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THE AGE OF TEMPORARY ADVANTAGE

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The creation and management of temporary competitive advantages has emerged as an alternative to sustainable models of competitive advantage in the strategy literature. We review the literature and discuss questions related to the antecedents, consequences and the management temporary advantage in the introduction of this special issue. The overall goal is to ask: What would the field of strategic management look like if sustainable advantages did not exist? We summarize the papers published in this special issue and highlight directions for future research.
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The goal of this special issue is to develop theory and empirical evidence about how organizations can successfully compete, evolve, and survive when firm-specific advantages are not sustainable or enduring, but more temporary in nature. Such conditions may exist due to fast-paced competitive actions and counter responses among rivals, or where frequent endogenous and exogenous competence destroying disruptions and discontinuities make sustaining one's advantage impossible. The primary goal is to ask what the field of strategy would look like if *sustainable* competitive advantage did not exist.

Almost since the onset of strategic management scholarship, the field has assumed that sustainable competitive advantage exists (Rumelt, Schendel, and Teece, 1994). Considerable effort has been dedicated to defining and empirically demonstrating the existence of sustainable advantage. However, recent studies have begun to suggest that sustainable competitive advantage is rare and declining in duration (Ruefli and Wiggins, 2002). Other studies have found anecdotal and more rigorous empirical evidence of the concatenation of temporary advantages (D'Aveni, 1994; Wiggins and Ruefli, 2005). And there is growing empirical evidence that the volatility of financial returns is increasing, suggesting that the relative importance of the temporary (volatile) component of competitive advantage is rising when compared to the long run component of sustainable competitive advantage (Thomas and D'Aveni, 2009). Finally, there is increased attention to the ethical consequences of the sustainable advantages derived from monopoly positions and oligopolistic behavior (DeCelles, Donaldson, and Smith, 2007). Considerable thought has also been given to the idea that continuous strategy innovation is necessary in disruptive environments. The core argument of this stream of enquiry is that the unremitting pursuit of strategic change is necessary for success, especially in nascent, emerging, high-tech, or other *high velocity* environments, where the

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structure and the rules of the game are unstable or erratic (Christensen, 1997; D'Aveni, 1994; Hamel, 2000; Markides, 1999).

Interestingly, some argue that disruptive environments never reach maturity; they self-reproduce, cannibalize, innovate, and self-perpetuate by incessantly innovating, reviving, and reinitiating the initial stages of different waves of industry and product life cycles (Christensen, 1997). The authors in this research stream implicitly suggest that sustainable advantage does not necessarily exist, except for saying that dynamic capabilities and organization flexibility can occasionally be sources of sustainable advantage. Yet, there is no consistent body of evidence that dynamic capabilities are sustainable over extended periods of time and in different contexts, and there is some evidence that *initiative fatigue* or complacency and inertia undermine the sustainability of dynamic capabilities. Accordingly, firms can either become exhausted by continuous transformation and innovation or get complacent by success and turn out to be blinded and myopic to requisite environmental change (Audia, Locke, and Smith, 2000).

The analysis of temporary advantage can be partitioned into three main parts: (1) causes or antecedents, (2) management of temporary advantages, and (3) consequences of temporary advantage.

Antecedents of temporary advantage

The increasing temporary nature of advantages has been attributed to numerous causes, including technological change, globalization, industry convergence, aggressive competitive behavior, deregulation, the privatization movement stimulated by governments or hedge funds, government subsidies, the rise of China, India, and other emerging countries, the increase in availability of patient venture capital money, terrorism, global political instability, the pressure of short-term incentives for senior executives to produce results, etc. There is no evidence, however, about the real drivers of temporary competitive advantages and the increased volatility of returns. What are the endogenous antecedents of various kinds of temporary advantages? It would seem especially important to identify the extent to which a firm's own decisions, competitive actions, and behaviors undermine its advantages and what motivates such behavior? What are the exogenous antecedents of various kinds of temporary advantage? In this regard, it would seem important to study the role of industry structure and industry boundaries. For example, how does the convergence of industries and competing business models from converging industries contribute to the erosion of advantages? Furthermore, how and why do different industry structures contribute to the speed of erosion? Finally, are controllable or uncontrollable causes more important? Answers to these questions are necessary to understand whether there are ways to slow the accelerating depreciation of advantages over time and which strategic solutions are possible.

The management of temporary advantage

As the environment becomes more dynamic and disruptive through both exogenous and endogenous changes, it perhaps becomes appropriate to define strategy as dynamic maneuvering—moves and counter moves—rather than static positioning, such as resources, routines, capabilities, generic strategy, industry structure, strategic groups, etc. (Grimm, Lee, and Smith, 2005). When such a view is taken, the value and duration of a move perhaps lasts only as long as rivals do not outmaneuver it. The literature on the delay or rapidity of competitive response finds that industry leaders are dethroned more frequently than is commonly believed (Ferrier, Smith, and Grimm, 1999; Smith, Ferrier, and Grimm, 2001), that more aggressive firms are more successful (Ferrier, 2001; Ferrier *et al*., 2002) and that Red Queen competition exists whereby rival actions cut into the performance of the acting firm requiring new action to keep pace (D'Aveni, 1994; Derfus *et al*., 2008). This perspective suggests that firms are incentivized to take a variety of different kinds of actions to actively destroy their own and the advantages of rivals. In fact, the vigorous pursuit of a series of temporary rents becomes the enticing strategy from this viewpoint. This recalls models of strategy eventually purporting that firms do not stick with just one advantage over their lifetime (Jacobson, 1992; Mocciaro, Li Destri, and Dagnino, 2005). Such strategic behavior focuses on continuously matching the rapid evolution of the firm with a rapidly evolving environment, suggesting the relevance of the *learning school* (Mintzberg, Ahlstrand, and Lampel, 1998), which emphasizes

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how firms incorporate input from the environment and adapt over time. But is the capability of learning a frequently observed phenomenon that yields sustainable advantage or does learning stop when firms learn a successful formula and turn it into an immutable paradigm? And, how should firms learn in conditions where prior advantages are quickly eroded? The learning literature suggests there is tension between top-down or theory-driven learning based on accumulated experience over time versus bottom-up learning that is based more on the result of immediate action (Huber, 1991).

There are also a number of important issues related to how firms transition from one advantage to the next. For example, how do firms manage the timing and transitions from one advantage to another as they learn? When should they begin these transitions? Should they plan for the next advantage prior to the erosion of an existing advantage? How can firms avoid cannibalization of an existing advantage while creating a new advantage? Is there path dependence across a firm's sequence of advantages or are the sequences truly unpredictable and responsive to unpredictable change? In sum, strategy in today's environment is analogous to a marksman who is shooting at a moving and very unpredictable target (Thompson, 1967). Skill and capabilities are needed, but instincts are necessary too, and the shooter's strategy must be fine-tuned unremittingly to adjust to the moving target.

Finally, as environments get more dynamic, they become more unpredictable and uncertain, making the creation of intended, planned strategies more difficult. Strategic planning models were originally conceived for conditions of stability. In fast-changing environments where unexpected changes occur, strategic planning is inevitably fated to fail (Mintzberg, 1994). How do organizational structure, culture, and processes transform themselves so as to be capable of concatenating a series of short-lived advantages? More than engaging in old-fashioned formal planning, firms need to engage in a continual evaluation of their actions, developing a strategy as they go by seeing which actions bring about the best results (Grimm *et al.*, 2005).

Others have gone so far as to suggest that finding sustainable advantages in unpredictable environments is more a matter of luck—requiring firms to be lucky as numerous unpredictable competence-destroying disruptions thwart their plans. The Austrian perspective has argued that success depends on variations across firms and sheer luck, as well as the distributions of entrepreneurial skills (Kirzner, 1979). So success may require just as much luck as strategy. And we have not determined if sustainable competitive advantage is merely the result of good luck (Barney, 1986; Cohen and Levinthal, 1994). How do companies develop strategies to actively manage luck? Is luck a valuable or even interesting concept in the study of temporary advantages? With disruptions coming not just from first moving innovators and competitors, but from terrorism, the fall of empires, global warming, fraud, and malfeasance, one might truly subscribe to the old German saying that 'men plan and God laughs.'

Consequences of temporary advantage

So how do firms achieve high performance, evolve, and survive where advantages are fleeting? Do they intentionally cannibalize old advantages and transition to new ones? If so, when and under what conditions? Is there logic to the sequence and timing of moves deployed? How sustainable is the ability to create and concatenate a series of new advantages? How is organizational decision making and structure different in a world of temporary advantages? Does it create more shareholder value to milk one's advantage, experience a period of crisis, and then create a new advantage as compared to preplanning the self-cannibalization of one's advantages before others destroy them? And, how should managers manage time? As the pace of change and disruption accelerates, will other forces arise to create stability in markets? What economic, societal, and collaborative actions and strategies, if any, are emerging to dampen the escalation of strategic turmoil, rivalry, and fleeting advantage associated with hypercompetition, high-velocity, and other chaotic environments?

The field of strategic management without sustainable advantage

Of course, we all know that nothing is sustainable forever. The question then is really one of duration of advantages. If one accepts the evidence that advantages are fleeting at a rate different from 25 to 30 years ago when our models of competitive

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advantage were created, how should existing theoretical models and data sets be revised, and what new models and methods of research are needed?

New theoretical models

The two key sustainable advantage models are Porter's five forces model and the resource-based view of the firm. Porter's (1980) five forces model suggests that firms can sustain advantages by the selection of industries and the way they positioning themselves within industries. This model is supported by substantial, but somewhat dated, research on the structure-conduct-performance paradigm from industrial organization economics. Specifically, Porter suggests that firms seek and position themselves in industries with high entry barriers, weak suppliers, and buyers, few threats from substitutes, and limited rivalry. But, does this automatically mean that when advantages are temporary or quickly eroding that the structure of the industry has changed such that barriers are lower, buyers and suppliers are stronger, the threat of substitutes greater, and rivalry is high? Or, does it mean that these structural conditions are quickly changing? What would Porter advise under these conditions? Perhaps he would suggest it is time to select a new industry or to find some way to change the industry structure so that it is more favorable? Furthermore, under conditions of rapid change, where the boundaries of industries blur and are hard to define, how is one to assess and measure rivalry and buyer and supplier power? Take the U.S. cell phone industry for example, where in 2010 firms like AT&T, Verizon, Apple, Goggle, Comcast, and Cox are all changing their business models. Are these firms buyers, suppliers, or rivals? What does industry structure mean in this new age of temporary advantages?

The resource-based view conceives firms as collections of resources (Penrose, 1959). Barney (1991) formalized the framework for explaining how a firm's resources can be used as a source of sustainable competitive advantage. His framework is based on two fundamental assumptions: (1) firms within an industry are heterogeneous in the resources they control and (2) these resources may not be perfectly mobile across firms (Barney, 1991). With these assumptions, Barney argues that markets for resources are imperfect and, hence, a firm can achieve sustainable competitive advantage by acquiring or developing resources that are valuable, unique, nontradable, rare, nonsubstitutable, or nonimitable. But what does this model say about sustainability when factor markets continue to move toward perfection or toward constant disruption through innovation or rivalry? Or what if there are dramatic or even constant changes in resource value, uniqueness, tradability, and imitability?

What would the field of strategy be like if we conclude that the key instruments of strategy design no longer have value? Both Porter's five forces model and the resource-based view are rooted in a conception of the world that is essentially stable. And much of economic thinking is based on assumptions of equilibrium. What if equilibrium is impossible or fleeting? What if industry structure is too temporary to be called *structure* and oligopolistic bargains, barriers to entry, and market power over buyers are quite limited or fleeting? What do economic models tell us about advantage when industry structure and cooperative solutions are not sustainable? And what do we have when markets, resources, and firms are continuously moving but never reaching equilibrium?

Some have suggested that more fine-grained theories from Austrian economics—that emphasize entrepreneurs, action, and disequilibrium—offer hope for competing in rapidly changing conditions (Grimm *et al*., 2005). Indeed, the competitive dynamics stream of research has been built upon this assumption (Smith *et al*., 1992). The principle argument in this stream of research is that the firm strategy/performance relationship is very much dependent on the behavior of both a focal firm and its competitors or the level of rivalry. Competitive dynamics research, thus, focuses on the specific actions that a firm takes and how rivals react to these actions: the action/reaction relationship. Furthermore, competitive dynamics research emphasizes the temporary advantages that result from a single action or a stream of actions over time. For example, the research has established that different kinds of actions promote faster or slower responses depending on the characteristics of the action (Chen, Smith, and Grimm, 1992). The research has also connected with the resource-based view by finding relationships between the stock of resources of the acting firm, such as the amount of organizational slack and the level and speed of competitive response (Smith *et al*., 1991). Importantly, there have been a number of

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studies that connect actions and responses to organizational performance (Derfus, *et al*. 2008; Lee *et al*., 2000; Ferrier *et al*. 1999, Young, Smith, and Grimm, 1996). Many of the studies that emphasize competitive dynamics have roots in RBV or industrial organizational economics, a problem that has limited the insights of this stream. Consequently, there is a need for new dynamic theory focusing on the action/reaction level of analysis that is more revealing of these dynamics.

Smith and Cao (2007) introduced a model of entrepreneurial action that explains how firms build value in dynamic, rapidly changing markets. The model is based on four separate processes. First, managers search their environments in a desire to find opportunities for new action. Second, they undertake new entrepreneurial action that creates a market disruption because of novelty (newness). Third, the disruption leads to market discourse, whereby the newly created actions are evaluated by market participants (potential customers) and other interested stakeholders. Fourth, actions lead to performance results which can be compared to goals. Interestingly, this model does not assume that actions directly impact performance (either positively or negatively), but that such actions are first evaluated by market participants, which is a sensemaking process that helps reduce the uncertainty (leading to positive, neutral, or negative opinion). Firms and their rivals are active participants in this process, learning from their actions and adjusting such actions based on feedback from the market discourse process. Importantly, this approach does not require a definition of industry structure in order to identify rivals, as any stakeholder within or outside the industry definition may participate and attempt to influence the discourse process.

New methods

As we think about the consequences of rapidly changing turbulent environments and the management of temporary advantage, one must also consider the appropriate unit of analysis for research study. For example, much of the research in industrial organization economics and RBV was largely developed using longitudinal panel data based on public archival annual company or industry/environment data. But what if changes in firm, environment, and performance relationships are more dynamic, varying more frequently than can be captured with annual data? What if such relationships are moving by the month or even by the week? If such dynamics occur, important relationships might be masked with annual data.

The competitive dynamics research stream focuses on the specific actions of firms, which may occur at multiple times within a given year, month or week. As noted, such actions have been linked to rival reactions and to more coarse-grained measures of firm capabilities, such as top management characteristics and excess slack resources. Still, it is fair to conclude that the competitive dynamics research has suffered from aggregating actions over a given year so as to link such actions to firm capabilities and annual performance data only available at the year/firm unit of analysis. One exception is the study by Lee *et al*. (2000) where the authors linked new product introduction actions occurring on a given announcement date to rival imitation and the firm's stock prices immediately after. The authors found that new product introductions had a positive significant impact on stock prices immediately after the introduction for the introducing firm, but that stock prices were also negatively affected by rival imitation. The use of daily stock prices allowed the authors to capture the Schumpeterian creative destruction effect: the positive effects of innovation and the negative effects of rival response.

Livengood (2010) tested certain aspects of Smith and Cao's (2007) entrepreneurial action model. With an eight-year study of new product introductions (entrepreneurial actions) by cell phone providers, the author found that the greater the novelty of the action, the greater the amount and duration of discourse by market participants (as measured by news media attention). Importantly, he also found that the novelty of the action and the varying amounts of discourse—both the amount and duration—predicted variation in monthly cell phone sales. The unit of analysis was the product introduction followed by discourse measured at the monthly level, followed by monthly cell phone sales. Livengood found that the greatest positive change in sales was immediately after the peak in discourse and that it declined thereafter.

Ultimately, the data one uses for his/her research must match our theory. When our theory is dynamic, our data must be as well. If our theorized relationships are predicted to substantially change and vary in a given year, our data must be detailed enough to capture these potential changes. Under

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such conditions, researchers may be required to use finer-grained methods, such as case analyses, questionnaires, or content analysis of media accounts of decisions and behaviors that appear in the daily press. And our theory and data will also need to capture the element of time, especially when temporary advantages or disadvantages are rapidly changing. For instance, how can we measure the duration of advantages or the time until they become positive or negative? Does a small two- to three-year advantage outweigh a large two- to three-month advantage? If so, what are the trade-offs?

Certainly there will be markets where traditional models of strategy will still apply (D'Aveni, 1999). However, to understand markets where temporary advantages are the only possibility, we are required to envision, conceive, and establish an entirely new collection of methodological paraphernalia that are more dynamic and match up the current disruptive and fast-speed environments of today. By pulling together various novel perspectives advanced by scholars in the field, we hope this special issue will provide fresh new approaches that will lead to new models and theories of strategy where advantages are not sustainable.

SUMMARY OF EXTANT WORK ON TEMPORARY ADVANTAGE

Let's suspend our belief in sustainable advantage for the moment, realizing it is very rare, declining in duration, and may be the product of a few lucky firms according to the literature referenced above. Table 1 is an overview of some of the literature relevant to temporary advantage.

Our review of the literature indicated that research has studied the temporary advantage(s) associated with strategic actions, resources, and performance. In addition, it has focused on a series or sequences of actions, resources, or performance over time. Other studies have focused on the erosion, self-cannibalization, duration, magnitude, and compression of a single action, resource, or superior performance; thus, creating the horizontal and vertical dimensions of Table 1.

Note that many other studies (e.g., population ecology, the literature on organizational decline, organizational flexibility or agility, and blind spots) could have been reinterpreted and placed in this matrix. And a deeper analysis of theories that assumes sustainable advantage might reveal even greater insights about temporary advantage. For example, looking at the loss of value, inimitability, nontradability, nonsubstitutability, or rarity of a resource might flip the static resource-based theory on its head—making it a theory of temporary advantage (D'Aveni, 1994). Similarly, focusing on overcoming entry barriers, strategies for enhancing the power of (or building cooperation with) buyers or suppliers, the use of substitutes, and escalating rivalry might also turn Porter's theory into a theory of temporary advantage (D'Aveni, 1994). However, we chose to include only the research that requires no (or the least) suspension of our beliefs in sustainable advantage for Table 1.

The early roots of action-based temporary advantages

Under the lens of action-based advantages, numerous theories and empirical studies have dealt with temporary advantages. The Schumpeterian theory of *creative destruction* describes rivalry between and among firms as an 'incessant race to get or keep ahead of one another' (Kirzner, 1973: 20)—if only to defend one's own leadership in a market. Especially in hypercompetitive dynamic markets, leading firms are constantly pursued by existing challengers that aggressively find new ways to destroy the competitive advantage of industry leaders (D'Aveni, 1994; Schumpeter, 1942).

The Carnegie School of the theory of the firm, such as Cyert and March (1963), introduced the concept of *firms behavior* to underline the need to maintain a persistent, but bounded, information flow that informs decision-making rules to achieve optimal outcomes, predict the behavior of rivals, and manage an organization rationally, just to maintain and replace eroding competitive advantages. In this view, firms engage in searches for opportunities, new actions, and new problems that can be solved. This suggests that advantages are temporary and begs the question of whether search routines are sustainable or just lucky in unpredictable environments. The aforementioned work by Smith and Cao (2007) explicitly deals with the role of search in creative actions.

Following this view, Nelson and Winter (1982) draw some intriguing conclusions concerned with the behavioral theory of the firm and connect it to their own evolutionary theory. Based on

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Table 1. Selected extant work on temporary competitive advantages

	Sequences: Long-term patterns or themes of multiple advantages over time	Erosion and compression: Short-term duration and magnitude of a single advantage
Action-based advantages	• Hypercompetition	• Competitive dynamics (especially response time and type to an action)
	• Evolutionary theory	• Austrian economics
	• Opportunistic search	• Creative destruction
	Authors:	Authors:
	D'Aveni, 1994, 1995a	Livengood and Reger, 2010
	Nelson and Winter, 1982	Chen, 1996
	Cyert and March, 1963	Schumpeter, 1942
	Smith *et al*., 1992	Smith *et al*., 1991
	Smith and Cao, 2007	Ferrier *et al*., 1999
	Livengood, 2010 (dissertation)	Derfus *et al*., 2008
		Chen, Lin, and Michel, 2009
		Young *et al*., 1996
Resource-based advantages	• Dynamic capabilities	• Resource life cycles
	• High velocity	• Strengths and weaknesses
	• New 7S's	
	Authors:	Authors:
	D'Aveni, 1995b	Sirmon *et al*., 2010
	Eisenhardt, 1989	Ndofor, Sirmon, and He, Forthcoming
	Eisenhardt and Martin, 2000	Priem, 2007
	Helfat and Peteraf, 2003	McGrath, Ferrier, and Mendelow, 2004 (Option theory)
	Teece, Pisano, and Shuen, 1997	Bowman and Hurry, 1993
	Zahra and Nielsen, 2002	
Performance-related advantages	• Volatility	• Continuous change
	• Rarity	• Time compression and duration of superior performance
	• Hypercompetitive shift	• Self-cannibalization
	Authors:	Authors:
	Thomas, 1996	Nault and Vandenbosch, 1996
	McGahn and Porter, 1997	Pacheco-de-Almeida and Zemsky, 2007
	Wiggins and Ruefli, 2002	Pacheco-de-Almeida, Henderston, and Cool, 2007
	Thomas and D'Aveni, 2009	Helfat, 2000
	Wiggins and Ruefli, 2005	Dierickx and Cool, 1989

the idea that natural selection occurs internally within firms, some firms survive in a competitive environment while others perish. In their opinion, natural selection fosters the development of new routines and strategies as well as the discard of obsolete routines and strategies (Winter 2003), suggesting that routines and strategies are only temporary if firms are to adapt and survive. They suggest that organizations are variable in time, as a result of organizational search for new solutions when the old ones fail to work.

Similarly, observing changes, uncertainty and disequilibrium in business environments, the Austrian school of economics (Kirzner, 1973, 1979; Jacobson, 1992) underscores market processes and entrepreneurial discovery. This more dynamic view emphasizes the existence of continuous innovation, flexibility, intertemporal heterogeneity, and unobservable influence of performance feedback as a continuous process of strategic windows that open for limited times.

The Maryland School of competitive dynamics, such as Chen (1996), analyzed the similarity between firms and the likelihood of increased rivalry. Assessing the market commonality and resource similarity between firms, Chen (1996) concluded that competitive tensions between firms are due to interdependence (such as similarities

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and commonalities) and realized that this interdependence gave rise to the potential for engaging in rivalrous behavior. In other words, firms do not compete unless they share markets and similar resources. Market commonality and resource similarity represent the two most relevant elements that make a firm unique or different from others. In one study, these overlaps in markets and resources caused leading firms to carry out less aggressive, simpler repertoires of action at a slower pace toward each other (Ferrier *et al*., 1999), perhaps due to mutual forbearance. But in other studies, the Maryland School found that aggressive behavior of challengers leads to better performance and the dethronement of industry leaders who are acting much more complacently (Ferrier *et al*., 1999). This stream of research adopted the view that the study of rivalry requires the diagnosis of patterns in observable activities, events, or behaviors over time using the chronological order of these events as data. This conceptualization of dynamic competitive strategy emphasizes interdependence among rivals, especially in terms of dyads of initiated actions and competitive responses that provided fleeting advantages (see also D'Aveni, 1994, chapter 1).

The early roots of resource-based temporary advantages

At the same time, various strategy researchers (D'Aveni, 1994; Eisenhardt and Martin, 2000) argued that, at the firm level, achieving and sustaining competitive advantage using resources in today's highly dynamic (or hypercompetitive) environments is difficult, if not impossible. For example, technological resources are easily imitated or replaced in many high tech industries. Diffusion of resources throughout an industry is often rapid (Brown and Eisenhardt, 1998). Because resources are quickly copied, substituted, or made obsolete, firms can look forward to a series of temporary advantages only as existing resources lose their value and new ones are needed to replace the old ones (MacMillan, 1989; D'Aveni, 1994).

Looking at resources over time, Helfat and Peteraf (2003) discussed how resources and capabilities have a life cycle, and, of course, the product life cycle literature suggests that firms must change resources over time as their products grow, mature, rejuvenate, or phase out. Even the static resource-based view of the firm questions the sustainability of resources. The mantra calling for the leveraging of core competencies (Prahalad and Hamel, 1990) makes one wonder: if the resource can be imitated, transferred, and become less rare by diffusion throughout an organization, then how is the resource sustainable due to rarity, nontransferability, and inimitability within the industry? Additionally, Audia *et al*. (2000), discussing the internal success cycle of firms, introduced the pattern called *the paradox of success*. The paradox lies in the fact that the very success that organizations strive to achieve plants the seed of their possible future decline. Once a firm achieves success, its natural tendency is to continue to exploit the resources that worked in the past. Such success-persistence-success cycles, however, become self-destructive when radical external changes impose the need to use new resources. After a period of positive performances, organizations may lose the ability to recognize when it is time to abandon previously effective resources. In sum, numerous explanations are emerging for the temporary nature of resource- and capability-based advantages.

Moreover, resource management is critical to value creation because using resources is, at least, as important as possessing them (Penrose, 1959). After criticizing the RBV for its oversight of dynamism, environmental contingencies, and the role of managers, Sirmon, Hitt, and Ireland (2007) point out the strengths and weaknesses of firms' dynamic capabilities. Heterogeneity in firm outcomes under similar initial conditions may result from managerial errors in the structuring, bundling, and leveraging of resources. This view suggests that resource-based advantages may be unsustainable, and it undermines one of the core assumptions of the RBV. In other words, there are several alternative explanations for heterogeneity among performance outcomes across firms other than heterogeneity in the distribution of resources that are valuable, rare, inimitable, imperfectly immobile, and nonsubstitutable (Barney, 1991; Peteraf, 1993). And these explanations suggest the difficulty in sustaining resource- and dynamic capability-based advantages.

Eisenhardt and Martin (2000) pointed out that multiple firms possess effective dynamic capabilities that have common features. Effective dynamic capabilities as resources are internal and external (Zahra and Nielsen, 2002) sources of competitive advantage. This stance suggests that firms are

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more homogeneous, fungible, equifinal, and substitutable than usually assumed (Eisenhardt and Martin 2000). In dynamic markets, dynamic capabilities are a necessity to survive; so many firms must acquire or develop them. These capabilities resemble the concept of routines (Winter, 2003)—that is, they are detailed processes with predictable outcomes and an evolutionary emphasis on creating new resources or resource combinations. It is often the role of high-level executives to create dynamic capabilities to implement high-level internal routines (Winter, 2003). Thus, compared to the traditional RBV, the dynamic capabilities literature suggests that dynamic capabilities can and do diffuse throughout industries, otherwise firms would decline and disappear due to their inability to adapt to changing environments. This suggests that the uniqueness of dynamic capabilities erodes over time, forcing firms to learn new capabilities to stay ahead. When such capabilities are improved by several parties in the market, what happens? Perhaps, the level of rivalry and innovativeness in the market continues to escalate, making dynamic capabilities the instrument of ever greater chaos. Or perhaps the dynamic capabilities get diffused and become necessities for survival. Either way, dynamic capabilities are not necessarily focused on building sustainable advantages. They may create sequences of temporary advantages or their ability to create sequences of advantages may fade over time.

The early roots of performance-related temporary advantages

When the RBV arrived on the scene, its mere existence implied that industry effects may not be as important as firm-specific resources. So a debate raged on about the relative importance of the two effects. Researchers began decomposing performance (usually returns) into their industry- and firm-specific effects, with varying results about the relative importance (Schmalensee, 1985, 1987; McGahan and Porter, 1997, 1999, 2003; Rumelt, 1991; Hawanini, *et al.*, 2003). Some of the studies even broke industry effects into persistent and temporary effects, so as to separate the effects of transient shocks to an industry from the long-term industry effects from stable industry structure. The door was open for looking at temporary performance versus long-term performance as evidence of temporary and long-term advantage.

Ruefli and Wiggins (2003) critiqued these empirical studies of performance as an indicator of sustainable competitive advantage because most of them scrutinized only limited time frames and did not tackle the important issue of the inability of individual superior performers to sustain their performance levels. More specifically, they wished to examine if superior performance persisted or was volatile. In consonance with D'Aveni (1994), they predicted that if there had been a hypercompetitive shift toward more temporary advantage, they would find that superior performers were falling more frequently into mediocre performance levels and that the duration of time superior performance would decline (Wiggins and Ruefli, 2005). Their research found both.

Using different methods that decomposed accounting returns into a long-term portion (similar to a 10-year average) and a short-term component (volatility around the average), Thomas and D'Aveni (2009) found that the volatility of performance had increased over time, suggesting that the temporary component of competitive advantage was becoming much more important. Thomas and D'Aveni (2009) not only found that the volatility of returns for all publicly traded U.S. manufacturing firms was rising from 1950 to 2002, but that this rise in volatility was also associated with the rising within-industry heterogeneity of returns and the impact of industry effects. These results suggested that the hypercompetitive shift is more than just an increase in the presence of temporary advantage (as predicted by D'Aveni, 1994, based on his anecdotal study), but was also associated with the rising effects of firm-specific resources and the declining effect of industry effects. One underlying cause may be driving a hypercompetitive shift in all three.

Meanwhile, consider the research denying the existence of hypercompetition (defined by D'Aveni, 1994: 2 as 'an environment of fierce competition leading to unsustainable advantage or the decline in the sustainability of advantage'). One study focused on an industry still under the influence of quasi-collusive pricing rules of thumb and unsurprisingly found that the industry was not hypercompetitive (Makadok, 1998). And a second study defined hypercompetition as a nonmunificent environment lacking in resources somewhat akin to a recession and found there had been many recessions in the past, so hypercompetition

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was just more of the same according to McNamara, Vaaler, and Devers (2003). But this definition of hypercompetition was never intended by D'Aveni (1994). And hypercompetition can lead to prosperity by stimulating growth. Before one can deny the existence of temporary advantages, we must be certain to study a broad set of firms facing varying industry conditions, including (1) a variety of aggressive entrants and competitors and (2) nonprice rivalry and differing industry growth rates and levels of innovation. The goal is to find time spans that illustrate long-lasting periods of unsustainable advantages, rather than a lack of munificence.

Consider the economics and finance literatures, which have not been limited by assumptions of sustainability. These fields published several papers reporting that performance volatility was increasing in several aspects of the economy. The macroeconomics literature reported rising volatility in earnings, sales, employment growth, capital expenditures, and total factor productivity (Comin and Mulani, 2006; Comin and Philippon, 2006). And the finance literature reported an increase in volatility of abnormal returns for U.S. equity returns (Campbell *et al*., 2001; Irvine and Pontiff, 2009.)

The roots of temporary advantages take hold in the strategy field

Despite the slowness of the strategy field to recognize the rise of temporary competitive advantages (based on performance volatility), some strategy scholars have taken early note of the changing and temporary nature of competition (Bettis and Hitt, 1995). Other scholars have worked to identify the underlying assumptions distinguishing paradigms based on sustainable competitive advantage (RBV, industrial organization) versus temporary competitive advantage (such as hypercompetition), see Lengnick-Hall and Wolff (1999).

In addition, principles of how a firm can deal with rapidly eroding advantages are beginning to emerge in the literature. For example, it is suggested that firms should engage in self-cannibalization, preemption of the market by being first to introduce the next new advantage, time pacing, and the use of unpredictable, aggressive actions (MacMillan, 1988; D'Aveni, 1994; Nault and Vandenbosch, 1996; Brown and Eisenhardt, 1998). In addition, we are also beginning to see evidence that firms should attend to limiting or improving their weakness (learning), destroying the core competencies or center of gravity of industry leaders, and leveraging one's core competency into only a few markets to avoid getting spread too thin and to conserve capital for investment in weaknesses and the next temporary competitive advantage. To avoid wasting resources, the literature also suggests the use other people's money (through alliances, joint ventures, licensing, etc.) when leveraging your competencies into more distant markets (D'Aveni, 1994; Hamel, 2000; see also the *Special Issue on Hypercompetition* in *Organization Science*, Ilinitch, D'Aveni, and Lewin, 1996).

In sum, it appears that the strategy field has been slow to accept the notion that environments are increasingly made up of temporary advantages, especially when they highlight the declining importance of sustainable advantages derived from the RBV or industrial organization economics-based perspective of strategy. Nevertheless, the field has made much more progress than we initially expected and is now ripe for development of a new major paradigm based on temporary advantage that would compete with or complement the two other paradigms based on sustainable advantage.

THIS SPECIAL ISSUE'S UNIQUE CONTRIBUTIONS TO TEMPORARY ADVANTAGE

This special issue contains a number of articles that contribute significantly to theory and evidence of temporary advantage. Table 2 displays the different approaches taken by these papers. One paper is not shown in Table 2 because it spanned the three rows: actions, resources, and performance (i.e., *Navigating in a hypercompetitive environment: the roles of action aggressiveness and TMT integration* by Chen *et al*., 2010).

We selected a set of articles that would fill out the matrix in Table 2 in order to demonstrate how temporary advantage can be researched using the six perspectives in theTable, and how the unit of analysis may vary from the firm-, industry-, and cross-national-levels of analysis. In addition, this special issue includes papers using a wide variety of methods running from mathematical

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Table 2. Articles in this special issue on temporary competitive advantages

	Sequences: Long-term patterns or themes of multiple advantages over time	Erosion and compression: Short-term duration and magnitude of a single advantage
Action-based advantages	• Hypercompetition	• Competitive dynamics (especially response time and type to an action)
	• Evolutionary theory	• Austrian economics
	• Opportunistic search	• Creative destruction
	How sequences of competitive actions create advantage for firms in nascent markets	*Life in the fast lane: origins of competitive interaction in new versus established markets*
	By Rindova, Ferrier, and Wiltbank, 2010	By Chen, Lin, and Mitchel, 2010
Resource-based advantages	• Dynamic capabilities	• Resource life cycles
	• High velocity	• Strengths and weaknesses
	• New 7S's	
	Complementarity-based hypercompetition in the software industry: theory and empirical test, 1990-2002	*The dynamic interplay of capability strengths and weaknesses: investigating the bases of temporary competitive advantage*
	By Lee, Venkatraman, Tanriverdi, and Iyer, 2010	By Sirmon, Hitt, Arregle, and Campbell, 2010
Performance-related advantages	• Volatility	• Continuous change
	• Rarity	• Time compression and duration of superior performance
	• Hypercompetitive shift	• Self-cannibalization
	Institutional development and hypercompetition in emerging economies	*Erosion, time compression, and self-displacement of leaders in hypercompetitive environments*
	By Hermelo and Vassolo, 2010	By Pacheco-de-Almeida, 2010

modeling, simulations, survey methods, and methods imported from psychology concerning how to identify patterns among sequences of behaviors. And two of the seven articles use data sets based on firms outside the U.S. The articles make contributions to both the antecedents and consequences of temporary advantage.

The antecedents of temporary advantages

Hermelo and Vassolo (2010) find that the modernization of economic and other institutions increases the amount of temporary advantage across several countries in Latin America. Lee *et al*. (2010) find that dynamic capabilities speed up the escalation of temporary advantages. Chen *et al*. (2010) identify another antecedent of temporary advantage, especially aggressive actions—top management team characteristics. Sirmon *et al*. (2010) find that a firm's weaknesses interact with its strengths to limit the advantage of strengths. We can see from these studies that environments defined by temporary advantage, such as hypercompetitive industries and high-velocity industries, may be driven by much more than Schumpeterian competition. It may be that hypercompetition is not equivalent to Schumpeterian competition as many researchers have assumed. Hypercompetition can be caused by factors other than technological development and innovation, such as the distribution of firm resources and the change in these resources over time.

The consequences of temporary advantages

Several other studies in this special issue refine or contest established notions of what works best for performance in environments of temporary advantages. Rather than self-cannibalize and proactively pre-empt the market with the next new advantage, Pacheco-de-Almeida (2010) showed that it is often better to self-displace—that is, to voluntarily give up leadership of an industry. He observes that the magnitude and duration of the next advantage

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may be too short to earn more rents than by simply milking the old advantage. Also in contrast to accepted wisdom, Chen *et al*. (2010) find that aggressive actions are not always the best way to precede in hypercompetitive or high velocity environments. Also in contrast, Chen *et al*. (2010) reconfirm that aggressive actions work best in hypercompetitive Asian markets, even though the society is based on collective and cooperative cultural norms. Finally, Rindova, *et al*., (2010) found that in certain hypercompetitive environments, it is better to use predictable and simple sequences of actions to signal the stock market, rather than unpredictable actions to confuse rivals.

THE FUTURE OF TEMPORARY VERSUS SUSTAINABLE ADVANTAGE: MUTUALLY EXCLUSIVE OR SIMULTANEOUSLY COEXISTENT?

Some scholars have argued that temporary advantage is a horse of a very different color when compared to sustainable advantage-based models of strategy (Grimm *et al*, 2005). Some argued that temporary advantage is applicable under different circumstances (D'Aveni, 1999) or involve very different underlying assumptions (Lengnick-Hall and Wolff, 1999). And some empiricists have implied that sustainable and temporary competitive advantages are mutually exclusive concepts. Studying the increased volatility of returns, declining impact of industry effects, and the relationship between rivalry and industry performance, Thomas (1996) and Thomas and D'Aveni (2009), argued that industries based on sustainable oligopolies were being replaced by industries that had become hypercompetitive. But are these paradigms mutually exclusive or can both sustainable and temporary advantage simultaneously coexist?

In the future, we may see many new theories imported into the field of strategy to resolve this question. Wave theory is one such possibility. Waves carry energy and are disturbances in a medium, such as water, air, or space. The amplitude, duration, velocity, and periodicity of many different types of waves can all be described in mathematical equations. Some waves have shorter periods, travel faster, and dissipate sooner than others. The parameters of the wave formula define the period, frequency, and amplitude. With considerable empirical research, we could discover what influences the parameters in wave equations. We could visualize an industry with both long and short waves rippling through it. Thus, an industry would be represented by a series of wave equations (disruptions) with differing parameters, and the parameters would be based on the antecedents of advantages.

Chaos theory may be another theory that has the capability to describe the existence of simultaneous coexistence of short- and long-term advantages (Gleick, 1988). Likewise, complexity theory or the theory of complex systems (Waldrop, 1992; Anderson, 1999) may add to the theory of temporary advantage by enabling the integration of literatures on hypercompetition, hypervelocity, hyperturbulence, and complex competitive dynamics.

In addition, we may discover that hypercompetition turns out to be a special case of Porter's five forces (low barriers to entry and substitution, high power of buyers and suppliers, and rising industry rivalry). Some industry factors may still have residual effects over time, even though industry behavior is deteriorating.

As noted earlier, new tools and methods may be invented to resolve the question of mutual exclusivity versus compatibility of theories through looking more closely at the firm dyads as the level of analysis and then accumulating the results to see the industry-level implications. Perhaps tactics are short term, but strategies are long term. Perhaps temporary interactions between dyads of firms somehow accumulate into stable or unstable industry structures. And perhaps some aspects of industries may be stable while the firm level dyads are unstable due to temporary advantages. As our theories become more dynamic, so too will the data we study.

Finally, another emerging insight is that firms do not have just one strategy (D'Aveni, 2010). They may have a *multiplicity of strategies*—each strategy takes on rivals one at a time. In fact, in a world of temporary advantages, it may be rare to see a firm having just one strategy that universally applies across all rivals. A firm may have as many strategies as it has competitors. Yet the field of strategy still talks about firms as if they had just one strategy. Consequently, to understand temporary competitive advantages, we may need to move to the firm-dyad level of analysis, adding a new row to Tables 1 and 2. We may also need to allow more studies that are inductive, data exploratory, and dynamic or fine-grained in nature.

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After this special issue is published, we hope it will be easier for others to do and publish such studies. There is a lot to learn from breaking away from two of the most dominant paradigms in the field of strategy (RBV and the industrial organization economics perspective.). As competition gets more complex and change is fast and unpredictable, new paradigms, new models, and new data will be required to explain this new world. We hope this special issue advances research on temporary advantages.

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