# STRUCTURAL HOLES

## The Social Structure of Competition

RONALD S. BURT

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# Contents

*Acknowledgments* vii

*Introduction* 1

1 *The Social Structure of Competition* 8

Opportunity and Capital 8
Information 13
Structural Holes 18
Control and the *Tertius Gaudens* 30
Entrepreneurs 34
Secondary Holes 38
Structural Autonomy 44
Summary 45

2 *Formalizing the Argument* 50

Network Data 50
Redundancy 51
Constraint 54
Hole Signature 65
Structural Autonomy 71
Summary 81

3 *Turning a Profit* 82

Product Networks and Market Profit 82
The Study Population 85
Hole Effects 91
Market Hole Signatures 100
Summary 110
Appendix: Weighing Alternatives 111

4 *Getting Ahead* 115

Contact Networks and Manager Achievement 115
The Study Population 118
Hole Effects 131

Hierarchy 140
Institutional Holes 148
Selecting a Network 157
Summary 163
Appendix A: Weighing Alternatives 166
Appendix B: Causal Order 173

5 *Player-Structure Duality* 181

Structural Unit of Analysis 181
Players and Structures 185
Escape from Attributes 186
No Escape 190
Summary 192

6 *Commit and Survive* 195

Holes and Heterogeneity 195
Interface and the Commit Hypothesis 197
Population Ecology and the Survival Hypothesis 208
Summary 225

7 *Strategic Embedding and Institutional Residue* 228

The Other *Tertius* 229
Strategy Hypothesis 236
Formal Organization as Social Residue 238
Personality as Emotional Residue 251
Summary 264

*Notes* 271

*References* 299

*Index* 311

# *Introduction*

"This," my colleague smiled, "is what we call a home run." I was in a well-appointed conference room at the top of the building. Panoramic view. State-of-the-art audiovisual. Nice chairs. Good wood. Intense audience. My colleague and I had just explained to the CEO and his senior staff how a former manager, a political entrepreneur of the first order, had seized control of the firm many years earlier by strategically handing out jobs in an area desperate for jobs. Deep cleavages now existed between employees obligated to the entrepreneur and those hoping to make the firm work. The situation had deteriorated to the point of shootings and bomb threats. My colleague and I had ideas for bringing the firm back, but the ideas would have to wait for another day. Today was captive to the history and depth of the problem. The CEO kept turning back to our graphics describing the social structure of his firm. He knew the players. He understood what had happened. "You know," he mused, "they just seemed like waves of turtles coming over the hill; hired as they made it to our door."

He was a skilled engineer and a good administrator. He understood supply and demand in the market for his product. He had been blindsided by a man who better understood the social structure of competition.

That is the subject of this book: how competition works when players have established relations with others. My argument is that much of competitive behavior and its results can be understood in terms of player access to "holes" in the social structure of the competitive arena. Players are connected to certain others, trusting of certain others, obligated to support certain others, dependent on exchange with certain others. Push here and someone over there moves. By dint of who is connected to whom, holes exist in the social structure of the competitive arena. The holes in social structure, or, more simply, structural holes, are discon-

nections or nonequivalencies between players in the arena. Structural holes are entrepreneurial opportunities for information access, timing, referrals, and control. The argument presented in Chapter 1 (with formal details in Chapter 2) explains how players with networks rich in structural holes—players with networks that provide high structural autonomy—enjoy high rates of return on investments. These players know about, take part in, and exercise control over more rewarding opportunities. Competitive advantage is a matter of access to holes.

The conclusions of Chapters 1 and 2 are tested in Chapters 3 and 4. Structural holes turn out to be an advantage in the predicted ways. In Chapter 3, structural holes in product networks are shown to be an advantage for producers negotiating price, an advantage visible in higher profit margins. In Chapter 4, structural holes in the contact networks of senior managers are an advantage in negotiating work, an advantage visible in the speed of manager promotions past one another.

I return to the argument in Chapter 5, where I unpack the connection between player and structure. The unit of analysis in which structural holes have their causal effect is the network of relations that intersect in a player. The intersection is known by various names, depending on the context; it may be termed a role, a market, or a position in social structure. The players in which relations intersect are physical and legal entities: a person, an organization, or a broader aggregation of physical and legal entities. Where an intersection occurs is merely an empirical curiosity; causation resides in the intersection of relations. The distribution of structural holes around the relations that intersect in a person or an organization determines the player's entrepreneurial opportunities and thus the player's competitive advantage. Holes create inequality between organizations as they create inequality between people.

Chapter 1, in focusing on the way in which structural holes are responsible for player differences *between* markets, provides one view of the player-structure duality. Chapters 6 and 7 provide two other views, examining, respectively, player differences *within* and *around* markets as positions in social structure.

In Chapter 6, I argue that structural holes are responsible for heterogeneity and survival within a market. The commit hypothesis is that low autonomy players conform more closely, under threat of being excluded from relationships, to behavior characteristic of their location in social structure. This is a bridge to the interface model of markets (White, 1981a; Leifer, 1985). Empirical evidence on American markets illustrates the point: the lower the structural autonomy of players in a market, the

more they conform to the market schedule characteristic of their market. The corollary survival hypothesis is that higher rates of change—new players replacing old—occur where there is little structural autonomy because there is little room for error. This is a bridge to population ecology analysis (Hannan and Freeman, 1989). The network image of a market is the population ecology image of a niche. Structural autonomy is analogous to niche width. The greater the structural autonomy of a market, the wider the niche, and the more likely that diverse organization forms can survive in the market niche. Illustrative data show that firms survive longer as leaders in more autonomous markets, and structural autonomy decreases the mortality of organizations new to a market.

In Chapter 7, I argue that structural holes are responsible for social and emotional organization as a kind of residue that accumulates in the wake of entrepreneurial players navigating around the constrained relations that define a market. This is a strategy hypothesis: players develop ways to manage their low control in constraint relations and protect their control advantage in opportunity relations. When the constrained player is an organization, the strategy hypothesis is a theory of the firm; the firm is the social residue that results when managers try to ease the constraint of certain market transactions. This is a bridge to the neoclassical theory of the firm (Coase, 1937), resource dependence theory (Pfeffer and Salancik, 1978), and transaction cost economics (Williamson, 1975, 1985). Illustrative data show how corporate hierarchy ties span constraint transactions and avoid opportunity transactions. When the constrained player is a person, the strategy hypothesis is a description of personality as the emotional residue of a person who is trying to manage the loss of control in constrained relationships. The argument is here at its most speculative, developed with illustrations from Sullivan's interpersonal theory of psychiatry, Freudian identification as a defense mechanism, and Bott images of segregated conjugal roles.

This account provides a distant view of the argument. The structural hole is an element of social structure simple in concept, powerful in describing empirical data, with integrating implications for diverse lines of social science theory. The chapter summaries provide a closer view. But before I get into the substance of the argument, let me provide a final orienting view to put the argument in broader comparative perspective.

The structural hole argument has four signature qualities. First, competition is a matter of relations, not player attributes. Second, competition is a relation emergent, not observed. Third, competition is a process, not just a result. Fourth, imperfect competition is a matter of freedom, not

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just power. These four qualities are not individually unique to the structural hole argument. They are jointly characteristic of it.

First, competition is a matter of relation, not player attributes. The structural hole argument escapes the debilitating social science practice of using player attributes for explanation. The relations that intersect to create structural holes give a player entrepreneurial opportunities to get higher rates of return. The player in whom the relations intersect—black, white, female, male, old, young, rich, poor—is irrelevant to the explanation. Competition is not about being a player with certain physical attributes; it is about securing productive relationships. Physical attributes are a correlate, not a cause, of competitive success. Holes can have different effects for people with different attributes or for organizations of different kinds, but these differences in effect occur because the attributes and organization forms are correlated with different positions in social structure. The manner in which a structural hole is an entrepreneurial opportunity for information benefits and control benefits is the bedrock explanation that carries across player attributes, populations, and time. The task for the analyst is to cut past the spurious correlation between attributes and outcomes to reach the underlying social structural factors that cause the outcome. This point is developed in Chapter 5.

Second, competition is a relation emergent, not observed. The structural holes in which competition develops are invisible relations of nonredundancy, relations visible only by their absence. Consider the atavistic driver experiment. You're on the freeway. There is a car ahead of you going 65. Pull up so your front wheels are parallel to his. Stay there. This won't take long. If he speeds up, speed up. If he slows down, slow down. You feel the tension, which you know is also building in the next car. He looks over. Is this a threat? He may slow down, hoping you'll go away. If that doesn't work, and he doesn't feel that his car can escape yours, his anger will only be apparent on his face. If he is more confident, he'll accelerate to get away from you. Let him.

For the moment when you two stood in common time and place, you were competitors. Break the parallelism, and the competition is gone. There is no behavioral relationship between the drivers that is competition. Competition is an intense, intimate, transitory, invisible relationship created between players by their visible relations with others. It is being cheek by jowl with respect to the passing environment that makes the drivers competitors.

The task of analyzing competition is made more difficult by the fact that the structural holes in which competition thrives do not connect the

players we see. The holes connect invisible pieces of players, the pieces we see in any one of the many roles and markets in which the person or firm is a player. I see one piece of you in the office, another on the street, another at home. Each piece has an attendant network of relations with relevant others. The causal force of structural holes resides in the pattern of relations that intersect in each network. That intersection happens in players, but where it occurs is distinct from the causal force released by its occurrence. This is another view of my first point, that people and organizations are not the source of action so much as they are the vehicles for structurally induced action.

These qualities make it difficult to capture competition without conceptual and research tools to represent the social structure of the competitive arena. A growing understanding of competition is one of the important returns on the network analysis ideas developed during the 1970s and 1980s. The social structure of competition is not about the structure of competitive relations. It is about the social structure of the relations for which players compete. The structural hole argument is not a theory of competitive relationships. It is a theory about competition for the benefits of relationships. To explain variation in competitive success, I look beyond the competitors themselves to the circumstances of the relations for which they compete. The terrain on which competition plays out lies beyond the competitors themselves. It lies in their efforts to negotiate relations with other players. When those relations are positioned in social structure such that there is little room to negotiate, the margin between success and failure is slim. The social structure of competition is about the negotiability of the relationships on which competitors survive. This is the essence of the structural autonomy concept.

Third, competition is a process, not just a result. With important exceptions, most theories of competition concern what is left when competition is over. They are an aside in efforts to answer the practical question of how to maximize producer profit. Answering the question requires a definition of how price varies with output. It is convenient to assume that there is a condition of "competition" such that price is constant with output. The presumed competition exists when: (a) there are an infinite number of buyers and sellers known to one another, (b) goods can be divided for sale to any number of buyers, and (c) buyers and sellers are free to exchange without interference from third parties. When goods are exchanged under these conditions, conditions of "perfect" competition, equilibrium prices can be derived that will clear the market. An architecture of powerful theory about price and production follows.[1]

The alternative is to start with the process of competition and work toward its results. This is a less elegant route for theory, but one that veers closer to the reality of competition as we experience it. The structural hole argument is not about the flow of goods. No mechanism is proposed to define the prices that "clear" the imperfectly competitive market. Such a mechanism could be proposed, but it is not my concern here. This book is about the competitive process by which the price and occurrence of transactions is decided. It is about initiating and sculpting the deal, about the process of negotiating the relationships on which competitors survive. Structural holes determine the extent and nature of a player's competitive advantage in that negotiation.

Fourth, imperfect competition is a matter of freedom, not just power. The structural hole argument is a theory of competition made imperfect by the freedom of individuals to be entrepreneurs. In this the theory cuts across the usual axis of imperfect competition.

In the perfectly competitive arena, any party to a transaction has an unlimited choice of partners. Numerous alternatives exist and players are free to choose. The fact of that choice drives price to a minimum. The significance of any one player as an entrepreneur is zero. The structural image is one of relational chaos. Players are free to withdraw from existing relations to join with anyone who better serves their interests. Obligation stops with the execution of the transaction.

Deviations from this image measure imperfect competition, usually defined by the extent to which choice is concentrated in the hands of the strongest player. Stigler (1957:262) concludes his historical review: "If we were free to redefine competition at this late date, a persuasive case could be made that it should be restricted to meaning the absence of monopoly power in a market." At the extreme of perfect competition, every player has an unlimited choice among possible relationships. At the other extreme, choice is concentrated in the hands of a dominant player. Everyone else is assigned to relations by the dominant player. Familiar images include monopolies, cults, village kinship systems, political machines, and fascist bureaucracies. The structural image is one of a completely and rigidly interconnected system of people and establishments within a market. High-obligation relations, with obligation enforced by authority or convention, allow neither negotiation nor the strategic replacement of partners.

Observed behavior lies between these extremes. Control is never absolute; it is negotiated—whether exercised through competitive price, bureaucratic authority, or some other control mechanism. In the most regu-

lated arena, there are special relations through which certain players are able to get around the dicta of the governing mechanism. In the most competitive of arenas, there are relations between certain players that provide them special advantages. Competition is omnipresent and everywhere imperfect.

The extremes of perfect and regulated competition are more similar on one critical point than either is to the reality of observed behavior between them. They are both images of dominance. Players are homogeneously trivial under competitive market pricing and, at the other extreme, homogeneously trivial under the dicta of the dominant player. The dominant player defines fair exchange in the regulated market. Buyer and seller are locked into exchange relations by the dicta of the dominant player. The press of numbers defines fair exchange in the perfectly competitive market. Competition between countless buyers and sellers involves negotiation between alternative relations, not within a relationship. Any single partner in a relationship is a faceless cog, readily replaced with someone else. At either extreme, the lack of negotiation within a relationship denies the individuality of buyer and seller.

But their individuality is the key to understanding competition. The substantive richness of competition lies in its imperfections, the jostling of specific players against one another, each looking for a way to make a difference. In the substantive details of imperfect competition lie the defining parameters of competition. They are the parameters of player individuality. Competition is imperfect to the extent that any player can affect the terms of any relationship. Oligopoly, the extent to which multiple players together dominate a market, is an insufficient answer. The central question for imperfect competition is how players escape domination, whether it is domination by the market or domination by another player.

This is the focus of the structural hole argument—a theory of freedom instead of power, of negotiated instead of absolute control. It is a description of the extent to which the social structure of a competitive arena creates entrepreneurial opportunities for certain players to affect the terms of their relationships.

# 1

# *The Social Structure of Competition*

A player brings capital to the competitive arena and walks away with profit determined by the rate of return where the capital was invested. The market production equation predicts profit: invested capital, multiplied by the going rate of return, equals the profit to be expected from the investment. You invest a million dollars. The going rate of return is 10 percent. The profit is one hundred thousand dollars. Investments create an ability to produce a competitive product. For example, capital is invested to build and operate a factory. Rate of return is an opportunity to profit from the investment.

The rate of return is keyed to the social structure of the competitive arena and is the focus here. Each player has a network of contacts in the arena. Something about the structure of the player's network and the location of the player's contacts in the social structure of the arena provides a competitive advantage in getting higher rates of return on investment. This chapter is about that advantage. It is a description of the way in which social structure renders competition imperfect by creating entrepreneurial opportunities for certain players and not for others.[1]

## *Opportunity and Capital*

A player brings at least three kinds of capital to the competitive arena. Other distinctions can be made, but three are sufficient here. First, the player has financial capital: cash in hand, reserves in the bank, investments coming due, lines of credit. Second, the player has human capital. Your natural qualities—charm, health, intelligence, and looks—combined with the skills you have acquired in formal education and job experience give you abilities to excel at certain tasks.

Third, the player has social capital: relationships with other players.

You have friends, colleagues, and more general contacts through whom you receive opportunities to use your financial and human capital. I refer to opportunities in a broad sense, but I certainly mean to include the obvious examples of job promotions, participation in significant projects, influential access to important decisions, and so on. The social capital of people aggregates into the social capital of organizations. In a firm providing services—for example, advertising, brokerage, or consulting—there are people valued for their ability to deliver a quality product. Then there are "rainmakers," valued for their ability to deliver clients. Those who deliver the product do the work, and the rainmakers make it possible for all to profit from the work. The former represent the financial and human capital of the firm. The latter represent its social capital. More generally, property and human assets define the firm's production capabilities. Relations within and beyond the firm are social capital.

#### DISTINGUISHING SOCIAL CAPITAL

Financial and human capital are distinct in two ways from social capital. First, they are the property of individuals. They are owned in whole or in part by a single individual defined in law as capable of ownership, typically a person or corporation. Second, they concern the investment term in the market production equation. Whether held by a person or the fictive person of a firm, financial and human capital gets invested to create production capabilities. Investments in supplies, facilities, and people serve to build and operate a factory. Investments of money, time, and energy produce a skilled manager. Financial capital is needed for raw materials and production facilities. Human capital is needed to craft the raw materials into a competitive product.

Social capital is different on both counts. First, it is a thing owned jointly by the parties to a relationship. No one player has exclusive ownership rights to social capital. If you or your partner in a relationship withdraws, the connection, with whatever social capital it contained, dissolves. If a firm treats a cluster of customers poorly and they leave, the social capital represented by the firm-cluster relationship is lost. Second, social capital concerns rate of return in the market production equation. Through relations with colleagues, friends, and clients come the opportunities to transform financial and human capital into profit.

Social capital is the final arbiter of competitive success. The capital invested to bring your organization to the point of producing a superb product is as rewarding as the opportunities to sell the product at a profit. The investment to make you a skilled manager is as valuable as the

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