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The resource-based view of the firm: Ten years after 1991

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Abstract

At present, the resource-based view of the firm is perhaps the most influential framework for understanding strategic management. In this editor's introduction, we briefly describe the contributions to knowledge provided by the commentaries and articles contained in this issue. In addition, we outline some additional areas of research wherein the resource-based view can be gainfully deployed.

1. Introduction

Ten years ago, Jay Barney edited a special forum in this journal on the Resource-Based View of the Firm (Barney, 1991). In his article in the special issue, Barney argued that sustained competitive advantage derives from the resources and capabilities a firm controls that are valuable, rare, imperfectly imitable, and not substitutable. These resources and capabilities can be viewed as bundles of tangible and intangible assets, including a firm's management skills, its organizational processes and routines, and the information and knowledge it controls. In the intervening decade, the diffusion of the resource-based view (RBV) in strategic management and related disciplines has been both dramatic and controversial and has involved considerable theoretical development and empirical testing. As such, it seemed timely to organize a new special issue that attempts to assess the past contributions of the RBV as well as presenting forward-looking extensions.

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To assess the impact of the RBV since 1991 we adopted a dual approach. First, contributors to the 1991 issue were asked to revisit their earlier articles and consider developments over the intervening decade in short commentary papers. All but one of the original authors was able to provide such an analysis. Second, new full-length papers analyzing the impact of the RBV on specific subject areas were solicited. These subject areas included Human Resource Management, Economics, Entrepreneurship, Marketing, and International Business. All papers have been double blind reviewed. Our hope is that these papers will have impacts that parallel those of the original offerings.

The purposes of this introductory paper are (1) to summarize and synthesize the contributions of the articles offered in this issue and (2) to lay out a research agenda for important areas not covered in the articles.

2. 1991 Revisited

Barney's 1991 article was positioned relative to the structure-conduct-performance (SCP) paradigm in economics. Revisiting this article, Barney (2001a) discusses the implications of linking the RBV to the neoclassical microeconomics and evolutionary economics literatures. Situating the RBV in relation to neoclassical microeconomics would have helped address issues concerning whether or not equilibrium analysis can be applied in resource-based analyses, whether the RBV is tautological, and identification of attributes of resources and capabilities that lead them to be inelastic in supply. Positioning the RBV against evolutionary economics would have helped develop arguments concerning how routines and capabilities change over time. Barney points out that all three perspectives have been developed over the last decade and provide a body of related yet distinct resource-based theoretical tools that can be applied in different ways in different contexts.

Mahoney (2001) revisits Conner's (1991) paper to provide an alternative perspective on the similarities and distinctions between RBV and transaction cost economics (TCE), questioning Conner's argument that the fundamental difference is that the former focuses on the deployment and combination of specific inputs while the latter focuses on the avoidance of opportunism. Mahoney argues that to continue to develop the RBV with the assumption of no opportunism ignores key issues. With opportunism, the presence of the firm facilitates superior knowledge transplantation relative to the market because of superior coding, better control of opportunistic behavior due to the authority relationship and superior information. RBV and TCE are viewed as complementary because the former is a theory of firm rents whereas the latter is a theory of the existence of the firm. The set of market frictions that explain sustainable firm-level rents would be sufficient market frictions to explain the existence of the firm. The problem of opportunism, however, has also been closely associated with recent literature on corporate restructuring, to which we return below.

Revisiting their managerial rents model, Castanias and Helfat (2001) present an expanded classification of managerial resources and explain how it relates to (1) other classifications of managerial abilities such as those dealing with leadership qualities or functional area experience and (2) the fundamental resource-based characteristics of scarcity, immobility, and inimitability. The implications of this model for firm performance, appropriability of rents from managerial resources, and incentives for managers to generate rents are then analyzed. The authors argue that managerial resources, which cannot be imitated quickly or which may have imperfect substitutes, do not by definition generate rents, especially if effort and motivation are lacking or misdirected. They also suggest that the nature of managerial resources may need to change with the life-cycle of the firm and the industry for rents to be generated.

In their 1991 paper, Harrison, Hitt, Hoskisson and Ireland presented evidence that suggested resource complementarity, not similarity, was associated with higher performance in acquisitions. Actions to gain complementary resources allow firms to learn new and valuable capabilities. Their updated paper in this issue reviews more recent research. The authors demonstrate that this research provides supportive evidence for their original hypotheses. They also show that strategic alliances may be an attractive alternative for accessing complementary assets because the investment or long term commitment is less than that required in acquisitions. Lockett and Thompson (2001) provide complementary evidence from the economics literature that supports this aspect of the RBV.

Fiol (2001) revisits her identity-based view of sustainable competitive advantage (SCA) by questioning the premise that it is possible to achieve a SCA based on any particular core competency, no matter how inimitable. Fiol argues that in the current, more competitive environment, the skills/resources of organizations and the way organizations use them must constantly change to produce continuously changing temporary advantages. Therefore, superior rents are likely to be derived from the ability to destroy and rebuild specialized, inimitable resources or routines over time. This view is also seen in the recent work of Eisenhardt and Martin (2000). One implication of this view is that there is a need to nurture employees' constantly shifting situated identifications with ever changing organizational identities grounded in a commitment to an unchanging set of values and outcomes, rather than a stable fully elaborated culture.

These commentaries offer rare glimpses into the thinking and motivations that led a group of scholars to propel a literature forward ten years ago. However, how the RBV has affected, and is likely to affect, other research disciplines is also an important topic of discussion. The remaining papers in the special issue deal with these topics.

3. The resource based view and five fields of study

3.1. Human resource management

Within the field of human resource management (HRM), the RBV has made important contributions in the rapidly growing area of strategic human resource management (SHRM) (Wright, Dunford & Snell, 2001). The emphasis on people as strategically important to a firm's success has contributed to the interaction and convergence of strategy and HRM issues. There has been considerable debate over whether HRM practices can provide SCA. Individual HRM practices may be imitable but HRM systems and routines, which develop over time, may be unique to a particular firm and contribute to the creation of specific human capital skills. Employee behavior also forms an independent component of SHRM that affects SCA. The authors point out that as yet research has failed to test empirically whether HRM practices are path dependent, causally ambiguous, or imitable. Similarly, there is a lack of evidence that HRM practices impact the skills and behavior of the workforce, or that these factors are linked to performance. Wright et al. provide a preliminary framework that suggests core competence, dynamic capabilities, and knowledge serve as a bridge between the emphasis in the strategy literature on who provides sources of competitive advantage and the focus in the HRM literature on the process of attraction, development, motivation, and retention of people.

3.2. Economics and finance

Historically there has been a strong link between the disciplines of strategy and economics, but as Lockett and Thompson (2001) show, explicit citations of key RBV papers have been low in mainstream economics journals. They suggest that the explicit use of the RBV in economics has been limited by the problems of causal ambiguity, tautology, and firm heterogeneity. However, the authors argue that work on the consequences of path dependency on firm behavior builds implicitly on the ideas of the RBV to explain a number of different economic issues. Lockett and Thompson use the influence of path dependency as a unifying theme to examine patterns of diversification and entry, diversification and performance, corporate refocusing and exit, innovative activity by firms, and industry evolution in markets with rapidly evolving products. Potential areas for future research include the interaction of the RBV and agency theory (especially in relation to corporate governance), the RBV as a dynamic theory, and using the RBV to explain radical change.

Lockett and Thompson argue that the interplay between the RBV and agency theory has been most important in the literature on corporate restructuring, where the two approaches are both substitutes and complements. Their review of corporate refocusing studies provides support for both strategy and governance hypotheses in explaining the phenomenon, including support for strategy-governance interaction effects. Lockett and Thompson's arguments parallels work by Combs and Ketchen (1999) who argue that transaction cost economics (TCE) and the positive theory of agency have important implications for the RBV.

3.3. Entrepreneurship

Alvarez and Busenitz (2001) argue that the RBV can theoretically inform and extend current research on entrepreneurship. They suggest that it is through the entrepreneurial process of cognition, discovery, understanding market opportunities, and coordinated knowledge that inputs become heterogeneous outputs. They attach particular importance to the role of heuristics-based logic in enabling entrepreneurs to quickly learn about and assimilate the implications of new changes for specific discoveries. Entrepreneurial opportunities emerge when certain individuals have insights into the value of resources that others do not. Entrepreneurial alertness, entrepreneurial knowledge, and ability to coordinate resources are viewed as resources in their own right. Causal ambiguity is seen as the essence of entrepreneurship because the entrepreneur's expanding knowledge base and absorptive capacity through experience and learning are key to achieving a SCA. The authors also suggest that social complexity is central to entrepreneurship as it may be essential to the exploitation of complex technologies and unique to certain types of entrepreneurs and hence difficult to imitate. From the point of view of the firm, they suggest that the entrepreneur fulfills a crucial role in recognizing the value and opportunities presented by specialist knowledge and integrating it to create rents.

3.4. Marketing

Srivastava, Fahey and Christensen (2001) argue that marketing scholars have devoted remarkably little attention to applying the RBV as a frame of reference in advancing marketing theory or in analyzing core challenges in marketing practice. By the same token, they suggest that RBV proponents have downplayed the fundamental processes by which resources are transformed through managerial guidance into something that is of value to customers. They highlight the importance of the need for far more fine-grained analysis of the resource-competitive advantage connection by examining the potential contribution of marketing to the RBV. They suggest that RBV research needs to identify precisely how customer value in the form of specific attributes, benefits, attitudes and network effects is intended, generated, and sustained. Also, marketing research must address how change in market-based assets and capabilities contribute to customer value creation or deprecation. The authors speak to the issue of the implementation and creation of a SCA by identifying how marketing can shed light on the nature of resources. For example, marketing can help understand the need for rare resources to be seen in terms of customer needs while inimitability can be assessed in terms of rivals' imitation capacities and the firm's ability to enhance inimitability through cross-selling and bundling. They suggest that further work is required to identify and document how particular market-based assets and capabilities contribute to generating and sustaining specific forms of customer value. There needs to be particular analysis of the interaction between market-based assets and market-facing processes as well as their linkages to customer value dimensions. They also suggest the need for the RBV and marketing to directly relate marketplace (i.e., customer) changes to the need for changes in key resources.

3.5. International business

Peng (2001) asserts that the established research areas of multinational corporations (MNCs) and market entries can be considered to have been enriched by the RBV while three newer areas (strategic alliances, international entrepreneurship, and emerging market strategies) have been propelled by the RBV. The RBV has helped to specify the nature of resources required to overcome the liability of foreignness and provided a bridge to investigate the resources that provide the foundation for product and international diversification. The RBV literature has also shown that subsidiary capability building facilitates more knowledge flows within the MNC. There is, however, a need to ensure that subsidiary managers are sufficiently incentivized to undertake capability development.

Significant international experience by top managers represents firm-specific tacit knowledge that is difficult to imitate. The RBV contributes to foreign entry mode research by suggesting that such strategies are pulled by the resource capabilities of firms abroad as well as being pushed by the firm-specific advantages possessed by the MNC. More recent research from an RBV perspective casts doubt on the stage theory of internationalization by suggesting that new and small firms may possess resource advantages that enable successful earlier internationalization. Peng argues there remains a need to pay more attention to process and implementation related resources in internationalization, especially within cross-border mergers and acquisitions. With respect to emerging markets, RBV research has been important in suggesting that local firms are interested in using foreign alliances to acquire advantages over their domestic rivals, in emphasizing the importance of network ties as an intangible resource for entrepreneurial start-ups, and in understanding the changing benefits of unrelated diversification as economic institutions develop. Peng argues that in transition economies there is a need for further research on the problems in developing resource capabilities by state-owned enterprises (SOEs) and with respect to the problems in attracting more MNCs to invest in these countries to provide necessary resources.

4. The resource based view: A further research agenda

From the papers summarized above, a number of themes for further research emerge. Beyond these themes, it is possible to identify several other areas of work that may benefit from incorporation of insights from the RBV. In this section, some of these research questions are described.

4.1. Resources, dynamic capabilities, and knowledge

A number of papers in this special issue suggest that resources, dynamic capabilities, and knowledge are closely interlinked. For example, Wright, Dunford and Snell (2001) discuss the importance of these interrelationships for the bridge between strategic management and HRM. Fiol (2001) considers these links with respect to the capacity to continually reconfigure an organization's competitive advantage and concludes that, in some environments, sustained competitive advantage may not be possible.

These observations are consistent with a growing literature on knowledge and competitive advantage (e.g., Spender & Grant, 1996). Much of this literature focuses on the role of dynamic capabilities, that is, specific processes firms use to alter their resource base, as sources of competitive advantage (Eisenhardt & Martin, 2000). Like Fiol (2001), much of this literature concludes that competitive advantages can exist in dynamic markets only because of the ability of firms to continuously change, and that sustained competitive advantages are not possible in these markets. Some of this work seems to suggest that a "dynamic capabilities" perspective on competitive advantage contradicts the RBV, especially as it was developed in the 1991 special issue.

In fact, the logic developed in the 1991 special issue applies as well to rapidly changing markets and dynamic capabilities as it does to stable markets and resources and capabilities. Changing the words with which the theory is developed does not change the underlying theory. Put differently, "dynamic capabilities" are simply "capabilities that are dynamic."

Consider, for example, Eisenhardt and Martin's (2000) arguments. First, they suggest that dynamic capabilities have been widely described in several different industries, and have even become codified in the form of best practices. This is an empirical assertion that may vary across industries. However, assuming this assertion is empirically correct, Eisenhardt and Martin (2000) conclude that these dynamic capabilities, per se, cannot be a source of competitive advantage. This, of course, is consistent with traditional resource-based logic.

Eisenhardt and Martin (2000, p. 1117) then suggest that the only way these dynamic capabilities can be a source of competitive advantage is if they are applied "sooner, more astutely, or more fortuitously." Clearly, the ability to apply dynamic capabilities "sooner or more astutely" is itself a capability. Traditional resource-based logic can be used to evaluate whether this ability can be a source of competitive advantages, sustained or not. That a firm is "more fortuitous" in applying its dynamic capabilities is another way of saying that a firm can be lucky, a conclusion presented in other RBV work (Barney, 1986a), but not highlighted in the 1991 special issue. All of this is also consistent with traditional RBV logic.

Finally, Eisenhardt and Martin (2000), along with Fiol (2001), conclude that competitive advantages cannot be sustained in dynamic, rapidly changing markets. These authors suggest that these environments evolve so quickly that no sustained competitive advantage is possible. However, Eisenhardt and Martin (2000) specifically identify the conditions under which sustained competitive advantage is possible in these settings—when a particular firm applies its dynamic capabilities "sooner, more astutely, or more fortuitously" in making its strategic choices. Put differently, to the extent that some firms in a rapidly changing market are more nimble, more able to change quickly, and more alert to changes in their competitive environment, they will be able to adapt to changing market conditions more rapidly than competitors, and thus can gain competitive advantage. To the extent that nimbleness, the ability to change quickly, and alertness to changes in the market are costly for others to imitate, these abilities can be a source of sustained competitive advantage. This competitive advantage will continue as long as the ability to be nimble, change quickly, and to be alert to changes in the market are economically valuable, that is, as long as the competitive environment continues to change rapidly. Eisenhardt and Martin's (2000) example of GE Capital is only one of numerous firms that seem to be able to sustain competitive advantages in very dynamic markets. Other examples can be seen in work by Henderson (e.g., Cockburn, Henderson & Stern, 2000; Henderson & Cockburn, 1994) and others.

Obviously, this does not imply that the ability to deploy dynamic capabilities can be a source of sustained competitive advantage in all market settings. For example, if a firm has the ability to gain and sustain competitive advantages in a rapidly changing market and then the market suddenly becomes stable and unchanging, the ability to be flexible is not likely to be valuable, and thus not a source of competitive advantage. Put more broadly, the value of a particular set of capabilities must be evaluated in the market context within which a firm is operating. If that market context changes radically, what were valuable capabilities may no longer be valuable. Again, all of this is perfectly consistent with traditional RBV logic.

None of this suggests that work on dynamic capabilities is unimportant. Indeed, just the opposite is true. As several of the papers in this issue suggest, the ability to learn and the ability to change are likely to be among the most important capabilities that a firm can possess. Our understanding of these capabilities is limited and thus these capabilities, and the way they can generate competitive advantages, deserve a great deal of empirical attention.

4.2. Corporate governance

The linkages between the RBV and corporate governance appear to offer much promise for further research. Several contributors to this special issue identify such links. Castanias and Helfat (2001) emphasize the importance of human capital arguments vis-à-vis more traditional agency theory arguments concerning corporate governance. Mahoney (2001) argues that recognition of the problem of opportunism has important corporate governance implications, because the implementation of a strategy to achieve an SCA is unlikely to follow automatically (Barney, 2001b). Lockett and Thompson (2001) discuss the links between RBV and agency theory, while Harrison et al. (2001) point to the importance of incentivizing managers not to resist resource-enhancing acquisitions. With respect to international business, Peng (2001) points out issues concerning the monitoring of subsidiary management. Wright et al. (2001) suggest that mismanagement may mean that human capital is not deployed effectively.

Clearly, within the context of the RBV, an important question becomes: under what conditions can corporate governance be a source of sustained competitive advantage? In much the same way as the dynamic capabilities identified by Eisenhardt and Martin (2000) that have become institutionalized as "best practices" often cannot, by themselves, be sources of competitive advantage, it seems unlikely that corporate governance, by itself, can be a source of competitive advantage. However, experience suggests that some firms are much more skilled in how they implement otherwise common governance devices, and that these skills may be heterogeneously distributed across firms (Barney, 2002, p. 216–218). The nature of these complementary skills is not yet well understood (Keasey & Wright, 1993; Short, Keasey, Wright & Hull, 1999).

While governance, per se, may not be a source of competitive advantage, failure to implement the correct governance in a situation can lead firms to not fully realize the benefits of the resources they control. Although the necessary resources may be present, a SCA may not be created where the corporate governance system fails to incentivize and/or monitor management to undertake the relevant actions.

Governance choices may have a significant impact on how any rents created through the use of valuable, rare, costly to imitate, and nonsubstitutable resources are appropriated. Work in this area has just begun (Coff, 1999). This early work suggests that the bargaining power of managers may mean that these stakeholders are able to appropriate a disproportionate share of the rents a firm is able to generate. Alternatively, this payment to managers may simply reflect compensation for the substantial firm-specific investments these stakeholders make in a firm, compared to other stakeholders (Wang & Barney, 2001). Moreover, such rent sharing may actually reduce agency conflicts between a firm's managers and its equity holders, and thus actually be consistent with the interests of equity holders (Castanias & Helfat, 1991, 2001).

Within the corporate governance literature there is also considerable debate about the operation and effectiveness of boards. Boards comprised of managers' cronies, with limited access to information, infrequent meetings, and low levels of input by outside directors who may themselves be CEOs of large corporations have all been cited as limitations to the effectiveness of boards. Various recent proposals have been made for strengthening corporate boards that aim to overcome some of these problems (Kennedy, 2000; Short et al., 1999). However, the RBV suggests a number of important research questions about these solutions. For example, are these proposals designed to only minimize agency conflicts between a firm and its equity holders, or are they designed to help a firm fully realize any economic rents it has the potential to realize? Minimizing agency costs suggests that a primary goal of any board is to make information about a firm's strategy and strategy execution available to the market. However, this kind of information sharing may be inconsistent with maximizing the rent generating potential of a firm. More broadly, are there important differences between the structure and functioning of a board designed to minimize agency costs, and a board designed to maximize a firm's rent generating potential?

4.3. Management buy-outs and venture capital financing

As suggested earlier, a particular dimension of corporate governance issues concerns the generation and distribution of gains. Coff (1999) suggests that where managers are unable to obtain a share of the gains that reflect the contribution of their tacit knowledge, they may seek to undertake a management buy-out (MBO) that would give them a significant if not majority equity stake. Castanias and Helfat (2001) also suggest that where managers are unable to gain adequate compensation for their skills they may seek to take a firm private. Although corporations have enhanced equity based compensation mechanisms in recent years (Holmstrom & Kaplan, 2001), the extent to which these yield sufficient returns to managerial knowledge is not known. This in turn raises a number of issues. For example, Wright, Hoskisson, Busenitz and Dial (2000) have drawn attention to the importance of the specific entrepreneurial skills of managers undertaking management buy-outs. This takes the analysis of management buyouts beyond the dominant agency cost perspective (Jensen, 1993).

Managers engaging in a buy out also need to agree on a valuation of the business at which existing shareholders will sell. Studies have indicated the nature of the mechanisms used to value these kinds of transactions (Manigart et al. 2000, 2001). However, arriving at a valuation may be problematic when tacit knowledge of managers is significant. Outside shareholders are faced with a severe asymmetric information problem, while managers are in possession of valuable private information. This suggests the need for some form of contingent valuation mechanism. Research is required to examine the scope of such mechanisms in buy-out transactions involving greater or less tacit knowledge on the part of managers.

Despite this asymmetric information problem, MBOs typically involve significant external funding. Some have suggested that venture capital investors are well positioned to value firms when managers have significant tacit knowledge in a firm (Wright, Hoskisson & Busenitz, 2001). This too raises issues concerning valuations, the allocation of ownership stakes between management and venture capital firms and hence potential future gains, and the need for monitors with specialist monitoring expertise. Manigart et al. (2001) show that, consistent with the RBV, venture capital firms with specialist skills can both add value as well as being better placed to control risks. Yet, there remains some concern about whether venture capital firms add value in the longer term through their nonfinancial assistance (Steier & Greenwood, 1995).

The development of more entrepreneurial MBOs raises the research challenge of disentangling the value protecting from the value enhancing aspects of venture capitalist involvement. More generally, there is a need for research that examines the extent to which venture capital firms possess effective specialist skills with respect to the selection of business opportunities and the best entrepreneurs to exploit those opportunities.

4.4. Institutional environment

The institutional environment in which firms operate may have an important impact on the strategies they pursue (Oliver, 1997). Peng (2001) emphasizes the importance of institutional factors in developing versus emerging market contexts, with respect to the resources involved in internationalization. Hoskisson, Eden, Lau and Wright (2000) identify the role of the RBV in emerging economies. In former centrally planned economies, attributes of firms that were resources under the previous regime, such as managerial skills and technology, may not fulfill this role in the transition to a market economy. This raises issues concerning how firms can acquire the necessary resources and the barriers to doing so. At the same time, incumbent firms with few resources are vulnerable to entry by foreign firms that do possess the necessary resources. Joint ventures and alliances with foreign partners may have a role to play in obtaining the necessary resources (Hitt, Dacin, Levitas, Arregle & Borza, 2000). However, the process by which local firms can make themselves attractive to potential foreign partners is less well-understood. Thus, research that details how "hosts" can develop resources attractive to MNCs might be quite valuable.

4.5. Entrepreneurship

Much of the focus of RBV research has been on larger firms, yet smaller firms also face the need to acquire critical resources to create a SCA. Rangone (1999) provides an interesting RBV perspective on how a small-medium sized enterprise (SME) can develop a SCA based on detailed analysis of 14 case studies, identifying the importance of three basic capabilities: innovative capabilities, production capability, and market management capability. However, although Rangone identifies the entrepreneur as a special resource in SMEs, she fails to develop the attributes of the individuals concerned that may strongly influence whether the steps required to achieve a SCA are actually implemented.

The approach adopted by Alvarez and Busenitz (2001) suggests a way to integrate the crucial role of the entrepreneur with other important resources. Alvarez and Busenitz (2001) argue that it is important to recognize that entrepreneurs are heterogeneous. Similarly, Castanias and Helfat (2001) emphasize the importance of the nature of cognitive factors for human capital, recognizing that not all managers possess the requisite combination or level of skills to generate rents. A neglected aspect of the heterogeneity of entrepreneurs that may have implications for the resources they contribute concerns the distinction between novice, or one-time, entrepreneurs and habitual entrepreneurs, that is those individuals that engage in multiple entrepreneurial ventures (Westhead & Wright, 1998). This raises important issues relating to the extent to which habitual entrepreneurs are able to create greater sustainable competitive advantage. Do habitual entrepreneurs possess cognitive abilities that enable them to repeatedly identify and exploit entrepreneurial opportunities? Does learning from repeated entrepreneurial behavior lead to the identification and exploitation of 'better' opportunities or do entrepreneurs continue to repeat previous mistakes? In the context of the emerging view that long-term advantage is infrequently achieved in dynamic markets, analysis of habitual entrepreneurial behavior may contribute to understanding an important aspect of the need for dynamic capabilities to achieve new resource configurations that convey a series of temporary advantages (Eisenhardt & Martin, 2000).

A further emerging dimension of the entrepreneurship area where the RBV may be applicable concerns the transfer of technology from universities via spin-out firms. Some universities are considerably more successful at this process than others (Shane & Stuart, forthcoming). The location of the entrepreneurial resource to identify and exploit opportunities poses particular problems. Academics may develop novel innovations but may not have the requisite attributes to turn these innovations into firms with a SCA in the market place. Research has suggested that there is scope for surrogate entrepreneurs from outside universities to perform this role (Franklin, Lockett & Wright, 2001), yet the process of identifying and integrating individuals who can address these issues is not well understood.

4.6. Additional areas of work

In addition to strategic management and the academic areas represented in this special issue, the RBV has implications for other disciplines. For *organizational behavior,* the RBV represents an opportunity to link micro-organizational processes to the success or failure of organizations. While extant RBV research has effectively identified the effects of resources on outcomes (e.g., Combs & Ketchen, 1999; Miller & Shamsie, 1996), this research has made much less progress in describing how resources are developed. This is a need that organizational behavior researchers can help fill. For example, investigations of organizational citizenship behavior focus on why some employees engage in actions beyond their normal responsibilities to help the firm prosper (Podsakoff, MacKenzie, Paine & Bacharach, 2000). Investigations of mentoring detail how superiors attempt to aid subordinates directly and the firm indirectly via transferring tacit knowledge accumulated through years of experience (Scandura, 1998). These literatures seldom examine the implications of their focal concept for organizational level outcomes. Yet, their focal concepts hold much promise for detailing how strong cultures that constitute unique resources can develop (Barney, 1986b). While calls for increased dialogue between scholars in strategic management and organizational behavior are not new (e.g., Meyer, 1991; Staw, 1991), past calls have not fostered dramatic exchanges. Perhaps the prospect of untangling key issues in the RBV will prove enticing to both groups.

Researchers in the field of *ethics and corporate social responsibility* have long struggled to identify if and when a firm's approach to social responsibility influences its bottom line (McWilliams & Siegel, 2001). The RBV suggests that attention to how a firm's ethical stances shape and are shaped by the firm's culture may be fruitful (cf. Barney, 1986b). Russo and Fouts (1997) analyze corporate social responsibility from a RBV perspective and assert that the social performance of firms (especially environmental performance) can constitute a source of competitive advantage, particularly in high-growth industries. For firms such as Ben and Jerry's, Johnson & Johnson, and the Body Shop, concern for ethics can become embedded in a culture in ways that are inimitable. As the diverging track records of these three firms illustrate, however, a uniquely ethical culture does not necessarily translate into financial success. Thus, future researchers might investigate the factors that differentiate between ethical cultures that also generate sustained excellent performance (e.g., Johnson & Johnson) and cultures that only provide above average spiritual returns (e.g., Ben and Jerry's).

The RBV also has important implications for the study of *management information systems.* Information and communication technologies (ICTs) have exploded in power and availability over the last quarter century. This has led to increased academic attention on the issue of whether or not a firm can gain a SCA through deploying ICTs. The available evidence suggests that ICTs cannot generate rents. Instead, firms often must deploy the most recent ICTs to simply keep pace with competitors (Powell & Dent-Micallef, 1997). From the perspective of the RBV, this is not surprising. Technologies that can be readily transferred should not generate rents. However, the RBV does hint at a potential source of SCA in the context of ICTs. The interface between skilled users and ICTs might prove to be inimitable. In other words, an organization highly proficient in translating computing power into knowledge might develop a substantial edge over less skilled competitors.

As these brief discussions illustrate, the RBV has the potential to shed new light on important dilemmas within a variety of academic endeavors. We are optimistic that the ideas developed in this special issue will inspire scholars in a variety of fields to capitalize on the RBV's potential.

4.7. Methodological issues

Although more robust strategic management studies are now emerging (Hoskisson, Hitt, Wan & Yiu, 1999), a recurrent theme in the RBV literature concerns methodological challenges (e.g., Miller & Shamsie, 1996; Priem & Butler, 2001). Several papers in this issue point to methodological problems with RBV. Peng notes that none of the internationalization studies he reviewed directly measures organizational learning as an intangible resource. Wright et al. point out that much of the research on the link between RBV and HRM suffers from serious methodological shortcomings, producing spurious relationships or even reverse causation. Lockett and Thompson argue that robust large-scale quantitative studies of the RBV may only be feasible in homogeneous environments, such as regulated industries.

Researchers have struggled to measure resources because many are intangible (Godfrey & Hill, 1995). Some scholars use archival proxies. For example, Miller and Shamsie (1996) assessed movie studios' creative resources by tracking the amount of Academy awards won by each studio. Such proxies allow for large sample empirical investigations, but they are subject to concerns about construct validity. Indeed, Miller and Shamsie acknowledge that their proxy could also serve as a performance measure. Given such limitations, Rouse and Daellenbach (1999) argue that intangible resources should be diagnosed via qualitative methods. They suggest, for example, that because culture involves tacit knowledge, organizational members cannot easily communicate culture's role in developing a SCA. Yet while techniques such as ethnography and participant observation facilitate rich depictions of organizational phenomena, they are not adept at generating empirically robust conclusions.

Despite the strengths of each of these approaches, the challenges inherent in measuring resources have generated concern about the testability of the RBV (e.g., Priem & Butler, 2001). A third approach to assessing resources is emerging that addresses this concern by building on Godfrey and Hill's (1995) suggestion to focus on observables that collectively shed light on unobservables. Specifically, Hult and Ketchen (2001) and Hult, Ketchen, and Nichols (forthcoming) assess observable variables that collectively reveal an unobservable resource using the latent construct detection capabilities of structural equation modeling. This indirect assessment of a higher-order intangible resource fits with the RBV's premises while facilitating hypothesis testing and effect size estimation.

Given that each of the three approaches to assessing resources has distinct strengths, we encourage future scholars to craft studies incorporating multiple approaches (cf. Hoskisson et al., 1999; Jick, 1979). For example, a qualitative study of an intangible resource could elicit a set of tangible indicators. A large-scale deductive investigation could subsequently examine a latent construct to ascertain the importance of each indicator under various contingencies. Beyond the potential value to research, there are practical implications of such studies. To the extent that relationships among tangible and latent constructs are uncovered, managers might glean insight about how to slowly but systematically shape intangible resources over time.

A second methodological area concerns the time period of analysis. The notion of sustained competitive advantage strongly implies a need for longitudinal analysis, involving both quantitative and qualitative approaches. This poses formidable challenges for researchers in terms of financial and time costs. Indeed, graduate students mindful of graduating in a timely fashion and assistant professors facing tenure decisions may be reluctant to engage in such research. Thus, perhaps we must look to senior scholars to take the lead in addressing these crucial issues.

A final challenge may require many of us to step beyond methods with which we are comfortable and confident. In order for the different disciplines encompassed here to further develop the RBV, scholars may need to adopt methodologies with which they are not familiar. For example, Lockett and Thompson suggest that economics as a discipline might usefully make greater use of qualitative case study methodologies. Similarly, while human resource management researchers have made extensive use of quantitative analysis, ethnography and participant observation may be required to build models of how employees can constitute strategic resources. Thus, while we offer a call to additional fields to embrace the RBV, we also encourage experienced RBV researchers to deploy new methodologies when the state of knowledge requires it.

5. Conclusion

Sir Isaac Newton is often quoted as proclaiming "if I have seen far, it is because I have stood on the shoulders of giants." The passage of time has demonstrated that the articles in the 1991 special issue have made giant contributions to the study of management. We hope that ten years from now, the papers offered in this special issue will be judged similarly. We also hope that readers of this issue will be inspired to offer potentially giant contributions of their own.

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