DYNAMICS OF COMPETITIVE STRATEGY

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Preface: The Beginning of a Research Agenda, 1984

IT was another one of those lunch debates that only academics seem to enjoy. This one was over the definition of business strategy. When we first started these weekly lunchtime meetings to discuss strategic management issues, none of us thought that we would get so mired in seemingly trivial basic definitions; but in retrospect, we realize that challenging such fundamental notions can lead to important insights.

Although these debates were stimulating, consensus was not a usual outcome, perhaps due to the diverse backgrounds of the participants. Curt Grimm, who approached strategy from an industrial organization economics (IO) background, emphasized environmental and structural dimensions. Curt, who often quoted Porter (1980) and the underlying IO research on which

Porter is based, would argue that firms maximize profits by creating barriers to entry and limiting overall rivalry. Marty Gannon, the management theorist in the bunch, thought of strategy in terms of organizational structure. Marty, who frequently referenced Miles and Snow (1978), would contend that strategy is simply the proper organizational arrangement of people, technology, and administration for the environment the organization faces. The late Frank Paine, on the other hand, who had expertise in strategy and organizational theory, thought of strategy as a gestalt alignment of the organization with its environment. Frank's view was in some sense a compromise between the other two, and he favored Miller and Friesen (1978) to support it.

Ken Smith could appreciate the importance of these definitions, but they did not square perfectly with his business experiences. For Ken, strategy is the plan to beat the competition: to win the contract away from a rival, to swiftly capture a new market before others move, to secretly lock customers in with a long-term contract, to match a rival's pricing behavior or secretly lower prices at a rival's expense. In short, strategy for Ken is to be where the competition is not or, ideally, to have no competition.

One commonality that became clear from our debates was that none of us was particularly comfortable with the current definitions of and approaches to studying business strategy. In particular, the academic definitions seemed to be based on what researchers could easily measure, as opposed to what firms actually did—the actual dynamics of competitive strategy. Moreover, the research rarely focused on samples of competing firms in action with one another. More important, exactly how firms actively utilize strategy to build advantages over competitors seemed to be ignored.

After many seemingly endless debates we decided to center our attention on improving the definition of strategy. This was in 1984 and it marked the beginning of the Strategic Management Research Group (SMRG) at the University of Maryland, which is still active today. The SMRG initially included faculty members Frank Paine, Ken G. Smith, Curtis Grimm, Martin Gannon, and, at various times, Ph.D. students David Barry, Ming-Jer Chen, James Guthrie, Harry Sapienza, August Schomberg, Ken A. Smith, and Leith Wain.

The SMRG meetings became more formal as the goal became clearer. An important breakthrough came when Frank Paine suggested that any definition of strategy should include the concept of competitive timing. But exactly how to include competitive timing in a definition of strategy was perplexing. For example, how should timing be integrated into the various definitions of strategy as: "domain navigation"; "gestalt patterns of behavior"; or "the taking of offensive and defensive actions"? Indeed, we realized that most definitions of strategy had already implicitly included timing, but that the focus was on the idealized long term, not on the timing of actions relative to competitors.

However, by putting aside past definitions of strategy and using competitive timing as a central concept, we began to make progress. Conceiving strategy as a series of races against the clock, we could capture the importance of timing relative to competitors. Each race could be contrived as an event with different racers or players, including quick starters, early leaders, fast finishers, slow seconds, and laggards. This metaphor allowed us to recognize that, although the strategy of "fastest to the finish" is important, there are significant prizes for those firms who are second and third as well. Further, racers may decide to go slowly in one event in order to hold back and save energy for quick action in the next. Finally, with this perspective one can acknowledge that often the early leader is not the winner, and sometimes the slow starter is a fast finisher. These ideas were not well captured in the current definitions of strategy.

A second breakthrough was a forceful change in the unit of analysis—away from the organization or year-end financials as a unit of analysis to a more dynamic competitive event or action/reaction unit of analysis. The key point is that the competitive moves of one firm tend to provoke competitive responses by other firms in the industry. Within the context of this action/response unit of analysis, the timing of actions and reactions becomes of crucial concern.

Our first study focused on the issue of competitive timing with a small sample of high-technology firms. For example, when a firm acts or moves first to introduce a new product or to cut prices, how fast do rivals respond? We asked the chief executive officers of each firm to think of a specific competitive action or move by a rival to which their firms had responded. Gathering data on their responses and response times, the research team identified a number of environmental and organizational factors that affected the speed with which a firm reacts. However, the bottom line of the research was the discovery that response timing and response order were related to organizational performance. In particular, fast and early responders outperformed laggards. The results of this initial research were presented to the Strategic Management Society annual meetings in Philadelphia, Pennsylvania, in October 1984. While the group was encouraged by the very positive feedback from the presentation in Philadelphia, publishing this initial research proved to be a major challenge. Reviewers were overwhelmingly positive about the more active definition of strategy and unit of analysis but concerned about the theory and method. For example, a thoughtful consulting editor for the *Academy of Management Journal* wrote: "First, the authors should consider a conceptual, AMR-type article as a foundation. . . . I believe that this is such an important topic that a very interesting, widely cited piece of work would almost certainly emerge. . . . Second, the study should be expanded. . . . A larger set of firms would permit a more comprehensive analysis."

Thus, the challenge before us was to develop stronger theory and devise a suitable large-sample methodology. The SMRG first focused on theory development. The economics literature was a natural starting point. Led by Curt Grimm, the group spent many months reading the game theory literature. This period was extremely insightful, as there were many direct applications of game theory to the competitive interaction or the moves and responses of firms to one another. Nonetheless, game theory proved limited for developing specific hypotheses regarding the timing and order of competitive moves.

We then spent several additional months reading the organizational literature from sociology and organizational theory. An advancement came from the work of Rogers and Shoemaker (1971) and their application of communication theory to explain the diffusion of technological innovations over time. Communication theory was directly applicable to explaining the timing of competitive moves of firms to one another, and the race metaphor. The idea was that each competitive action carries a message which rivals can interpret and to which they can react at various speeds. Most important, communication theory facilitated the development of specific hypotheses regarding timing and order.

A communication-information model of competitive interaction was then developed and presented at the Academy of Management Annual Meetings in Anaheim, California, in 1988. This model, which serves as the foundation for this book and is fully outlined in Chapter 1, has subsequently guided the group's research. The model facilitated the delineation of the subject matter, as represented by the various chapters, as well as the identification of the principal variables described in each chapter for study.

Overcoming the methodological problems was at least as difficult as solving the theoretical problems. First, there had simply not been any large-scale empirical studies on the timing and order of competitive moves. Thus, there was little guidance in the literature. In addition, we decided early on that a large data base of competitive interactions was required if we were to properly test any hypotheses. Finally, given the unreliability of retrospective reporting by managers, it was determined that a more objective archival method was needed.

Thus, the goal was to find a reliable and comprehensive archival source of competitive events. Ming-Jer Chen, a doctoral candidate at the time and now an assistant professor at Columbia University, worked closely with the group in searching for an archival method of identifying competitive actions and responses. The SMRG spent approximately one year examining alternative archival sources.

After much consideration the group decided to employ a structured content analysis of a major industry publication. In short, the method involved an exhaustive reading and coding of every issue of a major industry publication to identify competitive events. The advantages of the method are that: (a) A large sample of events can be identified; (b) the events can be fully validated from alternative sources; and (c) events can be chronologically ordered to portray first movers and laggards within an event, and ordered across time to capture changing industry rivalry. The specific details of the method, which has now been duplicated with different formats in three other industries, are reported in Chapter 3. We have used this archival method in conjunction with other approaches, as we believe triangulation—combining diverse methodologies—is appropriate.

Once we were armed with a strong theory and a significantly improved methodology, the research advanced rapidly, resulting in a number of academic presentations and journal publications. This book is the culmination of 7 years of research on this new unit of analysis and the dynamics of competitive strategy. The goals of book are to: (a) introduce a comprehensive communication-information model that can serve as a resource for driving research in this area; (b) demonstrate the advantages of the action/response unit of analysis and its influence on the definition of strategy in strategy research; (c) describe some novel methodologies for studying actions and reactions and measuring complex variables; and (d) present empirical results regarding these relationships. Our motivation in writing the book is to inspire additional debate and research on this more dynamic unit of analysis. The SMRG at the University of Maryland continues to explore and debate these issues, and we welcome any comments or suggestions that can help us in our long-term effort of understanding the dynamics of competitive strategy.

We have had considerable help in making this book a reality. The Maryland Business School has provided a uniquely supportive setting, and Dean Rudy Lamone always furnished encouragement and institutional support for our research. The faculty and staff of the University of Limerick, where Ken Smith composed an initial draft of the first seven chapters, were most gracious hosts and commented on presentations of this research. The Small Business Center at Howard University financed certain aspects of this research.

The research would not have been possible without the help of a group of highly talented Ph.D. students who worked as part of the SMRG. Ming-Jer Chen, Harry Sapienza, August Schomberg, Greg Young, and Leith Wain each worked on elements of the research at different times. In particular, Ming-Jer Chen's dissertation research on competitive actions, upon which Chapter 4 draws, and the gathering of the airline data base was a major contribution. In addition, Greg Young's research on the computer retailing firms, his construction of the various data bases, and the production of figures for this book are greatly appreciated. Further, Harry Sapienza co-authored Chapter 2, August Schomberg and Greg Young co-authored Chapter 6, and Leith Wain co-authored Chapter 3.

Our colleagues at the University of Maryland, particularly Ed Locke, Hank Sims, Tom Corsi, Lee Preston, Judy Olian, and Steve Carroll, played a central role in the development of our ideas and in reading and commenting on various research papers and presentations. Their friendship and support are greatly appreciated.

Finally, we acknowledge the wisdom and foresight of the late Frank Paine, Professor of Business and Management at the University of Maryland, for providing us with the initial idea of focusing on competitive timing.

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1

A Communication-Information Theory of Competitive Interaction

THIS book focuses on the dynamics of competitive strategy or the active, energetic, and primarily purposeful process by which firms interact with one another as they strive for advantage. The dynamics of competitive strategy are captured empirically by spotlighting the specific competitive actions and reactions of firms to one another. An action is defined as a specific competitive move, such as a price cut or a new product introduction, initiated by a firm to defend or improve its relative competitive position (Chen, 1988). Similarly, a reaction is a

AUTHORS' NOTE: Portions of this chapter were adapted from "A Communication Model of Competitive Response Timing" by K. G. Smith and C. Grimm, 1991, *Journal of Management, 17,* pp. 5-23. Copyright 1991 by the Southern Management Association. Adapted by permission.

discernible counteraction, taken by a competing firm with regard to one or more competitors, that is designed to defend or improve its relative position. Together the action by one firm and the associated responses by rivals combine to constitute a competitive event, which is the central unit of analysis in this book. This book reports on more than 250 competitive events drawn from a variety of industry settings; these events are used to test specific action/response hypotheses derived from communication-information theory.

In this chapter we lay the groundwork for this action/response competitive event perspective. The chapter begins with two case studies and a review of the literature on the action/response unit of analysis. We then highlight the strengths and weaknesses of alternative theories of strategy and competition. In particular, the action/response perspective is compared to macro and micro theories of strategy. Finally, the communication-information model, which serves as a framework for the book, is introduced.

The Competitive Event Perspective

The two case studies in this section are designed to illuminate the competitive event perspective: One represents success and the other failure. We then describe the action/response unit of analysis.

Two Case Studies [1]

The management of Vintech Inc., a division of a large *Fortune* 500 conglomerate, was in turmoil over recent sales declines and the implications of these declines for long-term profits. Corporate management had recently raised the profit goals of this division to make them consistent with its leadership position as an innovator in the sophisticated electronic testing market. Vintech's management, composed primarily of engineers, was now shocked to discover that the division's present sales decline could be attributed to a significant price cut made by its major competitor more than 10 months ago. This competitor, Wellguard, had drastically cut prices in an attempt to increase market share. Vintech's management was now concerned as to the manner in which it should respond. After much deliberation, Vintech's management decided to introduce a new, sophisticated line of products on which it had been working for the past 5 years. Unfortunately for Vintech, there was a considerable delay in getting this line of products to the market. Even though the new product exhibited superior performance capabilities, Vintech's management found it extremely difficult to win back its customers when implementing its response almost 2 years after Wellguard's initial move.

Precision Science's story is very different. Precision Science is a major producer of radar for small aircraft, ships, and military equipment. The company is managed by marketing executives, and the major goal is sales growth. Managers of Precision were somewhat surprised to read press announcements that a major competitor, Mathon, was planning to introduce a new radar product. Management of Precision quickly investigated the performance capabilities of this new product and, within one month after discovering the move, severely cut its prices on competitive products substantially below Mathon's suggested price. This response effectively preempted Mathon's new product move.

The lesson from these two case examples is quite clear: Firms are not independent in the marketplace, but are affected by the actions of one another and are prone to react. Given this interdependence, the effectiveness of a firm's strategy cannot be assessed without an evaluation of the reactions or potential reactions of rivals. For example, an action without a competitive response will generally lead to an advantage for the acting firm. However, an inappropriate action or response, in general, will lead to an advantage for the rival firm. For instance, Vintech responded to Wellguard's major price cuts with a new product introduction. This new product required an extensive marketing campaign with a complete re-education of customers, and resulted in a loss of profits and market share.

Sometimes the key to competitive advantage is not the appropriateness of action but rather its timing or the speed with which a firm acts or reacts. Generally, a longer response time by a rival will result in a competitive advantage for the firm that makes the initial move, and in lower profits for the late responding firm. Precision Science was quite effective in blocking the actions of Mathon by quickly responding with a price cut. Conversely, Vintech was late in responding and suffered disastrous consequences vis-à-vis Wellguard. Moreover, there are occasions in which an acting firm's move can go undetected by rivals for long periods of time, thus providing significant potential monopolistic advantage to the actor, as in the case of Wellguard and Vintech. Alternatively, rivals may fail to respond because they view the actions to be too radical and therefore doomed to fail, thus providing a window of opportunity for the actor to exploit.

The Action/Response Unit of Analysis

As the above discussion suggests, the manner in which a firm acts and reacts with regard to rivals determines in large part the degree to which it will be successful in the marketplace. Figure 1.1 outlines this basic relationship. In short, actions can provoke competitive responses, which combine to form a competitive event. It is argued that the extent of each rival's advantage and profitability is determined by the dynamics involved in these competitive events.

The antecedents for this action/response perspective can be found in the writings of Schumpeter (1934, 1950) and, more recently, Nelson and Winter (1982). According to Schumpeter (1950), some firms intentionally attempt to be industry leaders while others follow and imitate. Both the actions of leaders and the responses by followers are essential to Schumpeter's theory; he viewed the marketplace as a mechanism through which firms experimented by taking specific actions, referred to as