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## RESEARCH NOTES AND COMMENTARIES

# DYNAMIC CAPABILITIES, SOCIAL CAPITAL, AND RENT APPROPRIATION: TIES THAT SPLIT PIES

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*Who reaps the fruits of a dynamic capability? We argue that while social capital is essential for the acquisition, integration, and release of resources at the core of a dynamic capability, actors can also use social capital for personal gain. Thus, social capital may be a key to understanding both rent generation and rent appropriation. Even when causal ambiguity obscures individual contributions, they may use their social capital to establish credible claims on the rent. Specifically, employees who occupy structural holes, span organizational boundaries, or who are highly central may be most able to appropriate rent because their social capital grants credibility to their claims. Rent that is appropriated in this way may be unobservable in performance measures that fail to distinguish normal compensation from rent. We contribute by identifying the specific role of social capital in a dynamic capability and linking social capital to rent appropriation patterns.* Copyright © 2003 John Wiley & Sons, Ltd.

Who benefits when a firm has a dynamic capability? While many have written about dynamic capabilities as a source of advantage in volatile environments (D'Aveni, 1994; Teece, Pisano, and Shuen, 1997; Thomas, 1996), rent allocation has been ignored. Existing research focuses on the organizational forms that successful firms adopt such as social networks that facilitate knowledge integration (Grant, 1996; Volberda, 1996). Moreover, the broader question of who appropriates rent from competitive advantages is under-researched (Barney, 2001). Some scholars implicitly assume that shareholders reap gains by assuming that rent will be observable in measures of profitability (Grant, 2002). However, when employees have bargaining power, rent may be veiled in payments classified as costs that are hard to observe (Castanias and Helfat, 1991; Coff, 1999).

The wide range of organizational forms that a firm with a resource-based advantage may take hampers research on rent appropriation. Since the form depends on many things like the resource being leveraged and the environment, consistent rent appropriation patterns are hard to identify. Therefore, focusing on specific settings, for which the range of organizational forms is narrowed,

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may advance rent appropriation theory. Dynamic capabilities afford a unique opportunity to explore rent appropriation in a specific context. Unlike the broader resource-based view, much is known about organizational designs that are adapted to a volatile environment.

This article contributes in two important ways. First, we identify a central role of social capital in enabling a dynamic capability that has not been fully specified previously. Second, we advance the rent appropriation literature by describing how social capital can be used to predict rent appropriation patterns in the specific context of a dynamic capability. We address these issues in the sections that follow and develop propositions about rent appropriation patterns associated with dynamic capabilities.

## THE ROLE OF SOCIAL CAPITAL IN DYNAMIC CAPABILITIES

It is critical to understand the role of social capital in rent generation in order to anticipate its role in rent appropriation. However, the existing literature on dynamic capabilities has not fully specified a link to social capital. Here, we propose that social capital is a necessary, though not sufficient, condition for a dynamic capability. In order to make that argument, we first define a dynamic capability and social capital. We then examine why social capital is essential for a dynamic capability in terms of facilitating the acquisition, integration, and release of resources.

### What is a dynamic capability?

Eisenhardt and Martin (2000: 1107) define a dynamic capability as the firm's 'processes to integrate, reconfigure, gain and release resources—to match and even create market change.' This allows the firm to generate rent by achieving new forms of competitive advantage (Teece *et al*., 1997). Rent, in turn, is a return received 'in excess of the minimum needed to attract resources' (Milgrom and Roberts, 1992: 603). Since we focus on rent appropriation within the firm,[1] we adopt a stakeholder approach rather than treating firms as monolithic entities. For example, employees may receive compensation in excess of that required to hold them in place. Thus, in a firm with a dynamic capability, all stakeholders would receive at least the minimum required to keep them in place while some receive rent. Rent is often excluded in performance measures (accounting profit, etc.) that cannot distinguish rent from labor costs.

Structural contingency theory offers a starting point for insights about the organizational forms that a firm with a dynamic capability might take. For example, Volberda (1996) suggests that dynamic capabilities are similar to Mintzberg and McHugh's (1985) adhocracy or Burns and Stalker's (1961) organic structure (e.g., flatter and less formal). Thus, Eisenhardt and Martin (2000) describe a product design capability as requiring straightforward procedures for bringing in design elements and combining them anew. Complex or formalized routines are too rigid for a high-velocity setting (Brown and Eisenhardt, 1998).

However, in a volatile environment, structural contingency theory suggests that rivals must also be organic. To produce rent, a firm must be consistently better adapted than its rivals. In this respect, dynamic capabilities are linked to the resource-based view (Barney, 2001). That is, the ability to manage resource flows to create valuable combinations may be a meta-capability. Such firms must simultaneously excel at resource-picking and capability-building (Makadok, 2001). The logic is that firms create a string of 'temporary' advantages by adding (picking), subtracting, and reconfiguring resources, which may amount to a sustained advantage once the full pattern is considered. While any given resource configuration may be imitable, the meta-capability to acquire and manipulate resources may be very hard to replicate.

### What is social capital?

While management literature has focused on the role of social capital in generating rent (Leana and Van Buren, 1999; Nahapiet and Ghoshal, 1998), sociologists typically view social capital in terms of benefits that actors obtain through their social ties (Burt, 1992; Coleman, 1990; Portes, 1998). In his extensive literature review, Portes (1998: 6) defines social capital as 'the ability of actors to secure benefits by virtue of membership in social

[1] External stakeholders like customers or strategic partners may generate and appropriate rent (Dyer and Singh, 1998; Porter, 1980; Teece, 1988). Here we focus on employees and the role of social capital in rent generation and rent appropriation.

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networks.' As Coleman (1988) points out, this is correlated with human capital, but social ties remain distinct from education (years) or training (hours), the most common measures of human capital.

We use this individual-level definition, which dominates the sociology literature, because it is more appropriate to our research question than organization-level definitions (Leana and Van Buren, 1999). The individual-level definition especially highlights how social capital contributes both to rent generation and rent appropriation—our core question.[2] In contrast, organization-level analysis presumes that rent accrues to the 'firm' but offers no tools for understanding rent appropriation within firms (e.g., employees vs. shareholders). Similarly, social capital may be studied at intermediate units of analysis (group, division, etc.). Still, we would be left with the question of who, within these units, would appropriate rent. Thus, we assume that individuals draw on social capital to perform their jobs and thereby secure organizational rewards (Seibert, Kraimer, and Liden, 2001)—generating rent is often consistent with employees' personal goals.

## Social capital and a capability to manipulate resources

We propose that social capital is an essential component of a dynamic capability in that it enables resource management—a defining aspect of such a capability.[3] Below, we describe how individuals' social capital allows firms to acquire, integrate, recombine, and release resources—the key tasks that Eisenhardt and Martin (2000) identify. We draw on existing research that, while not overtly aimed at dynamic capabilities, helps us understand how social capital is linked to each element of resource manipulation. We especially explore the role of weak ties as sources of resources that avoid the structural rigidities associated with strong ties.

### *Acquiring resources*

Social capital facilitates the acquisition of resources by promoting a constant flow of information from diverse sources. External social ties may be especially critical for acquiring resources. For instance, Fernandez, Castilla, and Moore (2000) showed how employees' personal contacts yielded significant cost savings in recruiting and training. Personal ties may also be a driving force behind resources obtained from interfirm networks where the relationships depend on specific individuals (Dyer and Singh, 1998). Similarly, research on communities of practice suggests that individuals' external social ties grant firms access to valuable knowledge bases (Brown and Duguid, 1998). For example, Bouty (2000) found that social ties among R&D scientists helped firms acquire intellectual resources.[4] Weak ties are essential for this process since they bring in information and resources but do not resist reconfiguring, as do strong ties (Granovetter, 1974).

Absent social capital, firms would be unable to sustain the flow of resources and information needed in a volatile environment. Consider, for example, entrepreneurs competing to obtain funding. At the early stages, many more proposals appear lucrative than can be funded and venture capitalists must rely on signals beyond the quality of business plans (Sacks, 2002). As such, it is not surprising that entrepreneurs need both sound ideas and social contacts (Shane and Cable, 2002). Similarly, human capital (education, training, skills, etc.) will not bring in critical new resources unless it is coupled with social networks.

### *Integrating and recombining resources*

Social capital may also help us understand how resources are integrated and recombined in firms with dynamic capabilities. For example, Grant (1996) argued that social capital is a key mechanism behind knowledge integration. Nahapiet and Ghoshal (1998: 250–252) similarly stated: '... social capital facilitates the development of intellectual capital by affecting the conditions necessary for exchange and combination to occur.'

[2] Also, see Portes (1998) for a discussion of the serious problems associated with aggregate definitions.

[3] Social capital may also have negative effects such as increased turnover costs (Dess and Shaw, 2001) or locking actors into obsolete ties (Gargiulo and Benassi, 1999). We restrict our review to those aspects that enable dynamic capabilities.

[4] Although external ties can also lead to knowledge spillover, that is not the focus of this article.

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As social networks develop, they enable novel resource combinations by making new possibilities more salient. For example, social ties facilitate inter-unit resource exchanges that promote product innovation (Tsai and Ghoshal, 1998). Hargadon and Sutton (1997) linked IDEO's product design success to brainstorming sessions at which engineers shared information about other projects. Successful designs resulted more from interactions among engineers than individuals' knowledge (e.g., human capital). Again, weak ties foster information transfer without rigid structures that become ossified over time (Ahuja, 2000; Hansen, 1999).

Absent this social capital, resources remain unconnected and opportunities go unrealized. For example, Xerox's PARC R&D facility invented the graphical user interface, computer networks, and a host of other frame-breaking innovations. However, because management isolated the facility from the rest of the firm, it was poorly networked and the promise was never realized although Xerox had the requisite complementary resources (technical, human, financial, etc.). Had the R&D facility been better connected, they could have influenced top management and the sales force to be more committed to the computer business and bring the innovations to market.

### *Releasing resources*

In mobilizing resources for one purpose, social capital also acts to release other resources. When individuals can release or set aside some relations in favor of others, they and the firm gain flexibility and access to new resources. For example, employees often exit top accounting firms to take positions on the client side. While the firm technically releases these resources, they remain valuable as a source of business—the ties don't disappear. The reconfigured social ties may serve both the exiting individual and the accounting firm. The relatively weak ties in a dynamic capability make it easier for individuals and the organization to relinquish resources while keeping its identity intact.

### Other necessary conditions for a dynamic capability

In sum, without individuals' valuable internal and external social ties, firms would be unable to acquire, recombine, and release resources, making them maladapted to a volatile environment. Social capital provides essential information about opportunities to acquire and integrate resources. Moreover, weak ties facilitate the continuous reconfiguring required in this setting.

Other elements such as an organic structure, shared culture, language, and simple routines are also required. Some are antecedents or requirements for developing social capital (Leana and Van Buren, 1999; Nahapiet and Ghoshal, 1998). Others may be important independently. Thus, social capital may not be the only element required for a firm to have a dynamic capability.

*Proposition 1: Social capital is a necessary (though not sufficient) condition for the existence of a dynamic capability.*

## SOCIAL CAPITAL AND RENT APPROPRIATION FROM DYNAMIC CAPABILITIES

If rent is generated from social capital as suggested, we assume that actors will make claims on the rent in order to increase their share (Coff, 1999). The question becomes: Whose claims will be successful? We believe that social capital plays an equally important role in the rent appropriation process as a signal of which claims will be honored.

While the prospects for rent appropriation are a function of stakeholders' power (Hickson *et al.*, 1971; Pfeffer, 1982), the strategy literature has not explicitly linked this to social capital. For example, Coff (1999) describes how employee bargaining power may stem from: (1) an information advantage, (2) the high cost associated with replacing essential individuals, and (3) opportunities key individuals have to move to other firms. Coff did not consider social capital as a determinant of bargaining power, nor is it the focus of other treatments of rent appropriation in the strategy literature (Castanias and Helfat, 1991; Peteraf, 1993).

Yet, the very definition of social capital—benefits that actors secure through social networks—anticipates its role in rent appropriation. Social capital translates into increased power in a number of ways. The most obvious is that individuals can use ties to lobby directly for personal interests. Social ties create reciprocal obligations

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so those making allocation decisions may feel beholden to those with whom they have ties. For example, Belliveau, O'Reilly, and Wade (1996) identify how CEOs use social capital to co-opt compensation committees.

Beyond this direct effect, social capital increases bargaining power in other ways along the dimensions Coff (1999) described. First, social ties grant stakeholders access to strategic information that enhances bargaining power (Burt, 1992, 1997). Second, the most critical ties may be irreplaceable since they are based more on personal relationships than formal authority. Such social capital-rich individuals, such as corporate 'rainmakers,' at the apex of inter- and intra-firm ties can both enable and preempt rent generation—granting them immense bargaining power. Finally, the external ties that bring in critical resources may enhance job mobility. Actors with key boundary spanning ties can often move easily to other firms despite being hard to replace (Dess and Shaw, 2001). For example, Granovetter (1974) used the weak ties concept to stress how information available through acquaintances facilitated job searches.

In sum, while social capital plays a central role in helping firms acquire and integrate key resources, it simultaneously enhances employees' bargaining power by: (1) granting access to strategic information, (2) increasing their replacement cost, and (3) increasing their mobility to other firms so they can offer a credible threat to leave the firm.

*Proposition 2: The social capital underlying a firm's dynamic capability enables internal stakeholders to both generate and appropriate rent.*

## Causal ambiguity and rent appropriation

In the context of rent appropriation, the issue of whether the rent-generating resource is easily linked to the outcome would seem to be important. That is, an individual should be better positioned to appropriate rent if it is clear that his/her social ties are needed to generate the rent. This link between appropriability and causal ambiguity is implied in the literature. Barney (1991) indicates that when key players are known, rivals will pay handsomely to hire them away—the threat of which forces firms to share rent with key individuals. The implicit assumption is that if key individuals are not known (e.g., high causal ambiguity), they cannot appropriate rent and it will be observable in firm performance and flow to residual claimants (e.g., shareholders).

Some suggest that dynamic capabilities are actually simple and causal links between the resource or capability and the rent creation may be easy to establish (Eisenhardt and Martin, 2000). Since this has not been fully resolved in the literature, we explore both low and high causal ambiguity contexts. Ultimately, as we shall see, causal ambiguity may have little effect on the overall amount of rent appropriated by employees. In fact, ambiguity may allow more actors to make claims on the rent, and there is little evidence available to discredit such claims.

### *Low causal ambiguity*

We begin with the more straightforward context in which, as Eisenhardt and Martin (2000) suggest, the causal link between social ties and firm performance is understood (e.g., low causal ambiguity).[5] The fact that rivals may try to hire away key players has important implications for rent appropriation. For example, a central actor who is clearly responsible for integrating the firm's knowledge for a product innovation should be able to leverage that contribution into claims for increased compensation based on the product's success. In general, claims will seem quite credible if the actor can be tied directly to rent generation.

The *en masse* defections and hirings that marked many financial service firms in the late 1990s are illustrative (Schonfeld, 1998). Frank Quattrone's flight from Deutsche Morgan Grenfell to Credit Suisse First Boston, along with his 100-person team, demonstrates the effect of knowing key individuals responsible for rent generation. Quattrone contributed greatly to the tech IPO business both through his management and networks. Yet he also benefited personally when his team loyally followed him to a rival firm to garner more pay.

Thus, in a low causal ambiguity setting, the key contributors are apparent and their claims

[5] Absent causal ambiguity, an advantage might seem unsustainable. However, causal ambiguity is one of several isolating mechanisms (Lippman and Rumelt, 1982). Others such as social complexity might still hinder imitation by rivals (Barney, 1991).

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to the rent will seem credible. Evidence of their contribution will be sufficiently strong that they can offer a credible threat that their exit will stop rent production.

### *High causal ambiguity*

Despite the discussion above, dynamic capabilities are most often thought of as shrouded in causal ambiguity (Lei, Hitt, and Bettis, 1996). Indeed, this follows from what we know about social capital: 'transactions involving social capital tend to be characterized by unspecified obligations, uncertain time horizons, and the possible violation of reciprocity expectations' (Portes, 1998: 4). Social capital, then, may serve as a barrier to imitation due to the associated causal ambiguity (Barney, 1991).

As stated, the implied assumption in the strategy literature is that high causal ambiguity hinders employee rent appropriation and more rent will flow to residual claimants (e.g., stockholders). To see this, we might begin by describing this setting as an extreme case of the team production problem identified by Alchian and Demsetz (1972). They wrote that for team-based tasks in which individual contributions are unknown, the transaction cannot be governed in spot markets. However, internalizing the transaction may not eliminate the problems if individual performance remains unobservable. Since both monitoring and incentives tend to fail in this context, Ouchi (1980) argues that the firm's culture and socialization must substitute for financial incentives. From this, some might infer that internal stakeholders cannot appropriate rent from a dynamic capability under conditions of high causal ambiguity because incentives will lack legitimacy. This might be considered the received view in the strategy literature.

However, we take a very different position. Causal ambiguity does not necessarily create a power vacuum just because the evidence linking individuals to rent production is weak. Ambiguity increases the self-serving bias (Dahl and Ransom, 1999)—the tendency to take credit for successes when causality is unclear (Bettman and Weitz, 1983; Zaccaro, Peterson, and Walker 1987). Equally important, many of their claims on the rent may seem legitimate since they would be hard to disprove. Here, individuals may believe that high levels of compensation are justified and earned (Louie, Curren, and Harich, 2000). Even the investing public found self-serving attributions in corporate annual reports convincing; stock prices improved following letters to shareholders with self-serving attributions (Staw, McKechnie, and Puffer, 1983).

That said, not all claims may be viewed as equally legitimate. If credit allocation is difficult, then the 'fair' allocation of compensation may also be hard. Boundedly rational decision-makers may seek signals that allow them to satisfice or approximate fair solutions (Simon, 1957; Cyert and March, 1963). Social capital may provide such a signal. Social capital may facilitate both making claims over rent and determining the credibility of claims. Even under causal ambiguity, the firm would remain dependent on social capital (as opposed to formal structures or routines). Accordingly, social capital should continue to be a major driver of power.

IDEO might be one example of a firm with a dynamic capability characterized by high causal ambiguity. Sutton and Hargadon (1996) noted that clients even paid for IDEO's social capital directly—per brainstorm. Yet, causal ambiguity created problems when 'managers sometimes complained they didn't get enough credit' (Sutton and Hargadon, 1996: 705). While Hargadon and Sutton do not discuss rent appropriation, the concern about credit is, most likely, linked to claims on the rent.

Entertainment industries might offer an even clearer example. While much sociological research has pointed to the importance of networks for achieving career success in the film industry, it is unclear exactly what makes a blockbuster (Faulkner and Anderson, 1987). Nevertheless, stars continue to command salaries that may exceed their individual contributions and understate the value added via interactions with a talented director or producer. Accordingly:

> *Proposition 3a: High causal ambiguity encourages a wide range of actors to claim rent due to a self-serving bias.*

> *Proposition 3b: Under high causal ambiguity, social capital is a primary means of establishing the credibility of claims due to managers' bounded rationality and the lack of clear evidence confirming or contesting claims.*

By definition, then, social capital helps individuals to secure benefits just as it contributes to

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rent generation. We argue that neither low nor high causal ambiguity will preempt appropriation. Rather, when causal ambiguity is low, individuals can make clearer, stronger claims to rent via enhanced power. When causal ambiguity is high, individuals will still make claims as the allocation of credit is hard and bounded rationality may make many claims appear legitimate.

## Social indicators of increased bargaining power: Who gets the rent?

We have argued that social capital is an underlying feature of a dynamic capability and that it is likely to play a major role in rent appropriation. How, then, can we use what we know about social capital to predict who will reap the gains from a dynamic capability?

Drawing on the structural dimension of social capital (Burt, 1992; Freeman, 1977; Nahapiet and Ghoshal, 1998), we anticipate that there are powerful positions in a firm's social network from which actors may be especially able to appropriate rent. In particular, highly central individuals or those occupying structural holes may enjoy enhanced bargaining power. In varying degrees, these have been discussed in the sociology literature in terms of their role in securing socioeconomic benefits (Coleman, 1988; Portes, 1998). We draw on this research to make inferences with respect to the specific context of a dynamic capability.

### *Structural holes*

Burt (1992) has argued for the importance of structural holes in rent appropriation. When an individual occupies a network position between otherwise unconnected actors, he/she may serve as a broker for information or resources and can extract rents for intermediation services. In an empirical test, Burt (1997) found that promotions and compensation depend on the extent to which individuals control unique ties to key resources. While structural hole theory is not new, our assertion that it is a key mechanism enabling individuals to appropriate rent within the specific context of a firm with a dynamic capability is novel.

Burt (1992) argues that structural holes facilitate efficiency because they reduce the number of ties in the system as a whole. A firm with a dynamic capability requires unique sources of information about the environment, suggesting a heavy reliance on individuals who occupy structural holes. When external relationships are stable, such boundary-spanning ties are governed by well-specified routines and easily replaceable actors. For example, Wal-Mart can easily replace a liaison to a supplier without jeopardizing the relationship.

However, in the case of a dynamic capability, such ties are idiosyncratic and transitory—they are not governed by rigid routines and standards. Accordingly, more personal attachments are formed and individuals are not easily replaced (Luo, 2001; Seabright, Levinthal, and Fichman, 1992). Furthermore, the external ties may make such individuals especially mobile. Together, these effects should grant such individuals significant power with which to appropriate rent.

### *Network centrality*

Centrality refers to an actor's position in a network.[6] A 'central' individual would have ties throughout the network and thus enjoy a broad span of influence. In general, such individuals gather and disseminate information from their many contacts. In addition, since many of the problems faced in a fast-paced environment are nonroutine (Lei *et al*., 1996), the coordinating role of central individuals must substitute for formal routines and authority to mobilize the firm. These individuals then turn the information into initiatives to reconfigure or reorder the network in response to emerging threats or opportunities. Thus, central individuals may be a key source of nimbleness at the heart of a dynamic capability.

Given the role of central individuals in rent generation, such actors may wield significant bargaining power (Ibarra, 1993). First, top management will need ties with central individuals in order to assure the timeliness of their information (both external and internal) and to convey the directives to redeploy resources. As such, central individuals may exploit their ties with top management and draw power from their high replacement cost and access to information.

In sum, other things being equal, rent from a dynamic capability is likely to flow to individuals who occupy structural holes and those with a high degree of centrality:

[6] This should not be confused with centralization or top-down management. Centrality refers to well-connected actors and not to their management style or the number of levels in the hierarchy.

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*Proposition 4: Social capital enables actors occupying structural holes and highly central positions to generate and appropriate rent in a firm with a dynamic capability.*

It may not seem novel to presume that network structures facilitate rent appropriation. However, in other theories of rent generation, social capital plays a smaller role and has less impact on rent appropriation. For example, in stable settings, coordination can be accomplished using standardized routines designed to cope with recurring problems (Nelson and Winter, 1982) and even key individuals have limited impact (Kerr and Jermier, 1978). As the Wal-Mart supplier liaison example shows, a structural hole may not allow rent appropriation for routinized transactions. Thus, our argument is specific to rent generated from a dynamic capability.

A final point that should be clear is that stakeholders compete with each other for rent. If there are many powerful actors, the value of any one actor's position may be diminished. This is much like Burt's (1997) discussion of how the value of social capital depends on how unique it is. Nevertheless, while intense competition among internal stakeholders may lower any one actor's ability to appropriate rent, it does not imply that rent is left on the table for shareholders. Rather it is divided more evenly among powerful internal stakeholders.

## CONCLUSION AND IMPLICATIONS

This essay has contributed in two ways. First, we drew an explicit link between social capital and dynamic capabilities (Proposition 1). Second, we explored how social capital influences who reaps the gains (Propositions 1–4). Ultimately, the social capital underlying a dynamic capability may also suggest who appropriates that rent. This is important because it leads us to predict that some rent from such a capability may fail to register in many traditional performance measures. The 'bottom line' may be that much of the rent is appropriated before the bottom line is calculated (Coff, 1999).

We have offered specific predictions about who may be in a position to appropriate rent from such an advantage. Our use of the social capital and social network literatures has offered some insights about where strategy scholars might look for hidden rent. These literatures also offer measures for testing the propositions we have advanced. More than likely, Proposition 4 is the most easily tested. This would involve relating measures of network structure (structural holes, centrality, etc.) to individuals' rent appropriation (compensation, promotions, etc.). These should be more strongly associated with appropriation in firms that rely heavily on social networks such as those with dynamic capabilities. To date, links between networks and individual outcomes have not differentiated between firms in dynamic environments and those in more stable settings. These effects could be differentiated from returns to human capital by simply including measures of education and training.

Proposition 3 might be tested by comparing the return on social capital in ambiguous settings where individual contributions are hard to observe (product development) to the return on social capital in contexts where key individuals are known (e.g., sales). Here the key questions would revolve around whether a greater number of people make claims about their role and importance to the firm's success when there is ambiguity about individual contributions.

Testing of Proposition 1 is complicated by the fact that it is hard to identify a sample of firms with dynamic capabilities—there is little empirical research on the topic. Nevertheless, studies of firms that compete in dynamic environments might confirm that social capital plays a key role. Indeed, measures of social capital might be more strongly correlated with firm performance in volatile environments than in stable environments.

More broadly, this article underscores the need to couple research on competitive advantage with a stakeholder view of the firm that allows us to disaggregate rent appropriation patterns. Here, we have made predictions about who will appropriate rent by drawing on existing theory of the rent generation process. Future research should explore other theories of rent generation in specific contexts in order to predict rent appropriation patterns.

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