- 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.

1. 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.
- In some social structures that “people are always doing things for each other”, the social capital depends on two elements: (1) trustworthiness of the social environment (meaning that obligations will be repaid) 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 in both dimensions: (various reasons) 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.
- 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)
2. **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.

3. **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.
- e.g. Effective norms that make it possible to walk freely outside at night in a city constrain the activities of criminals.

**SOCIAL STRUCTURE THAT FACILITIES SOCIAL CAPITAL**

- Closure of Social Networks
- Appropriable Social Organizations

1. **Closure of Social Networks**

1) 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

![Diagram](image)

**Fig. 1.** — Network without (a) and with (b) closure

- 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.
• Intergenerational closure: relations between parents and child and relations outside the family (See Figure 2. In Fig 2, A: the parent of child B, D: the parent of child C)
  
  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’actions → provides a quantity of social capital available to each parent in raising their children

2) Closure creates trustworthiness in a social structure.  
   • Reputation cannot arise in an open structure  
   • Collective sanctions cannot be applied in an open structure.

2. 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 → 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  
   ➢ Social Capital outside the Family
1. **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]**
   - In 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.
   - The effect of a lack of social capital: high dropping rates out of school.

   **TABLE 1**
<table>
<thead>
<tr>
<th></th>
<th>Percentage Dropping Out</th>
<th>Difference in Percentage Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Parents’ presence:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Two parents</td>
<td>13.2</td>
<td>6.0</td>
</tr>
<tr>
<td>Single parent</td>
<td>19.1</td>
<td></td>
</tr>
<tr>
<td>2. Additional children:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>One sibling</td>
<td>10.8</td>
<td>6.4</td>
</tr>
<tr>
<td>Four siblings</td>
<td>17.2</td>
<td></td>
</tr>
<tr>
<td>3. Parents and children:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Two parents, one sibling</td>
<td>10.3</td>
<td>12.5</td>
</tr>
<tr>
<td>One parent, four siblings</td>
<td>22.6</td>
<td></td>
</tr>
<tr>
<td>4. Mother’s expectation for child’s education:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Expectation of college</td>
<td>11.6</td>
<td>8.6</td>
</tr>
<tr>
<td>No expectation of college</td>
<td>20.2</td>
<td></td>
</tr>
<tr>
<td>5. Three factors together:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Two parents, one sibling, mother expects college</td>
<td>8.1</td>
<td>22.5</td>
</tr>
<tr>
<td>One parent, four siblings, no college expectation</td>
<td>20.6</td>
<td></td>
</tr>
</tbody>
</table>

   *Estimates taken from logistic regression reported more fully in App. table A1.*

2. **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 → less social relations → 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 → 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. Or, reversely the beneficial activity from the point of view of one family yields other persons’ extensive losses including weakened norms and sanctions.
- 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


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.

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 while 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 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.
- 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 (in other words, when incentives for brokerage are no longer visible, the existing structure has reached an equilibrium.)

1 According to Schumpeter, entrepreneurs “have employed existing means of production differently, more appropriately, more advantageously. They have ‘carried out new combinations’” (p. 228)
5.1.4. The Path to 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.
  - 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 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. However, 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.

Two Types of Structural Hole

1. Passive Structural Hole: a hole is passive if bridges across it are readily absorbed into the surrounding social structure.
2. Active Structural Hole: a hole is active if interests attached to the hole resist bridges.

- E.g. Interests can compete to bridge the hole \( \rightarrow \) A bridge established by one group is subject to erosion by the other groups \( \rightarrow \) Progress toward equilibrium with the establishment of a bridge is destabilized. \( \rightarrow \) 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.

- Tilly’s four social mechanisms\(^2\)

\( \rightarrow \) A structural hole is active if one of these four mechanisms is fulfilled.

a) Providing an opportunity for insiders on one side of the hole to exploit outsider on the other side
b) Permitting insiders to hoard opportunities from outsiders
c) Making it easier for insiders to construct new organization based on existing models in which insiders are advantaged
d) 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.

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\(^2\) Tilly’s four mechanisms preserve paired insider-outsider categories such as legitimate vs. illegitimate, our class vs. theirs, citizens vs. foreigners, and other pairs of asymmetric categories (p. 237)
• In the supply-chain manager case, there were brokerage opportunities were abundant, visible and rewarded, but apparently irrelevant.

Why?
• 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.
• 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.

• 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.

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”

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3 There are positive and negative cycles to structural reproduction. Managers surrounded by densely interconnected discussion partners (high network constraint) were likely to have their ideas dismissed by senior management in a negative cycle. On the other hand, in a negative cycle, managers whose networks spanned structural holes (low network constraint) were likely to express and discuss their ideas.