

SUSTAINABLE COMPETITIVE ADVANTAGE: COMBINING INSTITUTIONAL AND RESOURCE-BASED VIEWS

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This article suggests that the context and process of resource selection have an important influence on firm heterogeneity and sustainable competitive advantage. It is argued that a firm's sustainable advantage depends on its ability to manage the institutional context of its resource decisions. A firm's institutional context includes its internal culture as well as broader influences from the state, society, and interfirm relations that define socially acceptable economic behavior. A process model of firm heterogeneity is proposed that combines the insights of a resource-based view with the institutional perspective from organization theory. Normative rationality, institutional isolating mechanisms, and institutional sources of firm homogeneity are proposed as determinants of rent potential that complement and extend resource-based explanations of firm variation and sustainable competitive advantage. The article suggests that both resource capital and institutional capital are indispensable to sustainable competitive advantage. © 1997 by John Wiley & Sons, Ltd.

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A resource-based view of strategic management (Amit and Shoemaker, 1993; Barney, 1986, 1991; Dierckx and Cool, 1989; Mahoney and Pandian, 1992; Wernerfelt, 1984) examines the resources and capabilities of firms that enable them to generate above-normal rates of return and a sustainable competitive advantage. From this perspective, firm heterogeneity in acquiring and deploying resources and capabilities accounts for the generation of economic rents. These enduring firm differences in above-normal returns are a function of firms' abilities to exploit imperfect and incomplete factor markets in obtaining and developing strategic assets.

The resource-based approach focuses on the characteristics of resources and the strategic factor

markets from which they are obtained to explain firm heterogeneity and sustainable advantage. Firm decisions about selecting and accumulating resources are characterized as economically rational within the constraints of limited information, cognitive biases and causal ambiguity (Amit and Shoemaker, 1993; Ginsberg, 1994; Lippman and Rumelt, 1982; Peteraf, 1993; Reed and DeFillippi, 1990). According to this view, it is the rational identification and use of resources that are valuable, rare, difficult to copy, and nonsubstitutable which lead to enduring firm variation and supernormal profits (Barney, 1991, 1992).

Notwithstanding its important insights, the resource-based view has not looked beyond the properties of resources and resource markets to explain enduring firm heterogeneity. In particular it has not examined the social context within which resource selection decisions are embedded (e.g., firm traditions, network ties, regulatory pressures) and how this context might affect sus-

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tainable firm differences (Ginsberg, 1994). Nor has the resource-based view addressed the process of resource selection, that is, how firms actually make, and fail to make, rational resource choices in pursuit of economic rents.

In the spirit of extending the resource-based perspective, this paper's purpose is to provide a model of firm heterogeneity and sustainable advantage that incorporates the social context of resource selection. To this end, a resource-based view is combined with insights from the new institutionalism in organization theory (DiMaggio and Powell, 1983, 1991; Scott, 1987, 1995). Institutional theory examines the role of social influence and pressures for social conformity in shaping organizations' actions. Drawing on an institutional perspective, this paper argues that resource selection and sustainable competitive advantage are profoundly influenced, at the individual, firm, and interfirm level, by the institutional context of resource decisions. The institutional context refers here to rules, norms, and beliefs surrounding economic activity that define or enforce socially acceptable economic behavior. At the individual level, the institutional context includes decision-makers' norms and values; at the firm level, organizational culture and politics; and at the interfirm level, public and regulatory pressures and industry-wide norms. The premise of this paper is that institutional factors surrounding resource decisions affect the potential for firms to earn economic rents.

Based on this premise, the paper introduces a model of sustainable competitive advantage that combines resource-based and institutional factors at the individual, firm, and interfirm levels of analysis. Propositions are developed for each level of analysis, based on the interaction of resource-based and institutional factors, to explain (a) when managers will be more likely to make optimal resource choices, and (b) when optimal resource choices will be more likely to lead to firm heterogeneity and economic rents. The model (Figure 1) is built on two key divergent assumptions of the resource-based and institutional perspectives. These are, respectively, an economic vs. social motivation for human behavior and an economic vs. social explanation for the effects of environment on competitive advantage.

The next sections review the resource-based view and institutional theory. The paper then introduces the proposed model and develops

propositions based on the model at the individual, firm, and interfirm levels of analysis to explain optimal resource decisions and firm heterogeneity. The concepts of resource capital and institutional capital are then introduced to explain how the model can be applied more specifically to the prediction of competitive advantage. The paper concludes with suggestions for future research.

LITERATURE REVIEW

Review of the resource-based perspective

A resource-based view proposes that resource selection and accumulation are a function of both within-firm decision-making and external strategic factors. Within-firm managerial choices are guided by an economic rationality and by motives of efficiency, effectiveness and profitability (Conner, 1991). External influences are strategic industry factors that impact the firm, including buyer and supplier power, intensity of competition, and industry and product market structure. These factors influence what resources are selected, as well as how they are selected and deployed.

Whether resource selection and deployment result in enduring variation across firms will depend on factor market imperfections, defined as barriers to acquisition, imitation, and substitution of key resources or inputs (Barney, 1986, 1991, 1994; Penrose, 1959; Schoemaker and Amit, 1994). These barriers inhibit competitors' abilities to obtain or duplicate critical resources and lead to long-run differences among firms in their ability to generate rents. When strategic factor markets are imperfect or incomplete, they create barriers to resource mobility and an unequal distribution of resources across competing firms (Barney, 1986; Dierickx and Cool, 1989). Resource market characteristics, in turn, shape resource characteristics and the rent potential of resources. The persistence of rents from resources depends fundamentally on the features of the resources themselves. These resource characteristics include whether resources are scarce, unique, inimitable, durable, idiosyncratic, nontradable, intangible and nonsubstitutable (Amit and Schoemaker, 1993; Barney, 1991; Mahoney and Pandian, 1992; Peteraf, 1993; Rumelt, 1984). Rent-generating resource traits develop not only from factor market imperfec-

Level of Analysis

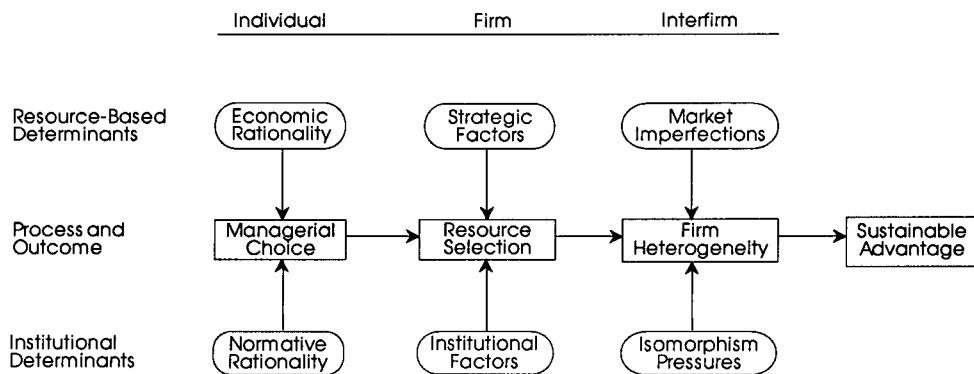


Figure 1. Sustainable advantage: Determinants of the process

tions but also from unique historical circumstances (e.g., a valuable physical location) and the accumulation of specialized capabilities (Barney, 1991).

Therefore, from a resource-based perspective, sustainable competitive advantage is the outcome of discretionary rational managerial choices, selective resource accumulation and deployment, strategic industry factors, and factor market imperfections. Consistent with a strategic orientation, the resource-based view assumes that economic motives drive resource procurement decisions and that economic factors in the firm's competitive and resource environments drive firm conduct and outcomes.

Review of institutional theory

From an institutional perspective, firms operate within a social framework of norms, values, and taken-for-granted assumptions about what constitutes appropriate or acceptable economic behavior. Economic choices are constrained not only by the technological, informational, and income limits that neoclassical models emphasize but by socially constructed limits that are distinctly human in origin, like norms, habits, and customs. The institutional view suggests that the motives of human behavior extend beyond economic optimization to social justification and social obligation (Zukin and DiMaggio, 1990). As partial captives of social convention, individuals and organizations are assumed to be approval seeking, susceptible to social influence, and relatively intractable creatures of habit and tradition

(Scott, 1995; Zucker, 1987). According to institutional theorists, conformity to social expectations contributes to organizational success and survival (Baum and Oliver, 1991; Carroll and Hannan, 1989; DiMaggio and Powell, 1983; Oliver, 1991). As Scott (1987: 498) observes, 'organizations ... conform because they are rewarded for doing so through increased legitimacy, resources, and survival capabilities.' Unlike economic and strategic frameworks, which examine the extent to which firm behavior is rational and economically justified, institutional theorists emphasize the extent to which firm behavior is compliant, habitual, unreflective, and socially defined.

Institutional theorists are especially interested in how organizational structures and processes become institutionalized over time (Meyer and Rowan, 1977; Scott, 1987; Zucker, 1987). Institutionalized activities are those actions that tend to be enduring, socially accepted, resistant to change, and not directly reliant on rewards or monitoring for their persistence (Oliver, 1992). Institutionalized activities for which there is no obvious economic or technical purpose are of particular theoretical interest because their perpetuation cannot be explained by rational choice frameworks. A firm, for example, that retains the same unreliable supplier over a period of years may be perpetuating this institutionalized activity simply out of habit, even though the firm believes such allegiance to be rational. When managers, for example, justify actions with the claim that 'we've always done it this way,' 'everybody does it this way' or 'that's just the way things are done

around here,' they are referring to institutionalized activities. Institutional theorists argue that many activities in firms (e.g., approaches to managing employees, routines for assigning resources) are so taken for granted or so strongly endorsed by the firm's prevailing culture or power structure that decision-makers no longer even question the appropriateness or rationality of these activities.

Institutional theory suggests that institutionalized activities are the result of interrelated processes at the individual, organizational, and interorganizational levels of analysis. At the individual level, managers' norms, habits, and unconscious conformity to traditions account for institutionalized activities (Berger and Luckmann, 1967). At the firm level, corporate culture, shared belief systems, and political processes supporting given ways of managing perpetuate institutionalized structures and behaviors. At the interorganizational level, pressures emerging from government, industry alliances, and societal expectations (rules, norms, and standards about product quality, occupational safety, or environmental management, for example) define socially acceptable firm conduct, and those social pressures common to all firms in the same sector cause firms to exhibit similar structures and activities (DiMaggio and Powell, 1983).

The basic premise of institutional theory, then, is that firms' tendencies toward conformity with predominant norms, traditions, and social influences in their internal and external environments lead to homogeneity among firms in their structures and activities, and that successful firms are those that gain support and legitimacy by conforming to social pressures. In contrast, the basic argument of the resource-based view is that rare, specialized, inimitable resources and resource market imperfections cause firm heterogeneity, and that successful firms are those that acquire and maintain valuable idiosyncratic resources for sustainable competitive advantage.

Resource-based vs. institutional views: Assumptions and implications

The foregoing review indicates that resource-based and institutional views make different assumptions about individual and firm behavior. Institutional theory assumes that individuals are motivated to comply with external social pressures whereas the resource-based view assumes

that individuals are motivated to optimize available economic choices. According to institutional theory, firms make normatively rational choices that are shaped by the social context of the firm, whereas the resource-based view suggests that firms make economically rational choices that are shaped by the economic context of the firm. Institutional theory also suggests that external social pressures (e.g., government regulations, public interest groups) reduce variation in firms' structures and strategies, whereas the resource-based view suggests that factor market imperfections (e.g., factors that inhibit the imitation of resources) increase variation in firms' resources and resource strategies.

Institutional theory, therefore, has several implications for a resource-based view of firm variation: (1) firms can be captives of their own history and make inappropriate resource decisions; (2) sunk costs can be cognitive rather than economic and lead to suboptimal resource choices; (3) cultural support for resource investments may be an important determinant of their success; (4) firms may be unwilling rather than unable to imitate resources and capabilities, especially when those resources lack legitimacy or social approval; and (5) social influences exerted on firms reduce the potential for firm heterogeneity. These implications for resource decisions and firm heterogeneity are elaborated below at the individual, firm, and interfirm levels of analysis.

COMPETITIVE ADVANTAGE: A PROPOSED MODEL

Basic definitions

Figure 1 outlines a process model of sustainable competitive advantage. Looking at the middle row in this model, managerial choice refers to individual-level discretionary strategic decisions that managers make in pursuit of individual and firm gains. Among the choices that managers confront are resource selection decisions, that is, decisions about what resources and capabilities to accumulate or deploy. Resources are input factors controlled and used by firms to develop and implement their strategies; capabilities are capacities to coordinate and deploy resources to perform tasks (Amit and Shoemaker, 1993; Rao, 1994: 29). Valued resources and capabilities, that

is, resources and capabilities that are valued by the firm for their potential to contribute to competitive advantage (what Amit and Schoemaker (1993: 36) define as strategic assets), may be acquired in factor markets (Barney, 1986) or built up through cumulative firm experience and 'learning by doing' (Cool and Dierickx, 1994; Dierickx and Cool, 1989; Reed and DeFillippi, 1990: 91). Examples of valued resources and capabilities include reputation, buyer-supplier relationships, tacit knowledge, R&D expertise, and technological capabilities (Barney, 1991; Mahoney and Pandian, 1992; Rao, 1994; Schoemaker and Amit, 1994).

Differences among firms in the resources they select and accumulate generate firm heterogeneity (Barney, 1991, 1994; Penrose, 1959). As Mahoney and Pandian (1992: 370) observe, 'idiosyncratic physical, human, and intangible resources supply the genetics of firm heterogeneity.' Firm heterogeneity is defined here as relatively durable differences in strategy and structure across firms in the same industry that tend to produce economic rents and a sustainable competitive advantage. Rents in this context are defined as the generation of above-normal rates of return (Peteraf, 1993). Sustainable competitive advantage refers to the implementation of a value-creating strategy (Barney, 1991) that is not susceptible to duplication and not currently implemented by competitors. Therefore, according to the model, managers make selective strategic choices about the accumulation and acquisition of firm resources, and these decisions, in turn, affect the potential for firm heterogeneity and sustainable advantage. The factors that affect this process are proposed in the upper and lower rows of the model and are elaborated in the remainder of the paper.

Individual level determinants of resource choices: Economic vs normative rationality

Whereas resource-based theorists assume that managers make rational choices bounded by uncertainty, information limitations, and heuristic biases, institutional theorists assume that managers commonly make nonrational choices bounded by social judgment, historical limitations, and the inertial force of habit. As opposed to economic rationality which is motivated by efficiency and profitability, normative rationality

refers to choices induced by historical precedent and social justification. Key elements of normative rationality are identified and contrasted with economic rationality in Table 1. It is suggested below that the process of resource procurement and accumulation is often normatively rational, and that this leads to suboptimal resource decisions and the suboptimal use of accumulated resources. Therefore, differences among firms in their management of normative rationality will be an important source of competitive advantage.

Economic and normative rationalities emphasize different choice constraints and inducements. Economically rational resource decisions are value-maximizing choices constrained by imperfect information and uncertainty about future outcomes. From this perspective, resource decisions are vulnerable to decision biases and competitive blind spots (Amit and Schoemaker, 1993;

Table 1. Economic vs. normative rationality: The resource selection process

Characteristics of resource decisions	Type of rationality	
	Economic rationality	Normative rationality
Nature of decision process	Systematic, deliberate, and oriented toward economic goals	Habitual, unreflective, and embedded in norms and traditions
Key decision constraints	Information uncertainty and cognitive biases	Historical and normative context of decisions
Resource allocation process	Value-maximizing	Value-laden
Decision objective	Optimization of resource choices	Justification of resource choices
Nature of sunk costs	Economic	Cognitive
Key resource attributes	Efficiency and inimitability	Longevity and legitimacy
Decision outcomes	Systemic assessment and choice of optimal resources	Suboptimal resource allocations and resistance to resource changes

Ginsberg, 1994; Zajac, 1992; Zajac and Bazer-
man, 1991), as well as causal ambiguity, that is,
limits on the ability to discern the relation
between a firm's bundle of resources and its
performance (Lippman and Rumelt, 1982; Reed
and DeFillippi, 1990). In contrast, normatively
rational resource decisions are value-laden choices
constrained by firm history and the social context
of decision-making. From this perspective,
resource decisions are vulnerable to economic
suboptimization because they occur in the context
of corporate norms and traditions, and these
norms and traditions can limit managers' willingness
to acquire new resources or to change their
current resource portfolios. As Ginsberg (1994:
158) observes, 'strong institutional pressures
abide in the evaluation of current resource allo-
cations and in hindering acceptance of resource
deployments.'

Corporate history and traditions are most likely
to generate suboptimal resource choices when
investments in current resources represent cogni-
tive sunk costs (DiMaggio and Powell, 1991;
Powell, 1991). Cognitive sunk costs are the social
and psychological costs associated with altering
firm habits and routines that prevent firms from
seeking economically feasible alternatives. Cogni-
tive sunk costs include, for example, employees'
fears about learning new skills or competencies,
a firm's reluctance to digress from its founder's
vision, management's concern that resource
changes will erode management's power, and an
unwillingness on the part of the top management
team to be disloyal to corporate traditions. Even
when changes in current resources are eco-
nomically rational, such reluctance to change
occurs for any of three reasons: because individ-
uals find it difficult to alter entrenched organiza-
tional habits and routines; because change to
less familiar practices precipitates fear or uncer-
tainty; or because the replacement of traditional
practices with new ones may be perceived as
socially unjustifiable or disloyal to company
norms and values. Cognitive sunk costs will be
especially prevalent in resource decisions when
the abandonment of familiar routines is disruptive
or inconvenient, when anticipated change gener-
ates insecurity, when changes in resource allo-
cations violate company norms, or when current
resource investments are supported by vested
interests (Amit and Schoemaker, 1993; Oliver,
1992; Powell, 1991; Teece, 1988).

Since the presence of sunk costs means that
managers are reluctant to reassess their resource
decisions, these costs are a potentially important
source of heterogeneity in the resource selection
process. Leonard-Barton (1992: 118) noted, for
example, how the culture at Chemicals corpora-
tion valued chemical engineers over mechanical
engineers, and vested interests supported projects
involving polymers over equipment projects; these
'deeply embedded knowledge sets,' as cog-
nitive sunk costs, created negatively reinforcing
cycles that impeded new product development.

Constraints on optimal resource choices are
also a function of resource longevity. Some
resources owe their distinctiveness and inimita-
bility to their longevity within the firm (Conner,
1991; Teece, 1988; Teece, Pisano, and Shuen,
1997). These history- or path-dependent resources
(e.g., specialized technical expertise, unique R&
D capabilities) are rooted in the history and
culture of firms and derive their value from time
compression diseconomies, that is, from develop-
ment over a long period of time (Amit and
Schoemaker, 1993; Conner, 1991; Dierickx and
Cool, 1989; Powell, 1991; Teece, 1988). Yet it
is the embeddedness of these institutionalized
competencies in history that also increases their
likelihood of being perpetuated without question.
Chrysler's inability to see the value of smaller
car production in the mid-1970s, for example,
was a result of unquestioning conformity to the
firm's historical competencies. Traditional core
competencies have the potential to become 'core
rigidities' that inhibit subsequent development
and success (Leonard-Barton, 1992). As Teece
(1988: 265) has observed, firms have limited
abilities to change their competencies 'because a
firm's learning domain is defined in part by where
it has been.'

Longstanding core competencies typically
become taken for granted as indispensable assets,
not because of their demonstrated superiority
under a variety of competitive conditions, but
because their longevity is considered sufficient
evidence of their value. Xerox, for example, took
for granted that its traditional competence in serv-
icing copiers was a key strategic capability until
Canon 'designed service out of its product' by
substituting superior product design for an exten-
sive service network (Dierickx and Cool, 1989:
1509). These 'competency traps' (Barnett, Greve,
and Park, 1994; Levitt and March, 1988) are

more likely to occur, the longer a particular resource or capability has served a firm, and the more integral its role in the firm's culture and operations. This means that when environmental demands shift, the firm's most deeply rooted competencies may, paradoxically, pose the most serious challenge to sustainable advantage. Stated differently, it is the path-dependent assets in a firm's resource portfolio that may become its most limiting liabilities when competitive conditions change.

To summarize, normative rationality generates the potential for cognitive sunk costs and taken-for-granted conformity to established traditions. These social constraints on resource decisions place boundary conditions on the capacity of firms to acquire valued resources and to make optimal use of existing resources. Valued resources are those with the greatest rent potential among the resources currently available for acquisition and use by firms. As noted earlier, valued resources refer to the firm's strategic assets, that is, those assets that are valued for their potential to bestow the firm's competitive advantage (Amit and Schoemaker, 1993). We can now specify the conditions under which social constraints might limit or support optimal resource acquisition and accumulation.

We would expect that constraints on resource acquisition will be lower when the resources that the acquired resources replace are not central to the firm's operations and identity. For example, General Mill's delay in moving away from its original core business (commodity flour) toward more value-enhancing competencies (Porter, 1980) resulted from the uncertainty and discomfort of relinquishing a core tradition. When a firm has a strong social and operational identification with a competency that is being replaced, the firm will be more reluctant to abandon the competence. The likelihood that a valued resource is acquired will also be inversely related to its departure from firm traditions. The more closely aligned a new resource or capability is perceived to be with firm traditions, the higher the likelihood that it will be acquired. Firm traditions, such as accepted ways of monitoring product quality, handling customers, or promoting products, are socially endorsed routines that become ratified by their longevity. Firms tend to acquire resources that do not violate existing traditions, especially when the appropriateness of

these traditions is so taken for granted that they are no longer even questioned.

Firms will be willing to defy tradition when declining performance, economic crises, or increasingly outdated processes or practices make the need for change more obvious or urgent. For example, a firm will often hire a new CEO or manager under these circumstances to shake up the status quo. A firm will be more likely to acquire new resources when top management no longer values existing resources or capabilities (including human resources) because they are perceived to be obsolete or detrimental to firm performance. These arguments suggest the following propositions:

Proposition 1a: Firms will be more likely to acquire valued resources when the resources that the acquired resources replace are not central to the firm's operations and identity.

Proposition 1b: Firms will be more likely to acquire valued resources when the acquired resources do not depart significantly from firm traditions.

Proposition 1c: Firms will be more likely to acquire valued resources when the resources that the acquired resources replace are no longer valued by top management

The rent-generating capacity of resources emerges not only from those resources that are acquired but also from those that are developed within the firm over time (Barnett *et al.*, 1994; Dierickx and Cool, 1989). As noted earlier, resources and capabilities that are developed and sustained over time are vulnerable to cognitive sunk costs because individuals find it difficult, for reasons of loyalty, fear, or habit, to replace or abandon long-standing traditions and routines. When individuals conform to customary practices for a long period of time, they tend to take the legitimacy of these practices for granted and not question their usefulness. Therefore, a firm will be more likely to make optimal use of accumulated resources when formal periodic evaluations of the effectiveness of long-standing resources and capabilities are conducted. Given the potential force of habit in sustaining current resource practices, employees also need to be continually retrained and updated to ensure that the full

potential of the resource is being utilized, including resource innovations at the margin of the existing resource. In addition, to make optimal use of accumulated resources, the criteria used to hire new personnel and to orient them to the use and value of a core resource or competency will need to be geared toward maintaining and improving expertise in the use of the resource. In a review of the relevance of the resource-based view to human resource management, Wright and McMahan (1992: 302) observed that '[t]he issues ... are the validity of the selection system and whether or not the organization is hiring only the highest ability individuals.' The utility of a core competency will erode over time as personnel turn over if employee selection and orientation programs fail to ensure superior expertise and support for the valued competency:

Proposition 2a: Firms will be more likely to make optimal use of accumulated resources when the effectiveness of these resources is periodically and formally evaluated.

Proposition 2b: Firms will be more likely to make optimal use of accumulated resources when employees are continually retrained to ensure that the full potential of the resources is being utilized.

Proposition 2c: Firms will be more likely to make optimal use of accumulated resources when personnel selection and orientation programs support the use and importance of the resources.

These six propositions, then, specify individual-level factors that are expected to contribute to the optimal selection and accumulation of resources. Even when strategic factor markets are perfectly competitive and firms have potentially equal access to rent-generating resources, firms may earn different rents as a result of differences in the effectiveness of human resource approaches supporting resource selection and deployment.

Firm-level determinants of resource choices: Strategic vs. institutional factors

Thus far we have argued that resource decision-making is a normatively rational process, that normative rationality generates cognitive sunk

costs and tendencies toward conformity with traditions, that these social constraints affect resource optimization, and that the effective management of these social constraints will increase a firm's potential to earn economic rents. At the firm level of analysis, the social context of resource decisions also affects the likelihood of optimal resource use and procurement. This occurs through institutional isolating mechanisms, defined here as low levels of political or cultural support for resource decisions; this lack of support inhibits resource optimization. The term 'isolating mechanism' is normally used to denote imitability barriers which protect a firm's competitive advantage. Institutional isolating mechanisms are barriers to imitation which result from a firm's reluctance to imitate or acquire resources that are incompatible with the firm's cultural or political context.

Isolating mechanisms, according to resource-based theory, are features of resources that prevent other firms from obtaining and replicating them (Mahoney and Pandian, 1992; Rumelt, 1984). Examples include skills, knowledge, and capabilities that are tacit, unique, invisible, complex, or path dependent (Barney, 1991; Dierickx and Cool, 1989; Lippman and Rumelt, 1982; Peteraf, 1993; Reed and DeFillippi, 1990). These 'strategic' isolating mechanisms explain resource mobility barriers as a function of firms' inability to acquire and imitate resources. In contrast, institutional isolating mechanisms explain resource mobility barriers as a function of firms' unwillingness to acquire and imitate resources. An organization's refusal to acquire what it sees as a politically incompatible asset (e.g., a business school's reluctance to develop case method expertise) is an institutional isolating mechanism. A manager's reluctance to acquire particular technological know-how because it contradicts the firm's 'low-tech' culture or violates the company's cultural belief system reflects institutional isolating mechanisms.

Institutional isolating mechanisms can also be involuntary and exogenous. For example, when regulators, local citizens, public interest groups or other firm stakeholders threaten to withdraw support for a firm's products or services if it acquires a particular resource (e.g., an input harmful to the environment), the firm may choose to forego an economically useful resource. Institutional isolating mechanisms exist when other-

wise accessible resources and capabilities that support a competitive advantage are nonetheless rejected by firms because they fail to fit with prevailing cultural norms or political interests. Under these conditions, resources will fail to be acquired and deployed and resource mobility will be low, not because the resources in question lack value or are difficult to acquire or replicate, but because the resources are inconsistent with the firm's historical, cultural, or political context. Stated differently, competition for valued resources among firms will be more limited when the available resources are perceived by firms as culturally objectionable or politically inexpedient. Strategic and institutional isolating mechanisms are contrasted in Table 2.

Disney's reluctance in the 1970s to digress from competencies espoused by its founder, IBM's initial reluctance to switch its core com-

petency from mainframes to microcomputers, and DEC's reluctance to embrace workstation capabilities inconsistent with their VAX machine competencies, all exemplify social rather than strategic barriers to the acquisition and use of resources and capabilities. In these cases, the failure to acquire or deploy resources or competencies was due, not to their inaccessibility or strategic inimitability, but to their perceived inconsistency with the firms' traditional operations and culture. Firms are much more likely to acquire valued resources when resource acquisition does not violate a firm's cultural norms and values (Ginsberg, 1994). In addition, the political support of top management is indispensable to resource acquisition. Moreover, resource acquisitions are much less likely to occur if these acquisitions threaten the power base of the key decision-makers in the organization. Therefore, political expediency is a critical contextual factor surrounding resource decisions. Decision-makers with the formal or informal authority to subvert economically rational resource acquisitions are more likely to do so if the acquisition reduces the decision-maker's power or threatens the scope or viability of the individual's position in the firm. These political and cultural barriers to optimal resource acquisition can be stated in proposition form:

Proposition 3a: Firms will be more likely to acquire valued resources when the acquired resources do not violate the firm's cultural norms and values.

Proposition 3b: Firms will be more likely to acquire valued resources when the acquired resources have the political support of the top management team.

Proposition 3c: Firms will be more likely to acquire valued resources when the acquired resources sustain or increase the existing power of the firm's key decision-makers.

Table 2. Strategic and institutional isolating mechanisms as sources of firm variation

Key dimensions	Strategic isolating mechanisms	Institutional isolating mechanisms
Isolating condition	Firms unable to obtain or deploy resource	Firms unwilling to obtain or deploy resource
Resource mobility barrier	Resource availability	Resource acceptability
Cause of low mobility	Rarity, inimitability, tacitness of resource	Lack of political or cultural support for resource
Value of resource	Defined externally by factor and product markets	Defined internally by firm's culture and dominant coalition
Resource examples	Resources that are scarce, nontradeable and nonsubstitutable	Resources that violate cultural norms or top management's objectives
Source of competitive advantage	Ability to obtain valuable resources for the firm	Ability to mobilize firm support for valuable resources

A key strategic implication of institutional isolating mechanisms is that sustainable competitive advantage will depend on a firm's ability to mobilize the necessary political and cultural support within the firm for the use of value-generating resources. Optimization of resource use is also more likely to occur when management-

employee relations are characterized by trust, defined as mutual confidence that neither party to the exchange will exploit the other's vulnerabilities (Barney and Hansen, 1994: 176; Sabel, 1993). As rent-producing resources develop over time, their optimization is a function of the political and cultural willingness of firm employees to commit to the use of these resources. This is much less likely to occur when trust is lacking between managers and employees. Managers and employees working cooperatively are especially likely to maximize firm capabilities when the partnership is characterized by strong form trust (Barney and Hansen, 1994). Strong form trust exists when 'opportunistic behavior would violate the values, principles and standards of behavior that have been internalized by parties to the exchange' (Barney and Hansen, 1994: 179). Strong form trust obviates the need for elaborate coercive mechanisms to enforce commitment to resource deployment. Optimal use of existing resources will also be enhanced if performance in the use of rent-generating resources is linked formally to the firm's incentive system:

Proposition 4a: Firms will be more likely to make optimal use of accumulated resources when top management is able to mobilize and sustain cultural and political support within the firm for the resources.

Proposition 4b: Firms will be more likely to make optimal use of accumulated resources when manager-employee relations are characterized by trust.

Proposition 4c: Firms will be more likely to make optimal use of accumulated resources when the effective use of resources is tied formally to the firm's incentive system.

In summary, these six propositions suggest that the rent capacity of valued resources is enhanced by maximizing the fit between a firm's resources and the political and cultural context of the firm. This means that firms using equally valuable resources may earn very different returns as a function of the degree of support generated within the firm for the use of these resources. These propositions also imply that strategic and institutional isolating mechanisms may interact to explain competitive advantage. For example, a

firm's proprietary technology will provide a more significant mobility barrier if this technology is incompatible with the existing culture or operations of rival firms. A manufacturing innovation that reduces labor intensity is less likely to be imitated by firms with cultures or policies that limit lay-offs. Therefore, barriers to resource mobility may be both economic and social in origin.

Interfirm causes of heterogeneity: Market imperfections vs. pressures for isomorphism

Up until now we have examined institutional factors at the individual and firm level that constrain optimal resource decisions and have shown that differences in the management of social norms and firm culture at the individual and firm levels can affect a firm's rent potential. Now we ask: are there institutional factors at the interfirm level of analysis that constrain firm heterogeneity and rent potential? At the interfirm level it is suggested that firm variation and rent potential will be a function of institutional influences exerted on firms by external constituents that define socially acceptable firm behavior (Oliver, 1991).

In contrast to resource-based theory's focus on firm heterogeneity, institutional theorists ask 'why there is such startling homogeneity of organizational forms and practices' (DiMaggio and Powell, 1983: 148). Institutional theorists argue that organizations in the same population or industry tend toward similarity over time because they conform to many common influences and are interpenetrated by relationships that diffuse common knowledge and understandings (DiMaggio and Powell, 1983; Jepperson and Meyer, 1991; Meyer and Rowan, 1977; Oliver, 1988; Scott, 1987). From a resource-based view, imperfect and incomplete factor markets are the source of resource mobility barriers that give rise to firm heterogeneity. From an institutional perspective, social and economic interrelations among firms and common dependencies on a range of external actors are sources of pressures for isomorphism or conformity that give rise to firm homogeneity. Isomorphism pressures (DiMaggio and Powell, 1983) refer to influences for conformity exerted on firms by the government, professional associations and other external constituents that define or prescribe socially acceptable economic behavior (Scott, 1995).

These pressures cause firms to tend toward homogeneous structures and strategies (DiMaggio and Powell, 1983).

Applying institutional insights to a resource-based view suggests five main sources of firm homogeneity: regulatory pressures, strategic alliances, human capital transfers, social and professional relations, and competency blueprints. These sources of firm homogeneity all stem from a firm's embeddedness in social and economic relationships (Granovetter, 1985; Oliver, 1996; Zukin and DiMaggio, 1990). These influential relations are, respectively, relations to government, business partners, personnel recruited from competitors, business friends and professional associates, and consultants and other sources for learning about competitors' business practices. These relations reduce firm homogeneity by affecting the distribution and mobility of resources across firms, by exposing firms to common social influences, and by defining what resources firms should be permitted to acquire and deploy.

Regulatory pressures

Regulatory environments constrain heterogeneity by prescribing uniform resource standards, competencies, and ways of deploying resources across given industries and by defining what resources are socially acceptable or permissible as inputs (e.g., safety standards, use of nonhazardous materials). Regulatory pressures include, for example, affirmative action requirements that define acceptable human capital inputs and pollution control standards that prescribe acceptable technological inputs (DiMaggio and Powell, 1983; Meyer and Rowan, 1977). These pressures limit diversity by constraining the range of firms' permitted resource options and by imposing common societal expectations across competing firms about how inputs should be combined and deployed in production.

Strategic alliances

Firm heterogeneity is reduced when a firm is able to overcome barriers to resource mobility and gain access to specialized, tacit capabilities (Reed and DeFillippi, 1990). Strategic alliances allow firms to procure assets, competencies, or capabilities that are not readily available in competitive

factor markets, particularly specialized expertise (e.g., a joint venture to gain access to complex technological or product development capabilities) and intangible assets, such as reputation (e.g., a global alliance formed with a local host to enhance the firm's reputation in the local market). Alliances allow firms to tap into time compression diseconomies and history-dependent competencies that are difficult to trade in strategic factor markets. Other types of interorganizational relations (e.g., corporate board interlocks, firm linkages to the state) can reduce resource barriers as well by facilitating resource information exchange (Carroll, 1993).

Human capital transfers

Sometimes the reputation of a firm or the tacit nature of one of the firm's key competencies resides with particular individuals within the firm rather than with the firm as a whole. When this is the case, tacit or intangible assets become tradeable through human capital transfers between firms. Top management succession and the recruitment from competing firms of key personnel with specialized knowledge or technical expertise are two examples of this. Competencies and capabilities available through transfers reduce asymmetrical distributions of competencies across firms, which in turn reduce firm heterogeneity and opportunities for above-normal returns. As Porter (1980: 172) has observed, 'personnel turnover increases the number of people who have proprietary information and may provide a direct conduit for the information to other firms.' It should be noted, however, that personnel transfers are limited as a means of obtaining competencies because many skills and competencies are not vested in single individuals, but reside instead within the collective skill sets of many employees or within special routines embedded more broadly in the firm's operations and knowledge base (Nelson and Winter, 1982). When skills are diffused through the firm or dependent on collective knowledge, efforts to lure away particular individuals will be a less effective means of acquiring valued competencies.

Social and professional relations

Like strategic alliances and human capital transfers, social and professional relations among firms

exemplify the porous nature of firms' boundaries and the interpenetration of firms within and across industries. Social and professional relations refer to friendship ties, business clubs, industry trade associations, and professional and occupational associations. Trade and professional associations (DiMaggio and Powell, 1983) reduce firm heterogeneity by articulating shared norms, standards, and rules of conduct among competing firms (e.g., product quality standards developed by trade associations, industry-wide ethical codes of conduct, uniform training or credentialing in occupational professions). In addition, the embeddedness of economic behavior and resource exchange in social and professional networks tends to increase trust and shared understanding among firms (Granovetter, 1985), reduce opportunism as a barrier to resource trade, and mitigate search costs in obtaining resource information. Firm diversity is reduced as interfirm relations diffuse shared beliefs and common understandings about what constitutes appropriate resources and competencies.

Competency blueprints

Firms seek out competency blueprints or recipes in several ways, including direct imitation of a successful competitor (e.g., late-mover imitation of a rival's technology), indirect mimicry of role models (e.g., benchmarking), and the use of outside consultants to develop expertise employed by competitors. DiMaggio and Powell (1983: 152) argue that the use of consultants reduces diversity among large firms: 'large organizations choose from a relatively small set of major consulting firms which, like Johnny Appleseeds, spread a few organizational models throughout the land.' From an institutional perspective, the tendencies for organizations to imitate one another are an important source of firm homogeneity and uncertainty reduction (DiMaggio and Powell, 1983; Fligstein, 1985; Galaskiewicz and Wasserman, 1989). When firms copy one another in their approaches to quality control, inventory management, product development, or organizational structuring, the effect is an overall reduction in structural and strategic diversity. From a strategic perspective, imitation is also viewed as a rational alternative to innovation when the risks and development costs of pioneering are high. Effective competency blueprints

reduce firm heterogeneity by increasing the availability and competitors' level of understanding of firm capabilities.

In summary, these five sources of influence on firms, rooted in regulatory and interfirm relationships, tend to reduce firm heterogeneity and resource mobility barriers. These influences are now summarized in the following five propositions:

Proposition 5a: Resource differences will be more likely to lead to firm heterogeneity and differential rents when regulatory environments do not impose similar resource rules and standards on all firms in the same industry.

Proposition 5b: Resource differences will be more likely to lead to firm heterogeneity and differential rents when firms in the same industry possess few intraindustry alliances.

Proposition 5c: Resource differences will be more likely to lead to firm heterogeneity and differential rents when personnel mobility among firms in the same industry is low.

Proposition 5d: Resource differences will be more likely to lead to firm heterogeneity and differential rents when social and professional networks among firms in the same industry are lacking.

Proposition 5e: Resource differences will be more likely to lead to firm heterogeneity and differential rents when firms make limited use of industry benchmarking and competitor imitation.

To summarize, these propositions specify the interfirm-level factors that constrain the likelihood of heterogeneity among firms in the same industry. These propositions suggest that even when the potential exists among firms for differential rents, the regulatory and interfirm context of firms will affect the magnitude of these differences. Therefore, both resources and the institutional context of resources determine firm heterogeneity and economic rents.

APPLICATION OF THE MODEL: RESOURCE CAPITAL AND INSTITUTIONAL CAPITAL

It has been proposed that normative rationality, institutional isolating mechanisms, and isomor-

phism pressures, at the individual, firm, and interfirm levels of analysis respectively, affect firm heterogeneity. How can we apply these ideas more specifically to the promotion of competitive advantage? One way is to conceive of firms as possessing both resource capital and institutional capital. The term 'capital,' as used here, denotes a durable but not necessarily tangible resource or capability that yields services over its lifetime that contribute to sustainable competitive advantage. Resource capital can be defined as the value-enhancing assets and competencies of the firm. Institutional capital can be defined as the firm's capability to support value-enhancing assets and competencies. Institutional capital is the context surrounding resources and resource strategies that enhances or inhibits the optimal use of valued resource capital. For resource capital, the key success factor is the protection and procurement of rare inimitable assets and competencies. For institutional capital, the key success factor is the effective management of the firm's resource decision context. Examples of resource capital include superior distribution channels, lean cost structures, patented core competencies, nonappropriable talent, and customer loyalty (Amit and Shoemaker, 1993). Examples or measures of institutional capital might include training programs that accelerate the adoption of new capabilities within the firm's operations, information technology systems that accelerate the diffusion and use of resource capital, management development programs that promote continuous resource improvement, decision support systems that encourage resource innovations, and interfirm alliances across different industries that facilitate new resource learning and knowledge sharing.

Resource capital and institutional capital, as complementary sources of competitive advantage, might be procured in several ways. Approaches to obtaining or enhancing resource capital include: formal evaluations of resource capital on an ongoing basis to ensure currency and optimal value; interindustry or global benchmarking of resource practices to avoid tendencies to imitate within-industry capabilities that are already accessible and therefore of lower sustainable value; and the cultivation of exclusive interfirm linkages in different industries and countries to maximize the potential for accessing novel, specialized resource information. Different ways to obtain or enhance institutional capital include firm incentive systems

tied to competency sharing and resource innovations, ongoing monitoring of internal cultural and political support for existing resource capital, the development and use of hiring criteria that emphasize resource innovation and leading-edge resource expertise; and the use of decentralized cross-functional team-based structures to facilitate continuous resource improvement and reduce conformity to taken-for-granted resource routines.

Some of the factors that deplete resource capital include security leaks, hiring away of key personnel, and a lack of management emphasis on loyalty and dependability. Factors that deplete institutional capital include stagnant cultures, management loyalty to outdated traditions, low levels of management–employee trust, and vested interests in the status quo. Any efforts to protect firm operations from these depleting factors can also contribute to competitive advantage. Together, the factors that support and deplete resource capital and institutional capital imply particular ideal structural characteristics within firms. These include decentralized structures, incentive systems that reward resource innovations, cross-functional team-based structures to facilitate learning, formal resource evaluation systems, horizontal information technology flows, and employee selection and development programs that emphasize resource expertise and learning. Ideal resource strategies include continual monitoring of customer and competitor perceptions of firm resources, customer-driven resource investments, efforts to reduce personnel turnover around core competencies, management attention to employee buy-in on the purchase and use of key resources, and global benchmarking of core resource practices. The foregoing examples of resource capital and institutional capital are summarized in Table 3. The next, and final, section examines implications for future research.

FUTURE RESEARCH IMPLICATIONS AND CONCLUSIONS

A key implication of this paper is that firms need both resource capital and institutional capital for longer-run competitive advantage. Future research can examine both resource and institutional capital as potential sources of competitive advantage. Resource capital is indicated by a firm's strategic

Table 3. Application of the model: Resource and institutional capital as sources of sustainable competitive advantage

Key aspects	Resource capital	Institutional capital
Definition	Value-enhancing resources and capabilities of the firm	Contextual factors that enhance optimal use of resource capital
Examples	Superior distribution channels, short production cycles, lean cost structures, patented competencies, nonappropriable management talent, loyal customer base, superior management–employee relations	Cultures of continuous improvement, management emphasis on resource innovation, interfirm knowledge sharing, training programs and information technology systems that accelerate resource adoption
Key success factor	Procurement and protection of rare imitable resources and capabilities	Effective management of the resource decision context
Ways to enhance capital	Formal resource evaluation systems, global benchmarking of resource practices, use of interindustry links for resource information, rewards and promotional advances for resource champions, horizontal communication flows	Incentive systems tied to resource innovations and competency sharing, investment in feedback mechanisms on resource performance, hiring criteria based on resource expertise, team-based structures
Factors that deplete capital	Security leaks, hiring away of key personnel, lack of management emphasis on loyalty, trust, or dependability	Stagnant cultures, management loyalty to outdated traditions, vested interests in the status quo

assets (Amit and Schoemaker, 1993: 36), including technological capability, brand management, superior channel access, a favorable cost structure, or R&D capability. Measures of institutional capital include incentive programs that nurture competency sharing, decision support systems that diffuse resource innovations, top management team support for valued resources, and training programs that facilitate resource adoption and learning. Research on the combined effects of resource capital and institutional capital on firm performance might be one approach to testing the paper's ideas (e.g., measures of technological capability could be combined with surveys of top management's opinions supporting the use of this capability). Alternatively, the compatibility between resource use and human resource management practices that support resource use (e.g., compensation systems, training programs) could be investigated and tied to firm performance.

Another implication of the paper's proposed model is that future research on sustainable advantage should focus not only on the attributes of firm resources (e.g., their rarity, uniqueness, or nonsubstitutability) but also on how resources

are developed, managed, and diffused. This suggests that longitudinal studies of the process of resource development and deployment may be another approach to understanding sources of sustainable competitive advantage. Given normative rationality and institutional barriers to resource change, two aspects of the resource deployment process may be especially crucial to sustainable competitive advantage: the speed with which new capabilities are embedded or integrated into the firm's existing knowledge base, and the frequency with which capabilities, once integrated into the firm, are reevaluated and realigned. Future research on the process of resource accumulation and deployment might examine, for example, how firms are able to reduce time compression diseconomies (using intensive personnel training, for example), how firms actively manage their cultures to encourage organizational learning, how firms diffuse new competencies rapidly through the firm (through special communication processes or team-based structures, for example), or how firms mobilize political support for new capabilities that run counter to the firm's traditions. As an institutional perspective suggests,

even highly productive, imitable resources will be of limited value without the organizational will or political support to deploy them.

In addition, researchers need to examine the taken-for-granted aspects of a firm's resource strategies because these institutionalized processes are the most invulnerable to reassessment and realignment. Taken-for-granted practices are often revealed in those firm practices that have endured the longest, were initiated at founding, or are widely shared across firms in the same industry or sector. For this reason, historical, cross-sectoral, or cross-cultural research designs are especially appropriate for identifying taken-for-granted firm activities. Researchers might also conduct qualitative studies of the history of a core competency's development and deployment within a firm, or comparative studies of resource management approaches across strategic groups, industries, or cultures to uncover how institutionalized practices develop.

Finally, theory and research on external sources of competitive advantage should look beyond the resource and market characteristics of firms to government, society, and interfirm relations as important influences on firm variation. Governments create heterogeneity within industries (e.g., patents, monopoly rents) but also reduce heterogeneity by imposing common pressures or standards on firms in the same sector. Since firms differ in their propensities to conform to regulatory and public interest group pressures (Oliver, 1991), the degree to which different firms choose to comply with public opinion, regulatory pressures, and social expectations may be an important source of firm variation. Institutional theory's emphasis on organizational networks also suggests the importance of firms' relations as a potential source of cospecialized and complementary assets. Therefore, the role of strategic alliances as strategic assets or as sources of institutional capital might be a valuable line of inquiry in future research on sustainable competitive advantage.

In conclusion, this article has proposed that the process of acquiring resources and sustaining economic rents is not simply a function of imperfect or incomplete factor markets, but depends more fundamentally on the social context of resource decisions. In support of this premise, this article has developed a model of sustainable advantage that combines institutional and

resource-based perspectives. The development of this model is consistent with Barney and Zajac's (1994) call for an organizationally based theory of competitive advantage and with Rao's (1994) call for more convergence between institutional theory and the resource-based view. This paper also builds on work that adopts a more behavioral approach to the examination of competitive advantage (Amit and Schoemaker, 1993; Barney, 1992; Barney and Hansen, 1994; Ginsberg, 1994; Zajac, 1992).

It has been proposed that at the individual level of analysis, cognitive sunk costs and conformity to firm traditions affect economically rational resource choices and account for firm differences in resource optimization. At the firm level, culture and politics, as institutional isolating mechanisms, are critical determinants affecting resource choices and economic rents; and, at the interfirm level of analysis, the state, professions, and interfirm alliances are important sources of influence that mitigate firm heterogeneity and rent differentials. The key implication of the proposed model is that a firm's ability to generate rents from resources and capabilities will depend primarily on the firm's effectiveness in managing the social context of these resources and capabilities. Future efforts to identify sources of resource capital and institutional capital among competing firms may shed additional light on the management of both resources and the context of these resources for long-term competitive advantage.

REFERENCES

- Amit, R. and P. J. H. Schoemaker (1993). 'Strategic assets and organizational rent', *Strategic Management Journal*, **14**(1), pp. 33–46.
- Barnett, W. P., H. R. Greve and D. Y. Park (1994). 'An evolutionary model of organizational performance', *Strategic Management Journal*, Winter Special Issue, **15**, pp. 11–28.
- Barney, J. B. (1986). 'Strategic factor markets: Expectations, luck and business strategy', *Management Science*, **31**, pp. 1231–1241.
- Barney, J. B. (1991). 'Firm resources and sustained competitive advantage', *Journal of Management*, **17**, pp. 99–120.
- Barney, J. B. (1992). 'Integrating organizational behavior and strategy formulation research: A resource based analysis'. In P. Shrivastava, A. Huff and J. Dutton (eds.), *Advances in Strategic Management*, Vol. 8. JAI Press, Greenwich, CT, pp. 39–61.
- Barney, J. B. (1994). 'Commentary: A hierarchy of

- corporate resources'. In P. Shrivastava, A. Huff and J. Dutton (eds.), *Advances in Strategic Management*, Vol. 10. JAI Press, Greenwich, CT, pp. 113–125.
- Barney, J. B. and M. H. Hansen (1994). 'Trustworthiness as a source of competitive advantage', *Strategic Management Journal*, Winter Special Issue, **15**, pp. 175–190.
- Barney, J. B. and E. J. Zajac (1994). 'Competitive organizational behavior: Toward an organizationally-based theory of competitive advantage', *Strategic Management Journal*, Winter Special Issue, **15**, pp. 5–9.
- Baum, J. A. C. and C. Oliver (1991). 'Institutional linkages and organizational mortality', *Administrative Science Quarterly*, **36**, pp. 187–218.
- Berger, P. L. and T. Luckmann (1967). *The Social Construction of Reality*. Doubleday, New York.
- Carroll, G. R. (1993). 'A sociological view on why firms differ', *Strategic Management Journal*, **14**(4), pp. 237–249.
- Carroll, G. R. and M. T. Hannan (1989). 'Density dependence in the evolution of populations of newspaper organizations', *American Sociological Review*, **54**, pp. 524–541.
- Conner, K. R. (1991). 'A historical comparison of resource-based theory and five schools of thought within industrial organizational economics: Do we have a new theory of the firm?', *Journal of Management*, **17**, pp. 121–154.
- Cool, K. and I. Dierickx (1994). 'Commentary: Investments in strategic assets: Industry and firm-level perspectives'. In P. Shrivastava, A. Huff and J. Dutton (eds.), *Advances in Strategic Management*, Vol. 10. JAI Press, Greenwich, CT, pp. 35–44.
- Dierickx, I. and K. Cool (1989). 'Asset stock accumulation and sustainability of competitive advantage', *Management Science*, **35**, pp. 1504–1511.
- DiMaggio, P. J. and W. W. Powell (1983). 'The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields', *American Sociological Review*, **48**, pp. 147–160.
- DiMaggio, P. J. and W. W. Powell (1991). 'Introduction'. In W. W. Powell and P. J. DiMaggio (eds.), *The New Institutionalism in Organizational Analysis*. University of Chicago Press, Chicago, IL, pp. 1–38.
- Fligstein, N. (1985). 'The spread of the multidivisional form among large firms, 1919–1979', *American Sociological Review*, **50**, pp. 377–391.
- Galaskiewicz, J. and S. Wasserman (1989). 'Mimetic processes within an interorganizational field: An empirical test', *Administrative Science Quarterly*, **34**, pp. 454–479.
- Ginsberg, A. (1994). 'Minding the competition: From mapping to mastery', *Strategic Management Journal*, Winter Special Issue, **15**, pp. 153–174.
- Granovetter, M. (1985). 'Economic action and social structure: The problem of embeddedness', *American Journal of Sociology*, **91**, pp. 481–510.
- Jepperson, R. L. and J. W. Meyer (1991). 'The public order and the construction of formal organizations'. In W. W. Powell and P. J. DiMaggio (eds.), *The New Institutionalism in Organizational Analysis*. University of Chicago Press, Chicago, IL, pp. 204–231.
- Leonard-Barton, D. (1992). 'Core capabilities and core rigidities: A paradox in managing new product development', *Strategic Management Journal*, Summer Special Issues, **13**, pp. 111–125.
- Levitt, B. and J. G. March (1988). 'Organizational learning'. In W. R. Scott and J. Blake (eds.), *Annual Review of Sociology*, Vol. 14. Annual Reviews, Palo Alto, CA, pp. 319–340.
- Lippman, S. and R. P. Rumelt (1982). 'Uncertain imitability: An analysis of interfirm differences in efficiency under competition', *Bell Journal of Economics*, **13**, pp. 418–438.
- Mahoney, J. T. and J. R. Pandian (1992). 'The resource-based view within the conversation of strategic management', *Strategic Management Journal*, **13**(5), pp. 363–380.
- Meyer, J. W. and B. Rowan (1977). 'Institutional organizations: Formal structure as myth and ceremony', *American Journal of Sociology*, **80**, pp. 340–363.
- Nelson, R. and S. Winter (1982). *An Evolutionary Theory of Economic Change*. Harvard University Press, Cambridge, MA.
- Oliver, C. (1988). 'The collective strategy framework: An application to competing predictions of isomorphism', *Administrative Science Quarterly*, **33**, pp. 543–561.
- Oliver, C. (1991). 'Strategic responses to institutional processes', *Academy of Management Review*, **16**, pp. 145–179.
- Oliver, C. (1992). 'The antecedents of deinstitutionalization', *Organization Studies*, **13**, pp. 563–588.
- Oliver, C. (1996). 'The institutional embeddedness of economic activity'. In J.A.C. Baum and J. Dutton (eds.), *Advances in Strategic Management*, Vol. 13. JAI Press, Greenwich, CT, pp. 163–186.
- Penrose, E. T. (1959). *The Theory of the Growth of the Firm*. Wiley, New York.
- Peteraf, M. A. (1993). 'The cornerstones of competitive advantage: A resource-based view', *Strategic Management Journal*, **14**(3), pp. 179–191.
- Porter, M. E. (1980). *Competitive Strategy*. Free Press, New York.
- Powell, W. W. (1991). 'Expanding the scope of institutional analysis'. In W. W. Powell and P. J. DiMaggio (eds.), *The New Institutionalism in Organizational Analysis*. University of Chicago Press, Chicago, IL, pp. 183–203.
- Rao, H. (1994). 'The social construction of reputation: Certification contests, legitimization, and the survival of organizations in the American automobile industry: 1895–1912', *Strategic Management Journal*, Winter Special Issue, **15**, pp. 29–44.
- Reed, R. and R. J. DeFillippi (1990). 'Causal ambiguity, barriers to imitation, and sustainable competitive advantage', *Academy of Management Review*, **15**, pp. 88–102.
- Rumelt, R. P. (1984). 'Towards a strategic theory of the firm'. In R. Lamb (ed.), *Competitive Strategic Management*. Prentice-Hall, Englewood Cliffs, NJ, pp. 556–570.
- Sabel, C. F. (1993). 'Studied trust: Building new forms of cooperation in a volatile economy', *Human Relations*, **46**, pp. 1133–1170.

- Schoemaker, P. J. H. and R. H. Amit (1994). 'Investment in strategic assets: Industry and firm-level perspectives'. In P. Shrivastava, A. Huff and J. Dutton (eds.), *Advances in Strategic Management*, Vol. 10. JAI Press, Greenwich, CT, pp. 3–33.
- Scott, W. R. (1987). 'The adolescence of institutional theory', *Administrative Science Quarterly*, **32**, pp. 493–511.
- Scott, W. R. (1995). *Institutions and Organizations*. Sage, Thousand Oaks, CA.
- Teece, D. J. (1988). 'Technological change and the nature of the firm'. In G. Dosi, C. Freeman, R. Nelson, G. Silverberg and L. Soete (eds.), *Technical Change and Economic Theory*. Pinter Publishers, New York, pp. 256–281.
- Teece, D. J., G. Pisano and A. Shuen (1997). 'Dynamic capabilities and strategic management', *Strategic Management Journal*, **18**, forthcoming.
- Wernerfelt, B. (1984). 'A resource-based view of the firm', *Strategic Management Journal*, **5**(2), pp. 171–180.
- Wright, P. M. and G. C. McMahan (1992). 'Theoretical perspectives for strategic human resource management', *Journal of Management*, **18**, pp. 295–320.
- Zajac, E. J. (1992). 'Relating economic and behavioral perspectives in strategy research'. In P. Shrivastava, A. Huff and J. Dutton (eds.) *Advances in Strategic Management*, Vol. 8. JAI Press, Greenwich, CT, pp. 69–96.
- Zajac, E. J. and M. H. Bazerman (1991). 'Blind spots in industry and competitor analysis: Implications of interfirm (mis)perceptions for strategic decisions', *Academy of Management Review*, **16**, pp. 37–56.
- Zucker, L. G. (1987). 'Institutional theories of organizations', *Annual Review of Sociology*, **13**, pp. 443–464.
- Zukin, S. and P. J. DiMaggio (1990). 'Introduction'. In S. Zukin and P. J. DiMaggio (eds.), *Structures of Capital: The Social Organization of the Economy*. Cambridge University Press, Cambridge, UK, pp. 1–56.