Journal of Management Studies 38:3 May 2001
0022-2380

THE ACHILLES HEEL OF FIRM STRATEGY: RESOURCE WEAKNESSES AND DISTINCTIVE INADEQUACIES*

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ABSTRACT

Two separately developed views within the strategic management literature elucidate the source of a firm's competitive advantage based on the internal attributes of the firm: the resource-based view (Wernerfelt, 1984) and the distinctive competence view (Selznick, 1957). As developed in the literature, however, both views neglect important dimensions which inhibit the achievement of competitive advantage. These dimensions are resource weaknesses and distinctive inadequacies. Accounting for weaknesses and inadequacies exposes important choice-sets confronting management in making resource investments, and of time-related dimensions in developing sustainable advantage. Considering the effects of weaknesses and inadequacies provides insight on the limits to firm growth and to sustainability of competitive advantage. Theory on developing competitive advantage may lack explanatory and predictive power if it excludes these perspectives, which if included may also improve prescription for practitioners.

INTRODUCTION

Years ago a friend spent summers racing sailboats on the Finger Lakes in New York State. With several years of experience in crewing and then captaining a variety of small sailboats, our friend developed a distinctive competence in understanding the interaction of wind and wave conditions with competitive tactics in point-to-point races. The result was an ability to quickly set sails to avoid luff (inefficient flapping of the trailing edge of a sail), to direct a crew to hike out appropriately as the boat heeled in the wind, and to tack more aggressively and with more precision than competitors. Thus our friend won many races in a variety of small sailing craft. In one championship race at summer's end, our friend outmanoeuvred all competitors and rounded the final buoy for the home stretch with a 500-metre lead in a five-kilometre, three-point race. The final leg was a full run downwind; however, a still fell upon the lake with hardly a wisp of wind. Our

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friend's jib and mainsail were set out to catch any stirring air. Despite the significant lead, the second place boat (an identical model with the same number of crewmembers) began to close the gap after rounding the final buoy. With a near dead calm, our friend could not fathom how his lead was being destroyed. Resetting the sails a number of times made no difference, and even sculling (moving the rudder back and forth to simulate rowing) could not match the speed of the approaching second-place boat. The second place boat caught up to and passed our friend, and won the championship race by a 50-metre margin. Afterwards, it was learned that the captain of the second place boat had ordered his centreboard to be raised. With no wind to speak of and on a dead run downwind, the need for under-surface protection against side-slipping afforded by the centreboard was removed. With no centreboard in the water, the second boat had less drag and slid easily past our friend.

Our sailing friend had a special competence in judging wind conditions and tactical manoeuvring versus competitive craft in small-scale races. This competence enabled him to win a large number of races. However, his unfamiliarity with technical aspects of sailboat design, combined with his inability to conceive of other possibilities for enhancing performance when faced with unusually challenging circumstances, represented a glaring weakness for his team.

Organizational outcomes, similarly, are affected by more than just positions of competitive strength. They are a result of an interaction between competitive strengths and competitive weaknesses. Yet, the issue of competitive weaknesses and its complement, distinctive inadequacies, has not been examined in the literature of strategic management. The purpose of this paper is thus to provide a first theoretical examination of the characteristics and implications of resource weakness and distinctive inadequacies grounded primarily in the resource-based literature, and to provide a theoretical framework to examine the phenomena.

The resource view of the firm attempts to define fundamental factors within organizations that create competitive advantage (Barney, 1986; Dierickx and Cool, 1989; Penrose, 1959; Wernerfelt, 1984). Resources may lend themselves to applications across diverse situations, circumstances, and industries (Montgomery and Wernerfelt, 1988; Penrose, 1959), and they may be difficult for competitors to imitate or reproduce (Barney, 1991; Dierickx and Cool, 1989). Competitive advantage may also be created by the ability of organizations to effectively combine resources (Grant, 1991; Kogut and Zander, 1992; Teece et al., 1997).

While the resource view focuses on the factors and processes that create competitive advantages, research in this arena has neglected consideration of factors and processes that impede the development of or offset the effects of such advantages. This is surprising given that a number of seminal works in the literature point out this issue. For example, the resource view also considers the constraining effects of particular resource positions for both the direction and means of growth for firms (Nelson and Winter, 1982; Penrose, 1959; Richardson, 1972). More specifically, Wernerfelt (1984) highlights resources as both strengths *and weaknesses* tied semi-permanently to firms. Yet, the literature within the conversation of strategic management, and in particular resource-based view research, has not adequately explored the constraining and perhaps deleterious effects of resource weaknesses on competitive advantage or firm performance.

Resource weaknesses are the agenda of this conceptual paper. The argument of this paper proceeds as follows. Development of the resource-based view is briefly reviewed at the outset, and it is shown how this view focuses on the creation of competitive advantage while scant attention is paid to factors that may impede competitive advantage. Theoretical support for counterparts to resource strengths are then discussed and examples from industry illustrate their practical effects and importance. Notably, the distinctive competence literature (Andrews, 1971; Selznick, 1957) also offers conceptual support for factors that negatively affect competitive advantage. These factors are termed *distinctive inadequacies* (Selznick, 1957). Building on these sections, a preliminary definition of weaknesses and inadequacies is then presented and their nature is explored. Here, two separate views of weaknesses and inadequacies are placed in opposition to strengths and competences. These contrasting views might aid our understanding of the boundaries and limitations of resource strengths and of firms themselves. Optioned and multiple strategic investments are proposed as a means of overcoming weakness and inadequacy, but such actions may also contain their own limitations. A final discussion reconsiders strategy and organizational evolution based on a purely resource strength perspective, and reiterates how such a view cannot fully account for limits to firm growth.

These new perspectives make several contributions to the field. For researchers we suggest a richer framework through which to understand competitive advantage. The multi-faceted approach outlined in this paper suggests that sources for gains and losses in competitive advantage may be different or may be the same. In addition, the incorporation of the weakness/inadequacy perspective may help shed further light on the limits to competitive advantage achievable through resource strengths, and ultimately on the limits to strategic choice and firm growth. For practitioners, the main contribution is the notion that by concentrating only on the development of strengths, firms could actually lay a foundation for losing advantage due to inattention to emerging weaknesses and inadequacies.

THE RESOURCE-BASED VIEW

Central to an examination of resource weakness must be the examination of the resource-based literature. The discussion in the literature has concentrated on the positive side, that is, what are the benefits of unique resources or distinctive competences. Penrose (1959) views the firm as a bundle of resources with each heterogeneous resource representing a bundle of potential services to be offered by the firm. Critical to her theory is the assumption that resources are heterogeneous among firms, and that competitive advantage depends upon that heterogeneity. Wernerfelt (1984) describes resource strengths tied semi-permanently to firms and equates sustainable competitive advantage with resource position barriers analogous to mobility barriers (Caves and Porter, 1977). Barney (1986), Dierickx and Cool (1989), and Lippman and Rumelt (1982) also discuss the positive effects on competitive advantage of resources in imperfect factor markets and of resource strength causal ambiguity.

Further, several authors have explored the connections between resources and competitive advantage. For example, Wernerfelt (1984) considers the implications for types of acquisition strategy (complementary vs. supplementary) based on resource strength positions. Others have explored the benefits of related versus unrelated diversification (Chatterjee and Wernerfelt, 1991; Montgomery and

Wernerfelt, 1988; Penrose, 1959), while Harrison et al. (1991) examine diversification from the standpoint of resource allocations. More recently, intangibly defined positive resource strengths such as human capital (Amit and Schoemaker, 1993), knowledge and routines (Grant, 1993), and intellectual property ownership (Almeida, 1994; Lerner, 1997) have been linked to enhanced firm performance.

A view finding currency recently is that a firm's competitive advantage arises from some aggregation of resources (Grant, 1991; Prahalad and Hamel, 1990). That resource aggregations and combinative capabilities (Teece et al., 1997) lead to competitive advantage underscores the importance of dynamic processes facilitated by management. Suggested by the resource-based view, a critical element in developing competitive advantage is managerial ability. Penrose (1959) mentions entrepreneurial capabilities of management as key to understanding how the firm attains growth and competitive position. Management must identify and evaluate resources (Barney, 1991), and exercises discretion over which resources to utilize and how to utilize them (Castanias and Helfat, 1991; Prahalad and Hamel, 1990). Competitive advantage arises to the extent that managers create higher order organizing principles (Kogut and Zander, 1992) for the assembly and integration of underlying resources.

Theory and research have thus concentrated on what firms have or do right, while there is very little research on what firms do not have or what they might be doing wrong. Research investigating the resource view does not examine aspects of organizational life that give rise to resource weaknesses and their negative effects on competitive advantage. The inability to leverage and extend a particular set of resources, or the possession of the wrong kinds of resources, could be important in the erosion of existing advantage and in the inability to gain advantage. The more simplified view that focuses almost exclusively on the strength agenda may overlook equally important and instructive insights related to competitive advantage emanating from a weakness position. Related to the efficacy of a firm's resource position, Ryall argues that 'just because operations are motoring along exactly as planned does not imply that significant value is not being destroyed' (1998, p. 35). In this sense the presence of resource weakness and distinctive inadequacy are quite 'valuable' to a firm in that they could be preventing or impeding the creation or sustainability of firm competitive advantage. Thus, where the ability to identify, organize, and coordinate resource strengths is believed to be important, so, too is the ability to identify and coordinate efforts to mitigate or eliminate resource weaknesses. Where one set of abilities is not complemented by the other, organizations may not fully comprehend the reasons for loss of advantage or inability to gain advantage.

The conceptualizations proposed in this paper offer a framework and language that will be helpful in beginning to define and describe more precisely what weaknesses are, and how they operate on a firm's competitive position. Barring a clear understanding of these facets of organizations, the ability of resource-based theory to accurately explain the characteristics and nature of competitive advantage, its sustainability, and its limitations will be compromised.

An enhanced perspective of the firm that accounts for weaknesses will also emphasize the time-dependency of investments required by firms seeking competitive advantage. Hitt and Ireland (1985) describe how distinctive competence occurs through the development of specific activities associated with certain organizational functions. Such competence emerges as institutionalization proceeds

(Selznick, 1957), and in turn leads to superior performance in the market *vis-à-vis* competition. Time dependent investment in the creation of distinctive competence parallels arguments about the time-dependent (Dierickx and Cool, 1989) development of critical resources in resource-based theory. Time-dependency is also a critical concern with respect to the development of weaknesses, and considering such time-dependent relationships yields interesting insights regarding the development and sustainability of competitive advantage.

Incorporating the resource weakness concept will enhance arguments related to the path-dependent nature of firm growth. Resource positions are path-dependent in their creation and development (Grant, 1993; Penrose, 1959), and lead to path-dependent firm development (Nelson and Winter, 1982). Where the firm's path-dependent development is built upon positions of weakness as well as positions of strength, this broader perspective is suggestive of limits to firm growth.

Each of these points is more fully developed in the sections that follow.

RELATION OF RESOURCE WEAKNESSES TO DEVELOPED THEORY

Relatively undeveloped in the literature is the concept that firms may also have resource weaknesses, in addition to resource strengths. While both Penrose (1959) and Wernerfelt (1984) referenced these organizational forces opposed to strength, neither they nor others have adequately explored the nature of weaknesses, or their potential impact on strategy and competitive advantage.

Conceptually, the existence of critical weakness and its effect on strengths may draw support from a host of disciplines. For example, the field of literature often focuses on strong characters with fatal flaws (e.g. Shakespeare's Hamlet, Conrad's Lord Jim). Non-fictional individuals have also exhibited extraordinary weaknesses counteracting their strengths (e.g. Douglas MacArthur, Richard Nixon). Sociologically, whole populations have been led astray by leaders with underlying character faults (e.g. Adolf Hitler, Jim Jones), or by inherent flaws in institutionalized belief sets which lead to disaster or severe disruption (e.g. Bosnia–Herzgovina, Soviet communism, Serbian aggression in Kosovo). As a group, scientists have also fallen prey to flawed sociology, as Kuhn (1970) suggests in his discussion of the resistance to paradigm shifts such as that from Ptolemaic astronomy. Given the existence of weaknesses at both micro and macro levels and in such diverse fields, it would be surprising not to find their existence at the meso level (DiMaggio, 1991) of organizations, as well.

In fact, practical evidence abounds for the existence of critical weaknesses in organizations. Capers and Lipton (1993) provide a compelling account of the reasons behind the Hubble telescope failure, which occurred despite unparalleled investment in systems, people, and error-checking instrumentation. IBM's early decision to forgo development of PCs, and subsequent decision once entering this market to focus on open-systems-design hardware versus software, led to inferior cost and market positions for the overall industry leader in the fastest growing segment of the industry. In the 1980s the New York Yankees signed expensive individual superstars in an effort to create a superior team in baseball. But the team seldom played well enough to earn lucrative post-season play opportunities. Blockbuster Video experienced financial difficulty as video rental frequencies matured in the mid-1990s, and as home delivery of video via cable or pay-per-view options and other forms of multi-media entertainment became more prevalent. 3M Corporation sets formal goals and organizes to produce 30 per cent of sales each year from new businesses started within the last four years; however, the sheer size of 3M (currently $16 billion sales) thus requires nearly $4 billion in new business every four years. Such lofty new business goals prompt it today to focus business-building investments in the post-R&D stage more on large-potential businesses and less on businesses as small as their successful Post-It Notes brand had been at its inception.[1] These and other examples suggest the lesson that despite tremendous effort to achieve excellence across a broad spectrum of activities, other internal dimensions may prove constraining, severely disruptive, or even ruinous to an organization's competitive position and performance.

Weaknesses may be viewed as something more than failure of a resource strength dimension or the non-existence of a resource strength dimension. Though individually and collectively 'on paper' the 1980s Yankee players were among the best in major league baseball, the players were unmanageable as a team by the field manager and prompted owner George Steinbrenner to interfere continually. In the IBM case the company's strengths of system design, applied software development, and extensive customer interface were unrelated to its blindness to a developing new market and the impact that market might have on its core business. In the Hubble case the disconnect within Perkin-Elmer between management and the scientists, together with collapsed deadlines and budget constraints, doomed the scientific efforts of those involved with producing the Hubble's lens. This occurred in spite of the detailed and specific quality inspection procedures and error detection routines developed through Perkin-Elmer's historical experience in grinding and polishing high quality optical glass. Few could argue that Blockbuster Video and 3M have not taken advantage of their respective resource investments, organization, and structure, even though at the same time their respective configurations also place significant constraints on them in terms of the kind of future businesses they develop.

Theoretical support is also found in organizational research for the concepts of inadequacy and weakness. For example, the strategic adaptation and renewal literature in general focuses on elements in organizations which give impetus to or impede effective change (Ginsberg, 1988). A number of researchers argue that the greatest challenge in such change is the inertia associated with previously developed capabilities (e.g. Huff et al., 1992; Tushman and Romanelli, 1985). Similarly, Dougherty (1993) discusses the inability of many organizations to break out of institutionalized routines guiding new product development. More generally, Meyer and Zucker (1989) propose that organizations have a tendency towards permanent failure (a combination of high persistence and low performance), suggesting that the same organizational actors who have created successful, ongoing entities also propagate decline and failing performance. On the other hand, other researchers conclude that organizational politics, poor learning mechanisms, cognitive biases and inadequate information processing contribute to declines in competitive performance leading to the need for strategic change (Rajagopalan and Spreitzer, 1997; West and Meyer, 1997). Rumelt (1995) points out that such frictional forces which forestall needed change and innovation are separate issues from the technical product/market competitive capability that leads to positions of competitive advantage in the first place.

More pointedly, the literature on distinctive competence provides parallel conceptual support for the existence of weakness as an organizational dimension opposing strength. A firm's distinctive competence, described as capabilities evaluated without relation to specific problems (Andrews, 1971), leads to competitive advantage within and across industries (Hitt and Ireland, 1985; Prahalad and Hamel, 1990; Snow and Hrebiniak, 1980). But Selznick (1957) claims that firms may have distinctive inadequacies in addition to distinctive competences. In fact, like Wernerfelt (1984) on resource weaknesses, Selznick (1957) mentions distinctive competences and distinctive inadequacies in the same sentence. By articulating both dimensions Selznick implies that inability to develop a competence is quite different from the development of an acute inadequacy which compromises the firm's competitive position.

Through both real world examples and theoretically developed arguments such as these, we begin to view weaknesses and inadequacies as fundamental counterparts to strengths and competences. Buttressed by research depicting flaws that exist in organizations in parallel with strengths, the IBM, New York Yankees, and Hubble examples suggest that weaknesses may be different from strengths. At the same time, the Blockbuster and 3M examples in combination with received theory on inertial tendencies point out that weaknesses may be inseparable from strengths. The earlier anecdote about our sailing friend indicates that his distinctive inadequacy was separable from his distinctive competence. The loss of the race was unrelated to his skills in tactical manoeuvring. In contrast, the winner of the race had trained and raced exclusively in one type of sailboat, and his technical knowledge of that boat style was a source of competitive strength. In other races using other craft where technical knowledge was important, his focus on one specific type of technical knowledge inhibited him from winning. For him competence and inadequacy were inseparable. Mintzberg (1991) views the issue of effective organizations by staking a position on both grounds. He suggests that ineffective organizations may be those in which either a particular strength is pursued to an extreme and thus pulls the organization out of a viable competitive position, or in which competing forces within the organization negate the positive effects of developed strength.

This distinction between inseparable and separable weaknesses/inadequacies is especially important. When inseparable, the process of developing resource strengths and distinctive competence might inherently help create weaknesses and inadequacy. If separable, weaknesses and inadequacies may develop outside the purview of the strength/competence development process. To the extent that the benefits of strengths and competence manifest themselves before weaknesses and inadequacies become pronounced, or outweigh the problems created by weaknesses and inadequacy, erosion of competitive position is less problematic. However, if the opposite holds true or if changes in the competitive environment alter the importance and relative weights of the counteracting dimensions, competitive advantage may erode rapidly. These important differences will be further developed in the next section.

Accounting for weaknesses and inadequacies in strategy research may lead to new insights and stronger prescription. The resource strength/distinctive competence stream suggests that if firms do a few things particularly well, they will achieve competitive advantage. The resource weakness/distinctive inadequacy

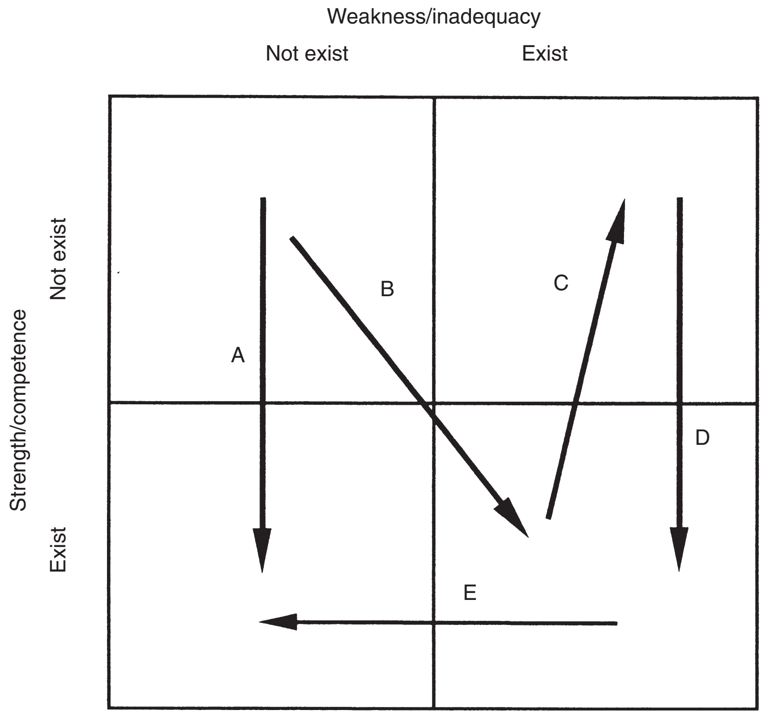

Figure 1. Alternative views of firm strategy development

argument suggests that firms may do many things very well, but if they do one thing wrong it may negate all the other good. Undoubtedly, firms do some things well, some things poorly, and some things in a mediocre fashion. Just as the strength/competence theoretical perspective focuses on that which firms do uniquely well that leads to competitive advantage, a weakness/inadequacy perspective should focus on that which firms do especially poorly that may erode value the firm delivers in the competitive market. Distinctive inadequacies and resource weaknesses are valuable to the firm not in terms of what is gained, but in terms of what is lost. That loss occurs either through diminishing previously-developed competitive advantage or by in fact placing the firm at a competitive disadvantage.

The strategy literature presents an incomplete view of developing and maintaining competitive advantage by concentrating on strengths/competence to the near exclusion of weaknesses/inadequacy. Theoretical perspectives on strategy, such as those offered by the resource-based view, have tended to view strategy development as moving along path A in Figure 1. Here the objective of strategy is to develop distinctive competence and to build and enhance unique resource strengths. A more comprehensive theoretical perspective, however, would view firms as moving along path B. Here weaknesses and inadequacies in organizations may be developing concurrently with strengths and competences, and both must be considered in parallel. Furthermore, a dynamic view of strategy then suggests that firms losing competitive advantage might be moving along path C as strengths and competences erode, are imitated, or are offset by newly-developing or more powerful weaknesses and inadequacies. The development of new competences along path D then characterizes the organization's efforts at renewal (Rumelt, 1995) in order to reassert or maintain its competitive advantage. We also suggest another possibility for asserting or reasserting competitive advantage, that of path E. Here the route to enhanced competitive position lies in overcoming or counteracting existing weaknesses and inadequacies.

THE NATURE OF WEAKNESSES AND INADEQUACIES

Original theoretical perspectives propose that resource weaknesses and distinctive inadequacies exist in parallel to resource strengths and distinctive competences. Further research and practice provides evidence that weaknesses and inadequacies may either be inseparable from strengths, or be completely different forces in organizations which offset strengths. How to more completely describe or define weaknesses and inadequacies is a significant challenge. It is not unlike the issue facing resource-based theorists in describing precisely the nature of resource strengths (Foss et al., 1995). In addition, the definitional task is complicated by presented evidence that such weaknesses or inadequacies may be related to or completely unrelated to strengths and competences. This next section begins to develop ideas about the nature of weaknesses and inadequacies, but acknowledges that complete definition of such is beyond the scope of this paper and is worthy of further research and thinking.

What are the characteristics of resource weaknesses and distinctive inadequacies that call for critical organizational attention in order to achieve sustainable competitive advantage? The language used to describe resource strengths (Barney, 1991; Dierickx and Cool, 1989) offers one useful framework for isolating both similarities and differences between resource strengths and weaknesses. Weaknesses and inadequacies must first be valuable, in the sense that failure to address them causes significant loss of competitive advantage, or places a firm at a competitive disadvantage. Where resource strengths and distinctive competences deliver value through enhanced competitive position, the value of weaknesses and inadequacies is primarily represented by the opportunity cost associated with loss of competitive position.

Resource weaknesses and distinctive inadequacies are also rare, but are so in the context of the *specific type of competitive advantage* sought by a firm. A position of resource strength is rare or a competence is distinctive if it is something a firm possesses uniquely *vis-à-vis* competition and the entire industry; its rarity amongst industry competitors in fact enables a firm to perform well. Resource weaknesses and distinctive inadequacies, however, exhibit a different kind of rarity: they are rare with respect to both the industry and the firm. If all competitors shared the same weakness or inadequacy, it would not be a source of competitive disadvantage. Under such circumstances all firms would suffer on an equal footing, or solutions to commonly experienced problems may be readily available. Thus a resource weakness experienced by a firm is uncommon to the entire industry. Moreover, the weakness for the firm should be rare with respect to areas of firm behaviour that impact the successful pursuit of a type of competitive strategy. Issues and problems commonly experienced by the firm in the pursuit of a particular type of strategy are those for which the firm will have developed routines and solutions, but for resource weaknesses no such routines or solutions would exist. Resource weaknesses are thus a kind of problem seldom experienced by a firm that can negatively impact the firm's performance, given the type of strategy it is pursuing.

The two-dimensional rarity of weaknesses and inadequacies suggests an intriguing dynamic character that is different from resource strengths. Since weaknesses are rare with respect to both the industry and the firm in its strategic context, there is a conceptual relationship that weaknesses have with both industry and firm strategy. A firm may exhibit a certain kind of weakness, but if it were unrelated to the firm's particular strategic context and behaviour it would not be a critical point of weakness. However, weaknesses may become pronounced if either firm strategy or industry changes take place, thus making their presence salient. This is especially important in the context of dynamic changes at the industry level. Whereas relying upon a particular strategic approach or developed competence may be prudent even in the face of dynamic industry change, industry change itself may generate a new set of conditions wherein a weakness suddenly becomes prominent even though strategy has not changed. In this way weaknesses may suddenly become powerfully important to firms who have not materially changed strategies.

This two-edged dimension of rarity also serves to heighten the valuable nature of weaknesses. Like strength and competence, weakness and inadequacy take time to develop and manifest themselves and then take time to counteract or overcome. Competitive advantage accrues from stocks of resources (Dierickx and Cool, 1989); this stock framework might also apply to resource weaknesses. Resource stocks cannot be adjusted instantaneously (Dierickx and Cool, 1989), and so resource weaknesses that develop over time may also only be effectively dismantled over time. This argument suggests conceptual differences in the understanding of resource weaknesses as being deeper than those identified in cursory planning exercises such as SWOT analysis. Resource weaknesses, like resource strengths, result from firm-specific investments or actions over time. They are not created by a firm's immediate competitive context or competitor's activities, but instead apply to a whole class of competitive situations and may have continuity of effect over time. Because a resource weakness or inadequacy is rare both in the industry and for the firm, there is little information or learning available to the firm to help identify or implement solutions. Managers will find that solutions employed for other problem areas in their firm or by other firms in the industry are not substitutable. Because weaknesses are unique to the firm, imitable solutions are also not available from the competitive environment. The dismantling of resource weaknesses therefore becomes an expensive and time-consuming affair where learning-based investments are required. For these reasons, as Wernerfelt (1984) suggests, resource weaknesses are also attached semi-permanently to firms.

While the previous discussion employs the rhetoric of resource-based theory to describe symmetries and asymmetries between weaknesses and strengths, other significant asymmetries exist between weaknesses and strengths. The asymmetries have to do with sources, solutions, and effects of resource weaknesses and distinctive inadequacies. First, complexity and causal ambiguity operate differently on strengths versus weaknesses in terms of their sources. Resource strengths are identified and consciously invested in by management with internal cause-and-effect evaluation. Their complexity and causal ambiguity represents a positive, insulating factor for firms because these characteristics make such strengths difficult to imitate by competitors. But complexity and causal ambiguity in organizations and the competitive environment operate differently for weaknesses and inadequacies, making it exceedingly difficult for firms to identify them as they emerge. Often a weakness grows within the organization over time without its presence known, and then manifests itself suddenly. For example, routines developed for search, attention, and goal-setting provide direction for the acquisition of knowledge from organizational memory (Cyert and March, 1992; Nelson and Winter, 1982). Hamel and Prahalad (1994) point out that the auto industry relies heavily on their studies of historical trends in order to better understand developing consumer needs and direct R&D investment. This reliance by Ford led to the rejection of the development of the minivan in the early 1980s, while Chrysler did pursue the minivan project after deciding to use a new and different routine for estimating consumer preference. As a result Ford ceded over the lucrative minivan business to Chrysler for years (West and Meyer, 1997). Alternatively, weakness and inadequacy may be exposed by unexpected changes in the external environment. Here the weakness of the organization to cope with emergent conditions is suddenly exposed, as has been the case recently with Compaq's attempts to remain competitive with the assault of personal computers priced under $500. While resource strengths are created through prodigious proactive investments, resource weaknesses may be built by either commission or by omission. Due to limitations in available investment capital, a firm may decide to concentrate in one area to the exclusion of another. Or due to bounded rationality and the existence of developed routines that concentrate investments on specific areas, the firm's choice set does not include investments in other areas. In either case weakness and inadequacy grow by stealth, emerge within organizations over time, and in many cases are visible only after changes in strategy or the competitive dynamic highlight their presence and effects.

While resource strengths are complex and causally ambiguous, it is the sources of and solutions to resource weaknesses and distinctive inadequacies that are complex, ambiguous, and difficult to identify. Because they are not problems common to all organizations, and because common solutions do not exist and are not transferable from external environments, the solutions to dismantle or counteract such weaknesses are not obvious and will require time to fully comprehend. Moreover, strategic agendas tend to focus managerial attention on issues which are more immediate and which are considered to be less abstract, of greater magnitude, and less complex (Bowman and Bussard, 1991; Dutton, 1988). Emergent issues that are complex tend to fall to the bottom of the agenda or are not incorporated in it at all (Bowman and Bussard, 1991). Thus the inherent complexity and ambiguity of solutions to critical weaknesses in organizations is exacerbated by lack of management attention, making the identification of the solutions terribly difficult.

Asymmetries between strengths and weaknesses extend to rent generation. While the resource strength view only confers advantage and rent generation potential to firms, the weakness/inadequacy view allows for different effects on performance via competitive advantage. Weaknesses and inadequacies may offset a developed strength or competence of the organization, leading to ineffective

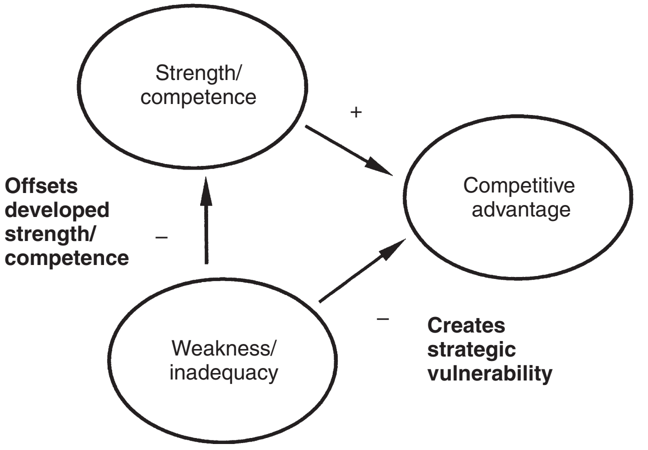

Figure 2. Differential effects of weaknesses and inadequacies

competitive posture. Or they may lay open the organization to critical strategic vulnerability from other firms, regardless of the organization's strengths and competences in other areas. Therefore, they may either interfere with rent generation by the firm or enable other firms to generate rents. Thus the distinction was made earlier that weaknesses and inadequacies may either contribute to loss of competitive advantage or place the firm at a competitive disadvantage (see Figure 2).

This conceptual difference, together with the earlier discussion on theoretic support for the existence of weaknesses and inadequacies (Mintzberg, 1991), suggests considering two separate views which may inform theory on strategy. In the first view, *weaknesses/inadequacies are different organizational factors from strengths/competences*. In the second view, *weaknesses/inadequacies and strengths/competences are varying degrees of the same factor*. Our understanding of the relationship between weakness/inadequacy and competitive advantage can be improved by separately considering these two views, which we next explore more carefully.

Weaknesses and Inadequacies as Different Factors

Weaknesses and inadequacies may be different from strengths and competences. Thus, for example, Low and MacMillan discuss key failure factors in addition to key success factors in a strategic adaptation perspective for entrepreneurship: '. . . the seriousness of any problem depends on the extent to which it detracts from one of the key success factors' (1988, p. 142). This would suggest that a weakness or inadequacy would be critical if it has the ability to offset a developed strength or competence. Extending the 'bathtub' metaphor of Dierickx and Cool (1989) provides an illustration. While resource stocks represent the level of water in the tub, processes unrelated to the investments in such stocks may reduce the level. These include any number of leaks in the bathtub, the type of drain plug, and the sizes of the leaks and drain plugs. A large pool supplemented by large inflows may still be drained quickly with but one large leak.

Examples from industry illustrate these factor differences. IBM had developed considerably unique strengths in computer technology as it entered the 1980s. Its weakness may have been its inability to foresee growth in PCs and distributed processing and its inability to translate such forecasts into substantive development efforts internally. Even while many within IBM were aware of the need for product development to respond to evolving market changes, the company continued to emphasize mainframes and large scale customized applications throughout the 1980s and into the 1990s. The result was that its performance declined and its stock price dropped over one hundred dollars per share. Its weaknesses and inadequacies in market orientation offset its considerable strengths and competences, interrupting 40 years of growth and causing substantial losses to shareholders. There has been no easy fix for the problem IBM faced, as both John Akers and Lou Gerstner discovered. Since Gerstner's arrival the firm has attempted to redress its distinctive inadequacy with substantial allocation of resource investments over time directed at reorganizing its structure and operations around a new customer-oriented and 'network-centric' vision. In another case Amre Inc. operated a series of home improvement centres under the Sears, Roebuck name. Despite its expertise in home remodelling, upon changing its name to Century 21 it dramatically lost customers and market presence and was forced into Chapter 11 protection (Tejada, 1996). Even while energy and investments are directed in some areas to develop resource strength and competence, weaknesses and inadequacy develop because of inattention and lack of emphasis in other areas.

More generally, the inability to identify changing circumstances that would compel changes in strategy is a critical weakness separate from developed strengths. The entrepreneurial capabilities of the top managers represent a fundamental resource strength of the organization (Castanias and Helfat, 1991; Penrose, 1959). As their strategic vision is communicated throughout the organization, the organization focuses on distinctive competence in which it may invest to develop competitive advantage within the current environment. However, environmental conditions change and the firm may experience strategic drift (Johnson, 1988) by adhering to its developed competence and making only incremental changes to enhance that competence. The inability of the CEO or top managers to encourage and effect sufficient re-visioning of firm strategy to keep pace with changing conditions then represents a resource weakness offsetting the fundamental capabilities of the organization with respect to competition. In growing technology startup firms, for example, Meyer and Dean (1990) have found that CEOs often refuse to shed a narrow technical mindset and fail to address the changing management needs of the organization, resulting in performance decrements following successful startup and initial growth. In contrast, West and Meyer (1998) discover that such firms achieve superior performance when management teams substantively embrace new ideas and change possibilities.

The inadequacy/weakness manifested by a firm's inability to identify changes in competitive and market dynamics suggests that knowledge-generating routines are somehow at odds with strengths/competence manifested by activity sets. Either new knowledge-generating routines are not well-developed, which is an omission. Or new knowledge-generating routines are developed but are ineffective in enabling firms to transition in synch with changing competitive environments (for example, see Stinchcombe, 1990). In either case, the routines which guide information gathering and knowledge creation are unrelated to a particular strength/competence, and should be viewed as a new area for possible resource development investment (West and Meyer, 1997).

These arguments are not to suggest that knowledge generation and organizational perception is the only territory in which weakness/inadequacy may be separate from strength/competence. Referring back to the New York Yankee organization mentioned earlier, the clear weakness in this organization was its management ability at both the field and front office levels. Despite highly talented individuals, the inability to organize and manage to a collective position of competitive strength damaged the franchise's performance.

There is further insight in this example. Where distinctive competence is viewed as the organization and coordinated deployment of resources, it suggests fertile ground for identifying sources of inadequacy and weakness. Organizations may develop particular strengths related to technical knowhow or product/market domains, but their skills at organizing and coordinating may not be well-developed. An omission in developing such skills or developing poor integrating skills may be viewed as an offsetting inadequacy and weakness, particularly where competitive environments are dynamic.

Where resources weaknesses are different from resource strengths, firms may consider choosing among several types of strategic investments. The extant resource-based view prescribes building resource stocks as a means of achieving competitive advantage (Barney, 1991; Dierickx and Cool, 1989). But the view offered here argues that firms should also consider investing in the reduction of stocks of resource weaknesses, or in building a secondary set of resource strengths (Peteraf, 1993) which may help to offset the effect of weaknesses (see Figure 3). Therefore, firms must not only allocate resource investment flows to build strength,

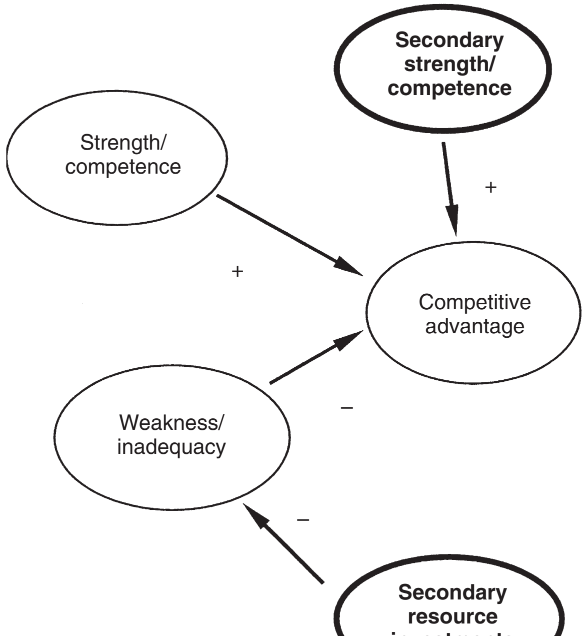

Figure 3. Strategy for weaknesses and inadequacies as different factors

but also to negate weakness. Firms must be able to identify both resource strengths and resource weaknesses, and for the latter select an appropriate approach as an offset.

> *Proposition 1:* When the sources of weaknesses are separable from the sources of strengths, firms only gain competitive advantage by:
> (1) investing in stocks of resource strengths; *and either*
> (2) investing in the reduction of stocks of resource weaknesses; *or*
> (3) investing in secondary resource strengths that counter the effects of stocks of resource weaknesses.

Unfortunately Proposition 1 is a band-aid solution for problems that have already arisen in the form of developed weaknesses. In order to work on the source when distinctive inadequacies are different from distinctive competences, firms must better evaluate the internal consistency of their activities and the need for better integrating processes. The very existence of distinctive inadequacies in an organization clearly suggests that parts of the organization are working at cross purposes. While the organization is building upon a particularly unique and valuable combinative capability, at the same time it is also acting in a way that reduces the benefits of this competence. The dynamic capabilities perspective must also include the effective integration of other processes which – when left unattended – defeat the advantage gained by combining resource strengths. Thus Stein and Kanter conclude that errors such as the Hubble fiasco may only be avoided by creating 'far more sophisticated guidance systems firmly linked with and accessible to every local action cell' in the organization (Stein and Kanter, 1993, p. 61).

> *Proposition 2:* When the sources of weaknesses are separable from the sources of strengths, firms only gain competitive advantage through:
> (1) the creation of distinctive competence by combining resource strengths; *and*
> (2) the prevention of distinctive inadequacy by coordinating and integrating diverse processes throughout the organization.

Weaknesses and Inadequacies as the Same Factor

In many cases the distinctive inadequacies and resource weaknesses may be extensions of distinctive competences and resource strengths (e.g. excellence to a fault). Paradoxes exist throughout organizations, leading to the 'presence of simultaneous opposites' (Cameron and Quinn, 1988, p. 1). By example, Dougherty (1993) discusses how the routines that lead to excellence in new product development also serve to constrain firms from doing things differently and lessen responsiveness to environmental changes. In fact, some of the most often-cited reasons for performance failure spring from the momentum and inertia created by success which prevents effective strategic adaptation (Leonard-Barton, 1995; Miller and Friesen, 1980).

Unrelated to the various investment flows is the organization of the stock of resources. Stocks of resources may confer advantage, but the path dependency of the development of those stocks represents a system constraint. Again using the bathtub metaphor, once the tub is filled its weight and mass make it difficult to move and difficult to use in a variety of venues. Intel drilled down to develop a deep set of resource strengths through massive investment in chip manufacturing infrastructure, but such mass now prevents it from responding with agility to emerging markets for electronics-based chips (Takahashi, 1998). Intel's developed competence in mass production of low-cost chips insulates the firm from competitive duplication, but also weakens its ability to address market changes. Wal-Mart has experienced several miscues in expanding internationally because it initially attempted to replicate completely its US model and routines; now it finds these routines may not work in foreign markets, and needs to learn to make adjustments (Zellner et al., 1997). In this view weaknesses and inadequacy develop as a by-product of investing in resource strengths and competence. The same set of cumulative investments that create advantage also act to hamper the firm when experiencing changes in strategic behaviour or in competitive dynamics.

In addition, consistent with the entropic nature of any organized system, any stock of resources depreciates over time (Dierickx and Cool, 1989). The way such resources are organized affects the ways in which such depreciation occurs. Using the bathtub metaphor, the level of water in the tub will naturally go down as a result of evaporation. If the tub is broad and wide presenting a large surface area, the evaporation rate will be faster than if the tub is narrow and deep and provides little surface area. Thus well-developed routines which have historically conferred competitive advantage may no longer do so if the rate of depreciation exceeds the rate at which the firm reinvests in its resource base. Retrospectively, Apple Computer's early competitive advantage rested on a reasonably shallow set of resources represented by its combined capabilities in user-friendly graphical interface, mouse technology, and companion software development. Over the last decade imitators have individually and collectively chipped away at this set. The broad but shallow organization of their resources and competences also created inherent weaknesses, so that both market changes and competitive dynamics have hampered Apple. Blockbuster Video made massive investments in a nationwide network of retail establishments that have for years offered a wide selection of movie titles at low prices. In concert with recent market changes that provide access to video through many more venues than previously existed, Blockbuster has found the need to reinvest in its existing infrastructure in order to reinvigorate how its system delivers customer value. Like Toys 'R Us and other retail chains where 'bricks and mortar' stores and infrastructure have not benefited from reinvestment and updating, delivered customer value depreciates.

Where resources weaknesses are extensions of resource strengths, firms must make multiple strategic investments. The prevalent resource-based view recommends investing in resource strengths. In particular, Grant (1991) has proposed a model in which effective strategy involves the investment in and replenishment of resources leading to capabilities. However, the view developed here suggests that doing so might also enhance resource weaknesses. Investing further in routines that lead to new product development excellence, for example, will also constrain a firm further from alternative development approaches. Therefore firms must develop secondary or multiple resource strengths, in addition to a set of primary resources (see Figure 4). Dual or multiple sets of resource strengths will enable firms to overcome possibly limiting aspects of weaknesses embedded in particular strength factors. At the same time this approach will serve to develop competitive advantage on multiple fronts. The use of secondary or multiple resources also

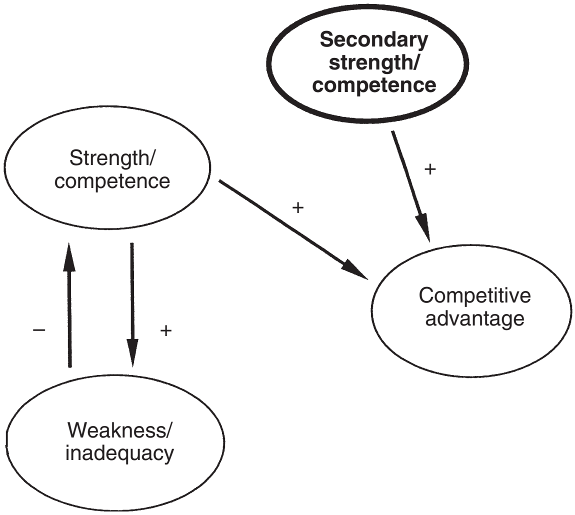

Figure 4. Strategy for weaknesses and inadequacies as the same factor

provides complexity and ambiguity, and thus enhances potential competitive advantage (Barney, 1991; Reed and DeFilippi, 1990).

> *Proposition 3:* When the sources of weaknesses are inseparable from the sources of strengths, firms only gain competitive advantage through development of multiple sets of resource strengths.

Where distinctive inadequacies and distinctive competences exist on the same continuum, a premium is placed on the firm's ability to recognize new resource combinations. Firms develop distinctive competence and competitive advantage by effectively combining resource strengths. But as path B in Figure 1 suggests, at the same time competence is being created, inadequacy is also being developed. There may be a timing advantage for firms wherein the positive effects of developed competence are manifest for a period before the negative effects of inadequacy set in. This idea is supported by both theoretical arguments and practical examples where weaknesses arise from the same factors as strengths (such as through inertial tendencies). Therefore, for firms that guard against complacency by continually investing in the development of new resource combination capabilities, the timing advantage of competence over inadequacy may thus yield ongoing competitive advantage. In effect, it could be argued that sustainable competitive advantage should be the result of the difference between the effects of resource strengths and the effects of resource weaknesses. That difference should be the result of the constant renewal of capabilities and resource combinations.

Contradictions in Strategic Investment Choices

In our earlier discussion we suggested certain difficulties in identifying the sources of and solutions to resource weaknesses and distinctive inadequacies. Like building resource strengths, dismantling resource weaknesses will take time and continued investments. Resource strengths are likely built through learning-based investments, where positive results from previous investments serve as a stimulus for continuing the investment stream (Argyris and Schön, 1978). Investments in deconstructing weaknesses, however, may not yield clear positivistic results. The deconstruction of weaknesses may simply result in the absence of negatives that interacts with – and may be confounded by – continued investments made to further build strengths.[2] Results of weakness deconstruction investments may be viewed as evidence that resource-building investments are working, instead of as evidence that weakness-related investments are working. The effectiveness of investments made to reduce stocks of resource weaknesses may therefore be more difficult to assess than is the effectiveness of investments made to build stocks of resource strengths.

Proposition 4: Efforts to reduce stocks of resource weaknesses will take more time and greater investment than will efforts made to build stocks of resource strengths.

Ultimately, investments made to build strengths and dismantle weaknesses are designed to make firms more competitive. But which type of investment is most effective? Firms confront this choice set routinely. Our propositions suggest that multiple resource strength investments are often the route to take to build and maintain competitive advantage. By doing so, however, firms spread management attention and discretionary investments across more than one strategic platform. The benefits of specializing in one area of expertise are realized to a lesser degree, and the extent to which any one strategic platform can be developed deeper is limited by the need to cover multiple bases. In contrast, investments made to dismantle weaknesses serve to strengthen the kind of competitive advantage achieved through a previously-developed resource strength. A singular focus on improving competitive position utilizing existing strength can be maintained, and that strength position can be both deepened and extended into related endeavours. Furthermore, such weakness reduction efforts serve to preserve the differences between positive strength effects and negative weakness effects mentioned above.

Proposition 5: Sustainable competitive advantage should be more easily achieved through investing in the reduction of stocks of resource weaknesses than through investing in other stocks of resource strengths.

CONCLUDING DISCUSSION

One clear implication of an inadequacy/weakness perspective is the suggestion for firms to allocate investments in more than the development of a single set of resource strengths. This is evident in Propositions 1 and 3. Whether weaknesses are the same factors as strengths or different, in both cases firms are advised to broaden their resource investment strategy into the development of secondary resource strengths. Secondary resource strengths may either serve to directly offset resource weaknesses when weaknesses are separate factors, or may provide an additional point of competitive advantage if weaknesses are part of the same factor as primary strengths. Peteraf (1993) holds that secondary resource strength development may also enhance competitive advantage as a result of time path dependency or competition-inhibiting expectational advantage. Recent work on real options for strategy (Amram and Kulatilaka, 1998; Pindyck, 1988; Sanchez, 1993) provides insight on how firms may consider making secondary investments. Investing in joint ventures and alliances (Badaracco, 1991; Hamel, 1991) also presents firms with possibilities for developing new competences that may outflank apparent weaknesses.

In contrast, Propositions 2, 4, and 5 suggest that investments made to dismantle resource weaknesses are important. Such efforts are more difficult to evaluate but are more effective in creating a *sustainable* competitive position. Firms that specialize more in one strategic posture do not fragment their efforts and may be able to extend themselves into a broader array of related business pursuits that rely on a deeply-developed resource strength position. Here investments made to dismantle weaknesses that damage the core strategic position better enable this type of leveraged firm growth and development.

This choice-set confronting management is a fundamental component of the nature of sustainable competitive advantage, and might be a starting point for an in-depth discussion on the limits of sustainability. The proposals to invest in different ways points out an important conundrum that firms face in the pursuit of growth. Firms experience limits on the extent to which they may invest. Management must choose to allocate efforts against either building strengths, reducing weaknesses, or some combination of the two. Investing in strength building has a clearer payoff and may manifest results sooner, but investing in weakness reduction may be more effective over the long run. Although investing in multiple resource sets might prevent the appearance or the effects of inadequacies and weaknesses, in reality bounded rationality and bounded levels of organizational slack (Cyert and March, 1992) often constrain investments primarily to those areas that would create a specialized area of distinctive competence. A firm might thus be penalized by investing limited resources in a specialized area to create distinctive competence, because by doing so it enables inadequacy and weakness. On the other hand it might be penalized by investing constrained resources in multiple areas of weakness reduction or competence development that might limit the impact of inadequacy and weakness, because by choosing this direction it could damage the firm's ability to achieve distinction in a specialized competence area.

This constrained investment problem is exacerbated by the dynamic nature of competitive markets. Not only must firms confront the choice-set given current circumstances (strengths and critical weaknesses operating in the current context). They must also consider spreading resource investments across a growing array of possible investment choice options, as evolving competitive contexts reveal new exigencies. This serves to further limit the extent to which firms may grow.

A real options approach could provide a bridge between these apparently conflicting positions (Bowman and Hurry, 1993). A firm might be able to alleviate potential problems of resource weaknesses and distinctive inadequacies by 'buying' real options in the possible areas where weakness and inadequacy could develop. In that approach, should problems arise, the options to invest further could then be exercised. However, as we have discussed above, a particular characteristic of resource weaknesses and distinctive inadequacies is the firm's difficulty in identifying early on the possible areas in which they may appear (as a result of their uniqueness, complexity, ambiguity, and interactive and dynamic relations to both strategy and industry). The solution would then entail buying strategic options in a large number of areas and hoping that those cover all possible weakness or inadequacies. This is clearly not an adequate solution because weakness and inadequacy have a sort of 'unknowable uncertainty' character (Knight, 1921), and cannot be readily identified *ex ante*. Thus, an adequate manner for firms to address the issue needs to be researched further.

These ideas provide a perspective on the limits to a firm's growth that is in contrast to arguments presented by evolutionary economists. Evolutionary economists (e.g. Nelson and Winter, 1982; Penrose, 1959) emphasize path dependence and resource relatedness as bounding a firm's growth direction. While it has been subsequently argued that economies of scope may enable firms to apply their developed resource strength positions over broader product/market domains, evidence on the success of such synergistic efforts is mixed (Sirower, 1997). In contrast, the argument presented in this paper focuses on alternatives to resource strengths and economies of resource strengths as determining the limits to growth. The need for firms to make multiple sets of investments, in order to counteract the effects of developing weaknesses and inadequacies, provides boundaries for growth possibilities quite apart from the nature of the firm's endowed resource strength position and its possible economies. Like resource strengths, weaknesses and inadequacies are also evolutionary within organizations. Such continuing evolution requires firm investments on a continuing basis to offset or destroy them. The application of organizational slack against such advantage-compromising characteristics diminishes that which organizations are able to apply to advantage-enhancing characteristics. Thus the need to make investments to offset developing weakness and inadequacy prompts firms to either remain more narrowly specialized within the developed path of strengths than might otherwise be the case, or limit the depth to which a particular specialized approach can be extended.

The ideas developed in this paper extend recent arguments that sustainability of competitive advantage resides in rent creation versus rent appropriation (Moran and Ghosal, 1999), and in administrative reorganization (Ghosal et al., 1999). These recent perspectives hold that sustainable advantage can be explained by a symbiotic process that involves Penrosian extension of resource strengths and Schumpeterian integration into new resources and activities (Ghosal et al., 1999). We suggest instead that rent creation accomplished through the extension, discovery and building of new resource strengths is but one means for sustaining advantage. The other means is through investments to reduce weaknesses, which serves to preserve differences in effects between positions of strength and weakness.

The arguments supporting the propositions developed in this paper consider weaknesses and inadequacies in the context of maintaining competitive advantage. This perspective may also be fruitfully applied to obtaining competitive advantage to begin with. Startup firms and established firms entering new industries or markets might consider two-pronged strategic investments, those which build on fundamental capabilities and those which offset coincidentally-developing weaknesses in these new endeavours. The suggestion implicit herein is that competitive advantage might be developed faster by making such dual investments. This represents an area for further theoretic development and testing.

An inadequacy/weakness perspective enhances theory on developing competences and dynamic capabilities. Combinative processes must be constantly evolving. Teece et al. (1997) discuss the need for evolution in coordinating capabilities. Where inadequacies and competences spring from different factors, this view proposes that combinative processes must simultaneously account for and attempt to synthesize both the 'good' and the 'bad' in organizations. The complexity of this task places an ever higher premium on the people and processes within organizations which differentiate, integrate, and coordinate multiple and diverse information and activities (Castanias and Helfat, 1991; Coff, 1997).

The arguments developed in this paper call attention to the need to better understand the dynamic nature of resources themselves. Theory and examples cited above offer the perspective that resource strengths may subsequently become a source of weaknesses, and that viral resource weaknesses may suddenly bloom forth with devastating consequences. One venue in which this dynamic nature is especially evident is in the formation of new firms. For startup firms the founder/CEO represents one of the main firm resources. As the firm begins to grow, additional resource strengths are created while the founder/CEO then often becomes a source of weakness. What once was strength has become weakness, and serves to offset newly-developed strengths within the organization. For ongoing concerns, the concept of inadequacy and weakness may help explain reasons behind the decline of organizations that had previously built strong resource strength positions and gained competitive advantage. The onset of firm stage development or competitive market conditions that activates viral weaknesses and inadequacies and their effects deserves attention. This is an area that has not been adequately addressed in prior resource-based theory research.

A critical issue, mentioned earlier, which calls for future research is that of measuring inadequacies and weaknesses. As evidenced throughout this paper, examples of inadequacy and weakness are rife throughout all industries. Unfortunately, these are *post-hoc* illustrations. Scholars need to work towards *ex ante* insight and prediction. Firms must not only concentrate on how to build strengths and capabilities, but must also protect against simultaneously developing weaknesses and inadequacies. Future research that carefully articulates measurable and predictable dimensions of weaknesses and inadequacies will aid managers greatly.

Progress in moving inadequacies and weaknesses from concept to operationalization may be made through efforts to better articulate the structure and origins of weaknesses and inadequacies. This paper builds the conceptual argument for the existence of these forces and draws a critical categorical distinction between separable and non-separable weaknesses. We also suggest that weaknesses may – like aspects of resource strengths – be in part embedded in organizational routines, and may be created through either commission or omission. How can routines for destructive or compromising behavior develop in organizations? Commission suggests that firms make choices that favour strength-building over other options, while omission suggests that these routines develop below the level of management attention. Future research should seek to better understand how such behavioural patterns start, come to be institutionalized within the firm, and how they in turn can then affect structure and strategy. Because weaknesses and inadequacies are idiosyncratic to firms and evolve over time, rich case studies

(Eisenhardt, 1989) and longitudinal studies (Van de Ven and Poole, 1995) may further this agenda. These methods will afford the opportunity to examine micro factors within firms, and to understand how such factors come to play roles of increasing importance over time. Together, such methods that capture their emergent nature may serve to develop a more generalizable lexicon of origins, structure, and categories of weaknesses and inadequacies.

To this recommendation for future research we append a critical distinction in the basic research question which the weaknesses and inadequacies perspective raises. Much strategy research is concerned with why firms succeed (Rumelt et al., 1994). Another branch of research, primarily dealing with new ventures and entrepreneurial situations, explores why firms fail. The essential question that the weaknesses and inadequacies perspective raises is why firms *do not* succeed. In order to better understand this question, researchers may thus need to cast off the natural positivist orientation to questions, constructs, variables and relationships that are in their customary toolkit (Weick, 1996).

Finally, the propositions developed in this paper suggest that the view of strategy as residing in the enhancement of resource strengths or in the combining of resource strengths is incomplete. Managers must not only build on unique organizational strengths, but must also act to disassemble or neutralize unique organizational weaknesses that might compromise strength. At the same time, the creation of ongoing competitive advantage calls for managers to work proactively to overcome inconsistencies and inertial pressures in organizational processes wherein resources are combined into competences. The directed evolution of such competences by organizations equates neatly with the need for evolution often demanded by the organization's competitive environment. With this perspective competitive advantage may be sustained even in the face of environmental change (Barney, 1991).

NOTES

*The authors would like to thank Candida G. Brush and four anonymous reviewers for helpful comments on earlier versions of this manuscript.

[1] This perspective is based on interviews with brand group managers at 3M and other corporations such as Frito Lay and General Mills Inc. For example, General Mills formerly set $25 million per year as a minimum threshold for a newly developed brand; the threshold has since been raised to $100+ million per year. Staffing and administration for a $25 million brand is almost identical to that for a $100 million brand, so there are losses of scale economies on the human capital side if growth is achieved through a patchwork of smaller new businesses. Moreover, the corporation's higher sales base in combination with espoused goals of 15 per cent growth annually in earnings per share prompts their focus on a few large new brands versus many smaller new brands. Thus for General Mills smaller more innovative market entries, such as Nature Valley granola bars and Yoplait yogurt once were, now give way to entries represented by brands with larger potential in the short run. Frito Lay experiences the very same dilemma in delivering growth, and has increasingly turned to acquisitions of moderate size companies to supplement internal new business development.

[2] This problem is similar to that described by Hedberg (1981) for unlearning and Lewin (1947) for unfreezing management frames of reference.

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