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COMPETITIVE ADVANTAGE AND FIRM PERFORMANCE

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Abstract

Competitive advantage is perhaps the most widely used term in strategic management, yet it remains poorly defined and operationalized. This paper makes three observations regarding competitive advantage and conceptually explores the various patterns of relationship between competitive advantage and firm performance. First, competitive advantage does not equate to superior performance. Second, competitive advantage is a relational term. Third, it is context-specific. This paper examines three patterns of relationship between competitive advantage and firm performance: 1) competitive advantage leading to superior performance; 2) competitive advantage without superior performance, and 3) superior performance without competitive advantage. The ultimate purpose of this article is to help generate a healthy debate among strategy scholars on the usefulness of the competitive advantage construct for our theory building and testing.

This paper proposes that we re-examine the notion of competitive advantage and formally assess its usefulness for theory building and testing in the field of Strategic Management. The notion of competitive advantage has been a cornerstone of our field. As such, research on competitive advantage occupies a central position in strategy literature (e.g., Porter, 1980, 1985; Rumelt, 1984, 1987; Barney, 1986, 1991; Ghemawat, 1986, 1991; Peteraf, 1993; Teece, Pisano, & Shuen, 1997). However, the notion of competitive advantage itself has rarely been systematically addressed and, to date, remains poorly defined and operationalized. Is competitive advantage what it takes to compete, a characterization observed during competition, or an outcome of competition? Is competitive advantage contingent on the competitive situation or is it a more general trait of the firm? Put differently, how is competitive advantage different from competence, strengths and, ultimately, performance?

This article, addressing the above questions, makes three observations regarding competitive advantage. First, competitive advantage does not equate to (superior) performance. Second, competitive advantage is a relational construct. Third, competitive advantage is context-specific. In presenting these three observations, this article proposes suggestions to refine and operationalize "competitive advantage." It then conceptually explores the relationship between competitive advantage and performance, which is argued to be much more complex than it is currently being treated in the literature. Concluding remarks follow.

Competitive Advantage Is Not Performance

The structural approach (Porter, 1980, 1981, 1985) and the resource- based view (RBV) (Wernerfelt, 1984; Rumelt, 1984; Barney, 1986, 1991) are two dominant perspectives in strategic management, which purport to explain competitive advantage, sustainable advantage in particular. It seems, however, that neither perspective readily differentiates competitive advantage from superior performance. Instead, they are treated more as interchangeable constructs.

Competitive Advantage: The Structural Approach

The structural approach rooted in IO economics posits that strong, defensible market position (read power) in an attractive industry renders sustained competitive advantage (Porter, 1980, 1985). Here, industry positioning plays an important role in determining the firm's competitive advantage. Using the structural approach, Porter (1980) advances the industry-analysis framework (five-forces) whose "ultimate function is to explain the *sustainability* of profits against bargaining and against direct and indirect competition" (Porter, 1991: p.100, emphasis in the original). To achieve sustainable profit, a firm needs sustainable advantage, in either cost or differentiation (Porter, 1980, 1985).

Porter (1985:3) states: "Competitive advantage grows fundamentally out of the value a firm is able to create for its buyers that exceeds the firm's cost of creating it. Value is what buyers are willing to pay, and superior value stems from offering lower prices than competitors for equivalent benefits or providing unique benefits that more than offset a higher price. There are two basic types of competitive advantage: cost leadership and differentiation."

In this sense, Porter defines competitive advantage in rather specific and concrete ways that seem to implicitly equate competitive advantage to profitability (performance), and sustainable advantage to sustainable profitability. That is, competitive advantage is treated as an outcome (of positioning) and should be pursued as an end in itself. An important question arises: Is either cost advantage or differentiation advantage sufficient and necessary for superior performance? If the answer is no, then we should perhaps conclude that competitive advantage, within Porter's perspective (1980, 1985) at least, does not equate to performance.

A government-sponsored near-monopoly firm in certain industries, for instance, could enjoy high profit without either cost advantage or differentiation advantage over rivals. Also, it is highly conceivable that the firm with the lowest cost in a market may not enjoy better performance than a rival which happens to have (for whatever reason) overwhelming advantage in access to distribution. Although competitive advantage in cost or differentiation may increase the likelihood of better performance, competitive advantage per se is not the same as performance. At least, cost advantage and differentiation advantage, two generic types identified by Porter (1980), are not necessarily the ultimate determinants of performance. Superior performance could also come from other types of competitive advantage, e.g., speed (Stalk, 1990; Eisenhardt & Brown, 1998) or flexibility (Sanchez, 1993, 1995), or perhaps, more practically, combinations of multiple competitive advantages.

As such, maybe we should not use the general term competitive advantage as a surrogate for superior performance, nor should we assume that competitive advantage, whatever type, automatically leads to superior performance. Competitive advantage and performance are two different constructs and their relationship seems to be complex.

Competitive Advantage: The Resource-based View

The Resource-based View (RBV) (Rumelt, 1984, 1987; Barney, 1986, 1991; Dierickx & Cool, 1989; Grant, 1991) provides another perspective on

competitive advantage, which is hailed as a possible paradigm capable of elucidating and integrating research in all areas of strategy (Peteraf, 1993). The basic tenet of the resource-based view is that unique resources are the sources of sustained competitive advantage (Barney, 1991). To generate such advantage, a resource must be rare, valuable, inimitable, non-tradable, and non-substitutable, as well as firm-specific (cf. Barney, 1986, 1991; Dierickx & Cool, 1989; Grant, 1991).

A notable work is the integrative account by Peteraf (1993) which summarizes the cornerstones of competitive advantage from the RBV. Heterogeneity in resource endowments provides competitive advantage (indicated by monopoly or Ricardian rents). Ex post limitation to competition sustains the rents. Imperfect mobility of the resources sustains the rents within the firm. Ex ante limits to competition guarantees that the cost of securing resources not offset the economic rents.

In RBV, a firm's unique resource is treated as being inherently related to performance. The unique, inimitable, and immobile resource is valuable precisely in the sense that it generates economic rent (Barney, 1991). Here the linkage between competitive advantage (unique resources) and performance (economic rent) is more direct than that in Porter (1980): it does not even have to specify cost advantage, differentiation advantage, or any other types of competitive advantage. If a firm has valuable, rare, and inimitable resources, then superior performance ensues. That is, the definition of such resources (as the essence of sustained competitive advantage) already has inherent performance implications.

Several questions arise. Does the RBV assume that there is only one particular type of unique resource (hence one type of sustained advantage) in a particular industry? Does the prescription by the RBV preclude the situation where more than one firm can have such resource(s)? If firm A has resource X that fits the RBV prescription and firm B has resource Y that also meets the RBV criteria, then what determines which firm has competitive advantage over the other? Or does it matter? If we can identify the resources that bear the dictation by the RBV and use them to directly predict performance, do we still need constructs like competitive advantage or sustained competitive advantage?

Based on the above review of the two dominant perspectives on competitive advantage in our field, we come to the following tentative conclusions, which will be further elaborated on in later sections. First, competitive advantage and performance are two different constructs. Second, if competitive advantage, either defined by position or resource, is used casually as a surrogate of superior performance, it is not only redundant but also tautological. Third, competitive advantage, whatever type, does not guarantee superior performance. Finally, for competitive advantage to be a theoretically useful construct, it has to be better defined and operationalized.

Competitive Advantage is a Relational Term

In this section, we seek to understand competitive advantage at its most basic level of analysis and in the most basic form. We argue that competitive advantage is a relational term. It is essentially a comparison drawn between a focal firm and its rival(s) on

certain dimension(s) of concern in competition. Specifically, we examine competitive advantage in the context of its reference point (Fiegenbaum, Hart, & Schendel, 1996) and according to its magnitude and composition, and we comment on its operationalization.

Reference Point

Competitive advantage, as a relational term, depends on the reference point. That is, we must answer questions such as "against whom?" and "on what?" Does competitive advantage mean that one firm must be superior than all rivals? Or does competitive advantage mean only to be a pair-wise comparison between two rivals of concern? Porter's (1980) description of the cost leader advantage seems to suggest that the cost leader has absolutely the lowest cost position among all firms in an industry, hence perhaps his justification for equating such (cost) competitive advantage to superior performance.

In reality, however, competitive advantage could be, and often is, assessed between any pair of rivals on a certain dimension(s) that has competitive ramifications. For instance, among three chain stores—A, B, and C—which compete in an industry where, say, the number of locations is a major area of competition, A has the largest number, B the middle, and C the smallest. Then we could infer that, assuming the number of locations is of linear importance in competition, firm A has competitive advantage over B, which in turn has competitive advantage over C. In this case, we can compare a particular firm with the other two; we can also choose any two focal firms of interest to conduct pair-wise comparison. Such pair-wise comparison on a specific and discrete dimension of competition features competitive advantage in its most basic form and at its most basic level of analysis.

Notice that such conception of competitive advantage separates competitive advantage from firm performance, treating them as distinct constructs. Firm A may have more locations than Firm B, but Firm B may have more sales volume per location due to competitive advantages in other areas, e.g., merchandise selection and service quality. In this sense, Firm B may actually have better performance (profitability) than Firm A. However, just because Firm B performs better than Firm A does not mean that Firm A doesn't have competitive advantage over Firm B in terms of the number of locations. It simply means that there are often multiple dimensions of competition that jointly determine firm performance. A firm may have to have multiple competitive advantages to enjoy superior performance.

In this sense competitive advantage is not an undifferentiated, overall determinant of performance. It is a firm's relational score on a particular competitive dimension vis-a-vis that of rivals that may contribute to superior performance. However, we do not deny the possibility where one dimension of competition single-handedly determines performance and hence competitive advantage on that dimension is the determinant of superior performance. This is only a special case within the general conception of competitive advantage discussed above.

In summary, we propose the following definition of competitive advantage: the differential between two competitors on any conceivable dimension that allows one to better create customer value than the other. This definition builds on Porter (1985) in emphasizing the importance of creating customer value. It

moves down from the generic types of competitive advantage, i.e., cost and differentiation, to a more basic level and form of competitive advantage. In addition, this definition also facilitates the operationalization of the construct: first identify the dimension of competition and then compare a pair of firms against this dimension. It provides a baseline understanding of competitive advantage and readily accommodates the description of competitive advantage by both the structural approach and the RBV, two dominant perspectives in our field. This said, however, competitive advantage is still an elusive construct, like transaction cost (Williamson, 1991) in the choice of market and hierarchies, mutual forbearance in multipoint competition (Gimeno & Woo, 1996), and employee participation in organizational behavior (Ledford & Lawler, 1994), we could infer its presence and function but could not easily capture or measure it directly.

Magnitude

Given the above definition, two types of competitive advantage can be conceived: heterogeneous (binary) vs. homogenous (differential). The resource-based view hinges on the concept of resource heterogeneity (Rumelt, 1984, 1987; Barney, 1986, 1991). Moreover, Barney (1991) treats sustained competitive advantage as an equilibrium term: all attempts to imitate a valuable, rare, and difficult-to-imitate resource cease to exist. In this sense, resource heterogeneity sustains, hence competitive advantage sustains. Here heterogeneity seems to suggests that one firm possesses a unique resource and other firms could not imitate or match it. The differential among them, theoretically, approaches infinity.

Presented in its strongest form: you either have it or you don't. Those who have it have competitive advantage; those who don't, don't. Similar to Porter's conception of cost advantage (1980), here the RBV also focuses on the situation of "best of all" instead of merely pair-wise comparisons among competitors. The examples of such valuable, unique, and difficult-to-imitate resources certainly abound, e.g., De Beers monopoly of supply of raw diamond and Coca-Cola's brand name (in a league of its own). However, there also exists vast competitive space where imitation is prevalent and competitive advantage, if any, is only relative and temporal (D'Aveni, 1994): nowhere to run, nowhere to hide; the only option is to fight in hypercompetition.

If firms by and large could imitate rivals' resources and products, then these firms are by definition competing on some common dimensions. In such cases, on these common dimensions at least, competitive advantage is the differential between rivals, regardless of whether some of them also have heterogeneous competitive advantage based on other unique dimensions of resources or products. Such differential in (homogenous) firm resources is perhaps the most commonly observed form of competitive advantage, e.g., productivity and other efficiency-related factors.

Composition

Another important concern is the composition of competitive advantage. A competitive advantage could be a discrete one based on a firm's differential with a rival on one specific dimension of competition, e.g., presence on the retail shelves. A competitive advantage could also be a compound of multiple individual advantages that work together as an

integrative whole. In this sense, a compound advantage can be regarded as a higher-order advantage to a discrete advantage. For instance, Wal-Mart's competitive advantage in low cost items is a compound of multiple discrete competitive advantages that include location, information technology, warehouse and transportation systems, and corporate culture, among others (Ghemawat, 1991).

Although many discrete competitive advantages could contribute to a firm's performance directly, e.g., dominance of retail shelf space, they also contribute to form compound competitive advantages, which in turn contribute to firm performance. Typical compound competitive advantages include efficiency of organization and production process (cost advantage), quality and innovation in products (differentiation advantage) (Porter, 1980), and speed and flexibility of market response (Stalk, 1990; Sanchez, 1995). The more compound a competitive advantage, the more likely it is to have direct performance implication in the causal chain of performance analysis.

Operationalization

Regarding operationalization of competitive advantage, some cautions have to be taken. Although we define competitive advantage as a differential between a pair of rivals, the direction of the differential is of importance. This may cause problems especially when the "pair-wise" assumption is violated, —e.g., statistical analysis done on a large sample of subjects—where firms' relative competitive advantage is determined by their score on certain dimensions. Take again the chain stores as an example. The number of locations may not have a linear effect on competition and value creation. After a certain critical number has been reached, increases in the number of locations will likely cannibalize a chain's own stores, reaching into less densely populated areas, and diminishing headquarter's managerial attention to individual stores.

As such, uncritical use of the raw scores of a group of firms on a certain dimension that have implications for competitive advantage does not always capture the essence of competitive advantage. This is especially true when the underlying dimension of competitive advantage has an curvilinear effect, e.g., extent of diversification (Rumelt, 1974). As such, the same amount of differential may not mean the same degree of competitive advantage, and a positive differential on the very same dimension may mean competitive advantage in one situation, i.e., between a pair of firms below the optimal point, but competitive disadvantage in another, i.e., between a pair of firms beyond the optimal point.

Moreover, the measurement of compound competitive advantage may pose even more problems. This is so because of the multiple dimensions involved and a compound competitive advantage may not be a simple summation of individual competitive advantages. As such, the traditional measures of adding scores from multiple dimensions as well as the bilateral linkage between a variable and performance featured in typical statistical analyses, may not always capture the essence of such compound competitive advantage. So far as analysis is concerned, simultaneous modeling, e.g., Data Envelopment Analysis (DEA) (Chance, Cooper, Lewin, & Seiford, 1994), and other more sophisticated methodologies which capture a firm's position against a rival on multiple

frontiers at the same time seem to be more appropriate analytical tools.

Competitive Advantage is Context-Specific

Competitive advantage is a relational term between a focal firm and rival(s) within a specific context of competition. Competitive advantage is not a universal, general, and overall characterization of a firm or certain aspects of a firm. Similar terms to competitive advantage could be found in competence and strengths, which seem to be generally regarded as firm-specific traits, but are also argued to be meaningful primarily within a certain context. We first discuss the situational nature of these terms and then explore the context-specific nature of competitive advantage.

Prahalad and Hamel (1990) treat core competence as a unique set of resources and capabilities, both technical and organizational, that allows a firm to be competitive in a wide range of end-product markets. However, core competence can also turn into core rigidity (Leonard-Baritone, 1992). For instance, the highly skilled and sophisticated sales force of Encyclopedia Britannica used to be its core competence over lesser competitors. Yet with the advent of the digital era, that intense personal selling business has been transformed largely into one that values convenience and low cost, allowing lesser competitors to compete more effectively and diminishing the core competence of Britannica (Evans & Wurster, 1997).

Similarly, firm strengths is another term that is often used to refer to or imply competitive advantage (Leaned, Christensen, Andrews, & Guth, 1965; Andrews, 1971). But such a term is also argued to be highly situational in nature. Grant (1998) observes:

> Is Michael Eisner a strength or a weakness for Walt Disney Company? To the extent that he has masterminded Disney's revival over the past 14 years he is an outstanding strength. Yet his quadruple heart-bypass surgery and inability to implement a management succession plan suggest that he is also a weakness (p.13).

To be sure, the terms strength and weakness, in their original context of SWOT analysis (Learned et al, 1965), are used in conjunction with opportunities and threats that characterize a firm's external environment. The point is that a firm's strategy should explore the fit between the firm and its environment. As such, strengths (and the underlying resources and traits they represent) are by definition dependent on the environmental context. It is not necessarily the core competence and strengths *per se* that render competitive advantage. It is the fit between such firm attributes—strengths, resources, core competencies, capabilities, whichever is in vogue in the literature—with the requirement in specific competitive context that really matters.

Somehow this message seems to have gotten lost in the past two decades or so in strategy research. The structural approach made the analysis of competitive environment more systematic and rigorous (Porter, 1980, 1985). The resource-based view, largely as a reaction to the structural approach (Wernerfelt, 1984), made the analysis of the firm more systematic and rigorous (Rumelt, 1984; Barney, 1991). Consequently, competitive advantage seems to be defined either as a market position (Porter, 1980) or resource

position (Wernerfelt, 1984). Maybe it is high time that we revisit the message of fit embedded in the original SWOT framework and conceptualize competitive advantage accordingly, for neither market position nor firm resources and capabilities in themselves could illuminate the "ultimate" source of competitive advantage (Collis, 1994).

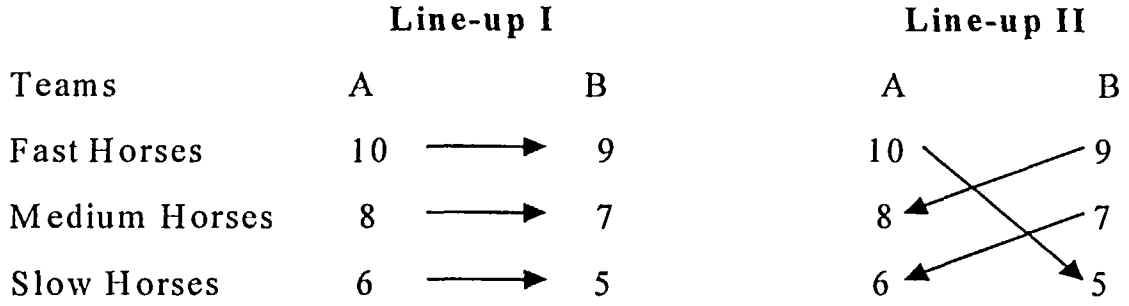
Recent research has already been pushing toward the direction of marrying the two dominant perspectives in our field. Mahoney and Pandian (1992) encourage the dialogue between the structural approach and the RBV and explore their similarities. Amit and Schoemaker (1993) propose mid-range concepts like strategic industry factors (industry requirement) and strategic assets (firm attributes) and argue that the overlap between the two creates competitive advantage. Teece, Pisano, and Shuen (1997), advocating the dynamic capability approach, call attention to the importance of "identifying new market opportunities and organize effectively and efficiently to embrace them." That is, matching a firm's resources and capabilities along changing market opportunities (Collis, 1994) is a fundamental task in creating competitive advantage given its context-specific nature.

Consider the following example. Two teams decide to engage in horse racing. Each of them has three horses, one in each of the three speed categories –slow, medium, and fast–with their respective speed distribution as follows (represented in rather stylized numbers to illustrate the point) in Figure 1. The race includes three rounds and winning is on a best two out of three basis. Given the relative resource strengths of each team, different line-ups as presented in Figure 1 will definitely have different implications on the two teams' competitive advantage in each round of the race and the overall game. Clearly, whether a particular horse (resource) of the team creates competitive advantage or disadvantage depends on the competitive context.

Team B is at a competitive disadvantage in the first line-up, for every horse it has is weaker than that of Team A in each of the three categories. Using this line-up, Team B has no chance of winning at all. Yet, rule permitting, Team B could attempt the second line-up to concentrate its resources and create some local competitive advantages so as to win the total game. Instead of spreading its resources too thin, Team B could choose to focus on where it can create competitive advantage: running its faster horses against Team A's respective slower horses. Such a maneuver creates a relative differential in strengths in certain points of contact with the rival. And the local competitive advantage gained in two rounds of the competition will translate into an overall competitive advantage and winning.

Fictitious example notwithstanding, it does help illustrate that competitive advantage is not only relational but also context-specific. In the strategy literature, in addition to the conceptual treatment reviewed earlier (Amit & Schoemaker, 1993; Collis, 1994; Teece et al, 1997), there also exists empirical evidence suggesting that a firm's competitive advantage, its effect at least, varies according to industry context. In an empirical study of the firm's performance,

FIGURE 1
Competitive Context and Competitive Advantage



Wernerfelt and Montgomery (1986) raise the question "What is an attractive industry?" What their results demonstrate is that the answer to that question varies by firm, the cost structure of the firm to be specific. Industries with a high growth rate are likely to shield inefficient firms while industries which are more stable make the inefficient firms particularly vulnerable. As such, a firm with a low-cost position will have greater competitive advantage over a high-cost rival in low-growth industries than if they are to compete in high-growth industries (Wernerfelt & Montgomery, 1986).

In summary, we have made the following observations so far:
1) Competitive advantage does not equate to performance, although it could contribute to superior performance; 2) competitive advantage is a relational term characterizing a focal firm's comparison with rival(s) along any comparable dimension of competition; 3) whether or not a firm's particular attributes render competitive advantage depends on the competitive context; and finally, 4) the relationship between competitive advantage and firm performance seems to be more complex than it is currently being treated in the literature, by either the structural perspective or the RBV.

Competitive Advantage and Performance

Competitive advantage and performance could have different patterns of relationship. We examine their relationship using the following three categories: 1) competitive advantage leading to superior performance; 2) competitive advantage without superior performance; and 3) superior performance without competitive advantage. See Figure 2 for a graphic presentation of the relationships between competitive advantage and firm performance.

Competitive Advantage Leads to Superior Performance

Most research in strategy, with the structural perspective and the RBV as the epitome, focuses on this scenario. We can argue that competitive advantage helps a firm better create value for the customers, hence it contributes to firm performance.

Discrete competitive advantages, e.g., the location of Wal-Mart stores in the 70s and 80s (Ghemawat, 1991), on the one hand, contribute to firm performance directly. They also, on the other hand, contribute to the composition of compound competitive advantage, e.g., Wal-Mart's cost advantage, which in turn contribute to firm performance.

Such compound competitive advantages include, as discussed earlier, cost advantage and differentiation advantage (Porter, 1980), which are especially important in industries where the structural characteristics are likely to have long-term ramifications for competition. Adding to these two basic types of competitive advantage are flexibility (Sanchez, 1983, 1985), speed (Stalk, 1990; Eisenhardt & Brown, 1998), and innovation (Hamel & Prahalad, 1989; Kim & Mauborgne, 1997, 1999), competitive advantages which are particularly important in high technology industries and other emerging industries.

In a bilateral fashion, competitive advantage, be it discrete or compound, resource-based (Barney, 1991) or market-position-based (Porter, 1980), is expected to be positively related to firm performance. However, given a pair of firms that compete in a particular market, to predict which firm has more superior performance requires more than bilateral analysis on any particular type of competitive advantage. In most cases, superior performance requires multiple competitive advantages over rivals (Stalk et al, 1992; Teece et al, 1997). That is, it is often the combination of multiple competitive advantages that determines whether a firm has superior performance over rivals. This makes possible the scenario that a firm may have many competitive advantages yet does not have superior performance, a scenario to which more space for discussion will be allotted, since the current scenario is already well documented in the literature.

Competitive Advantage without Superior Performance

There are at least four types of situations under which we could observe that a firm has competitive advantages yet does not enjoy superior performance: 1) a firm may have a discrete advantage that fails to develop into a compound advantage; 2) a firm may have a great competitive advantage over all rivals yet fail to fully tap its potential; 3) a firm may have multiple competitive advantages over a rival but does not have the right combination or lacks competitive advantage in one critical area, which could turn the table; and 4) management intentionally sacrifices a competitive advantage.

First, a discrete competitive advantage is more remote than compound competitive advantage within the causal chain in explaining firm performance. The more remote it is from performance in the causal chain, the more noise factors will overwhelm or diminish its effects. For instance, an organization may have the latest and the most sophisticated hardware, a discrete advantage in enhancing the efficiency of its operation. Yet, without the right people who are skilled, dedicated, and willing and able to learn (Pfeffer, 1994), this competitive advantage may not materialize into any compound advantage, e.g., speed, low cost, or flexibility, that can greatly contribute to performance. As such, this firm may not have superior performance over a rival firm which is at a competitive disadvantage in the area of hardware but

has a great routine built on the human expertise (Nelson & Winter, 1982; Winter, 1987).

Similarly, a chain store may have the greatest locations, but poor management could wash out that particular advantage and fail to establish any compound advantage, e.g., differentiation, cost, and flexibility, and create superior performance. It often takes competitive advantages in complementary areas to develop a particular discrete competitive advantage into a compound competitive advantage and contribute to firm performance more directly and greatly.

Second, a competitive advantage that potentially will have the greatest impact on the firm's competition and performance may not be clearly recognized and exploited by the firm. Although the RBV has articulated the conditions under which a resource could create sustained economic rents, it remains inconclusive about whether a firm could a priori systematically identify such resources (Barney, 1989; Dierickx & Cool, 1989). It is highly possible that, due to causal ambiguity and social complexity (Barney, 1991), a firm itself may not recognize its unique resources and exploit the potential competitive advantage it will render. Moreover, such resources underlying the potential competitive advantage may even be treated by management as waste or distractions if not being applied to a fitting competitive situation, a case attesting to the observation that competitive advantage is indeed context-specific.

The case in point is the Graphic User Interface (GUI) for PC's developed at Xerox's Palo Alto Research Center (PARC) in the early stages of the PC business. Their technology in GUI design may prove the best weapon for creating a differentiation advantage in the PC business. Yet the leadership at Xerox decided to shelf this technology and go with other plans. Such a lack of understanding of its real competitive advantage at hand failed Xerox in its entry into the booming PC business, to say nothing of creating superior performance in that business (Hamel & Prahalad, 1994).

Apple Computer, learning from and improving on Xerox's GUI, went on to create the Macintosh line of computers. Its competitive advantage in innovation and differentiation brought it superior performance. However, advantage in innovative products and differentiation can only go so far. Not being able to establish the industry standard among corporate users and failing to achieve cost advantage, partly due to lack of scale (installed base), both Apple's market standing and its performance suffered, as it faced strong competition from Microsoft.

Third, a firm may have competitive advantage in many or all but the most critical areas over rival(s) or it may lack the right combination of competitive advantages. Depending on competitive contexts, firm performance may be determined by just one critical dimension of competition or by a combination of multiple factors. For instance, in the winner-take-all industries (Hill, 1997), e.g., the VCR industry, success in controlling the industry standard could perhaps vindicate all competitive disadvantages in other areas. SONY, as a first-mover, initially had many competitive advantages over JVC, e.g., innovation and differentiation. Yet losing in the

industry standard war to JVC's VHS format, due to lack of network building, diminished SONY's many competitive advantages in the VCR business (Yoffie, 1990). SONY had to play the game according to the standard set by JVC and reduce its own ß system into a niche product, hurting its performance in the business.

Oftentimes, it also takes the right combination of competitive advantages to create superior performance. For instance, EMI, the first mover in the CT scanner business, used to possess competitive advantage in its innovation and differentiation (Lieberman & Montgomery, 1988). Yet due to its relative small size, it did not have the resources to manufacture its products efficiently at a large scale and market them worldwide, hence lacking competitive advantages in cost and speed of market entry, advantages that are critical to quickly and firmly establish a global presence. GE, a later-mover, armed with competitive advantage in cost, differentiation, and speed, quickly established a dominant presence globally, and nullified the first-mover advantage of EMI in technology. GE's combination of advantages in multiple areas helped contribute to its superior performance in the business.

Finally, a firm's competitive advantage in a certain area could be diminishing due to intentional sacrifice or trade-off made by the management. As such, the contribution of such competitive advantage to performance is losing momentum and the firm may not enjoy superior performance in that area of business. Consider Microsoft's Microsoft Network (MSN). It had a huge advantage over rivals, e.g., AOL, in reaching customers, because it was the only on-line service offered in bundle with Windows 95, hence automatically shipped with 90% of all new PCs sold in the world (Yoffie & Cusumano, 1999). However, in order to push its Internet Explorer (IE) and rival Netscape in the web browser business, Bill Gates decided to grant AOL similar status on Windows 95 in exchange of AOL's preferred treatment for IE on AOL.

Such a move certainly reduced the competitive advantage of MSN and hurt its performance. But for Microsoft the firm, it may be a wise move, for it boosted IE's market share, a critical market for the future. The competitive advantage Microsoft demonstrated in its speed of response and flexibility in maneuvering, in addition to its cost advantage (scale economy) and differentiation advantage (near monopoly) in its PC operating system business, may well contribute to the overall performance of the firm, saving the not-so-superior performance of MSN.

Superior Performance without Competitive Advantage

Can a firm have superior performance without competitive advantage? It depends on how we define competitive advantage and on the time span of analysis. Factors like governmental regulation (Baron, 1994; Bailey, 1997), luck (Barney, 1996), and environmental shock (Meyer, 1982) could all alter the normal relationship between competitive advantage and firm performance. First, governmental regulations could artificially raise a firm's performance, e.g., profitability, by restricting competition and granting the focal firm monopoly or near monopoly power. Is such artificial monopoly competitive advantage or non-competitive advantage? If we treat

governmental regulation as merely an external factor that shapes the context of competition, then the artificial advantage enjoyed by a firm should not be considered competitive advantage, especially when that firm has no real advantage whatsoever over potential competitors which are denied entry into its markets or reduced to peripheral players toiling in unattractive niches. Then this is clearly a case of a firm enjoy superior performance without competitive advantage. If we define competitive advantage broadly as including both market (economic) and non-market (political) advantages (Baron, 1994), then we can also argue that firms that are treated favorably by the government have competitive advantage in political skills, e.g., lobbying (D'Aveni, 1994).

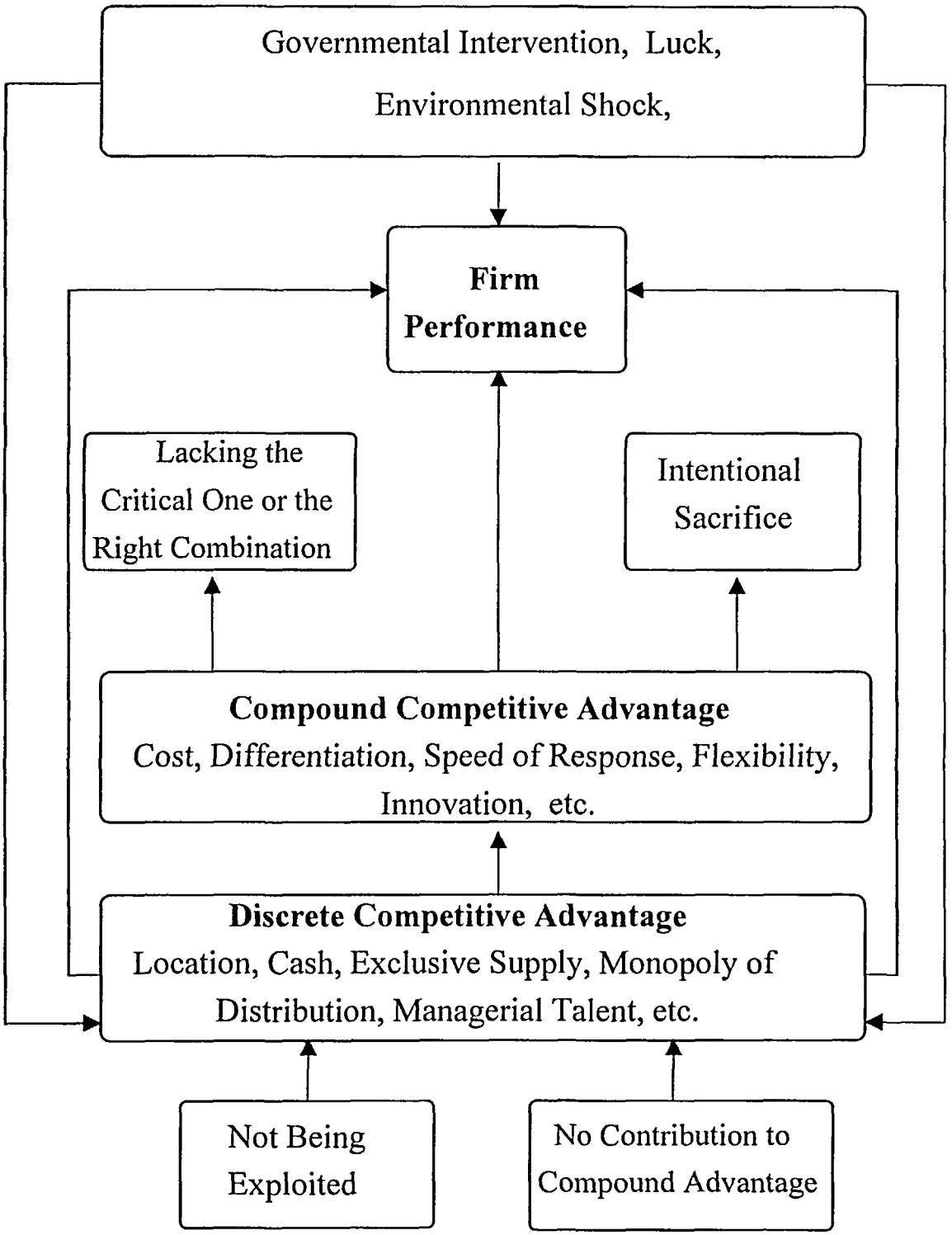
Consider also the case where the government decides to offer subsidy to firms in certain businesses so as to make them cost competitive and encourage export. If the government only offers subsidy to firms whose cost is higher than a certain level, then, at least in the short run, it is possible for the firm which is immediately above the threshold level to have better performance than the one immediately below the threshold level (which does not receive governmental subsidy), although the latter has cost advantage over the former. In the long run, however, due to the help of the governmental subsidy, the former firm may indeed develop a competitive advantage over the latter.

Second, the same logic could also be applied to the effect of luck (Barney, 1986) and environmental shock (Meyer, 1982). A firm could enjoy better performance instantaneously over a rival which has competitive advantage, simply because the focal firm receives a one-time serendipitous boost to its profit due to pure luck. In the long run, such lucky incident may also have an impact on the firm's resource base, creating sustainable competitive advantage. Such non-repeatable historical experience or path-dependence explanation of resource-based advantage is well documented in the RBV literature (Rumelt, 1984; Barney, 1986, 1991).

Similarly, a environmental shock or jolt (Meyer, 1982) could also alter firms' relative competitive advantages over each other. For instance, hospital A may have competitive advantage and superior performance over hospital B in the same geographic area. But a strike in hospital A may interrupt its operation and hurt the hospital tremendously. In the short run, hospital B may enjoy better performance than hospital A, although hospital A still hold competitive advantage over hospital B. In the long run, if hospital A is not resilient enough organizationally, it may suffer demoralization, the defection of key personnel, and a decline in service, reputation, and customer base, losing its competitive advantage.

Finally, time lag can also make possible the situation that even if a firm's competitive advantage has diminished, the residual customer good-will could still provide a one-time boost to the firm, showering it with superior performance for that specific period of time, even over rivals who do enjoy competitive advantage. This case also suggests that proper caution has to be exercised to take into consideration the time-lag phenomenon when analyzing the relationship between competitive advantage and firm performance. That is, it may not make sense in certain cases to measure the competitive advantage

FIGURE 2
Competitive Advantage and Firm Performance



and performance at the same time point when studying competitive advantage-performance relationship. For instance, the current year R&D intensity does not necessarily capture a firm's competitive advantage in creativity or technical innovation in that particular year. As such, a higher intensity ratio does not suggest competitive advantage. Better understanding of the relationship between flow variable and stock variable on the competitive dimension of concern could help mitigate this problem (Dierickx & Cool, 1989).

Conclusion

In this article, we have presented three observations on the construct of competitive advantage and conceptually explored competitive advantage as a relational and context-specific construct. We have also attempted an examination of the complex relationship between competitive advantage and firm performance. Obviously, this article raises more questions than it answers.

One of the most important tasks facing us is that we have to decide on the ultimate research question, or the ultimate dependent variable, of our field. If competitive advantage and performance are essentially the same, then it doesn't matter which construct we use: we simply use the two terms interchangeably. This article has suggested, however, that competitive advantage and performance are indeed two different constructs. If our ultimate dependent variable is performance and the ultimate question "Why do firms differ in performance?" (Barney, 1994), then we have to justify why we need competitive advantage as an intermediate variable between its underlying dimensions and firm performance. If our ultimate dependent variable is simply competitive advantage, and whatever follows (i.e., superior performance as a natural benefit of competitive advantage), then we have to answer the question "How do you know an advantage when you see one?"; i.e., the criteria we use to identify competitive advantage.

Overall, one conclusion seems to have emerged from the tour of literature that we have taken in this article. That is, for competitive advantage to be a theoretically meaningful construct for strategy research, its definition must be more clearly and rigorously stated and its operationalizations better specified. Before we can do that, competitive advantage will only remain a heavily loaded term, used largely for convenience but not theoretical preciseness.

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