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Reflexive and Selective Competitive Behaviors—Inertia, Imitation, and Interfirm Rivalry

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ABSTRACT

Competitive dynamics research has established the important impact that the level of firm competitive activity has on rival response and firm performance. Less understood, however, are inputs that influence firm activity, specifically, the extent to which firms reflexively repeat prior activity versus selectively taking actions. Drawing from the awareness–motivation–capability framework, we develop and test theory that firm decision makers are not only predisposed to behave reflexively, but are also influenced by contextual factors, suggesting cognitive selection. Utilizing a longitudinal sample of marketing activity of 58 firms and 2,164 firm–rival dyads in 11 industries, we find that firms undertake both reflexive and selective competitive processes. Positive effects of prior levels of activity are moderated by the firm's own prior performance, as well as the rivals' similarity and industry standing.

KEYWORDS

Competitive dynamics; reflexive competitive behavior; selective competitive behavior; awareness-motivation-capability (AMC); interfirm rivalry

Many key questions in strategic management research are directed at explaining variation in firm behavior (Ocasio, 1997; Rumelt, Schendel, & Teece, 1994). Traditional explanations assume firm behavior is determined by characteristics of the industry in which firms compete (Caves & Porter, 1977) or the set of resources they possess (Barney, 1986, 1991; Kraaijenbrink, Spender, & Groen, 2010). More dynamic perspectives on firm behavior, on the other hand, highlight the internal development of routines that firms tend to repeat and reuse (Cohen & Levinthal, 1990; Nelson & Winter, 1982) or susceptibility to external forces, which leads firms to imitate behaviors of others (DiMaggio & Powell, 1983; Haunschild & Miner, 1997). While the tenets of these two dynamic views are generally accepted, much less is understood about their boundary conditions. Specifically, when will a firm repeat activity it has undertaken in the past or imitate behaviors of others, as opposed to acting more selectively? In this study, we shed light on this compound question by drawing on literature that examines dynamics of firm behavior within the context of interfirm rivalry (e.g., Smith, Ferrier, & Ndofo, 2001; Chen, 1996; Chen & MacMillan, 1992; Derfus, Maggitti, Grimm, & Smith, 2008; D'Aveni, 1994). In particular, we use the awareness–motivation–capability (AMC) perspective developed by Chen and colleagues (Chen, 1996; Chen, Su, &

Tsai, 2007) to examine the tension between a firm's tendency to automatically repeat its own past competitive activity or imitate others versus its capability and desire to be more selective and less predictable.

A large body of research into firm-level experience posits changes in firms' future behaviors based on their past actions (Brown & Eisenhardt, 1997; Haleblan & Finkelstein, 1999; Hayward, 2002). For example, empirical studies have related firm future behavior to prior experiences with mergers and acquisitions (Baum, Li, & Usher, 2000; Haleblan & Finkelstein, 1999; Haleblan, Kim, & Rajagopalan, 2006; Hayward, 2002); previous alliances (Hoang & Rothaermel, 2005; Simonin, 1997); and market penetration (Bingham & Eisenhardt, 2011; Chuang & Baum, 2003; Zahra, Ireland, & Hitt, 2000). The core theory of these studies is that firms satisfice when making decisions about future behavior because they are limited in their information-processing skills, and therefore their behavior is path dependent and routine based (Cohen & Levinthal, 1990; Nelson & Winter, 1982). In short, because the knowledge base of firms is determined in large part by experience with prior behaviors, firms and their managers are more likely to repeat past actions, and their future behavior will change slowly and incrementally (Baum et al., 2000).

Another type of reflexive process is imitation, where changes in firm activity are based on the past activity of competitors (Baum et al., 2000; Levitt & March, 1988). Empirical studies of firm-level imitation have demonstrated that firms adopt a set of behaviors from participation in interfirm innovation networks with others (Powell, Koput, & Smith-Doerr, 1996), through multi-market contact with rivals (Korn & Baum, 1999), and from patterns of global expansion by others (Henisz & Delios, 2001). These studies often draw on institutional theory (DiMaggio & Powell, 1983; Haunschild & Miner, 1997) to argue that, faced with uncertainty and ambiguity, firms will observe the behavior of competitors to provide them with direction regarding their own future bundle of actions (Derfus, Maggitti, Grimm, & Smith, 2008). In other words, firms constantly observe competitors and then adjust their own future behaviors accordingly (Baum et al., 2000).

The perspectives on experience and imitation both assume that information-processing capabilities of top managers are limited, and, as a consequence, a firm's future activity is predominately driven by automatic or reflexive processes. This yields levels of competitive activity that are closely tied to the firm's own past experience, or the activity of competitors. Because firms and their managers are limited in the capabilities necessary to acquire, distribute, interpret, and retain information and knowledge (Huber, 1991), the set of actions they undertake in the future tends to be routine based, constrained to local or problem-oriented search, and prone to programmed interpretation (Levitt & March, 1988). Therefore, the behavior of firms and their managers may not be well planned, nor necessarily provide increased organizational effectiveness (Huber, 1991). Indeed, it is often reflexive, due to conditioning from the environment or history of the firm.

This reflexive or deterministic perspective is rooted in individual-level research conducted in the 1970s, where scholars initially concluded that all behavior is externally determined (Bandura, 1975). However, social cognitive research has ultimately concluded that cognitive aids to facilitate behavior can overcome limits to individual information processing, and, as a consequence, behavior can be selective (Bandura, 1986). This perspective is important because it emphasizes that human agents are self-determinant and, as such,

can make their own choices. Applied to the management field and, more specifically, to competitive strategy, it would suggest that managers' cognitive abilities allow them to proactively engage in forethought, set goals, make forward-looking plans, and engage in a level of competitive activity that moves the firm toward anticipated future goals and outcomes (Smith & Cao, 2007). Along these lines, Gavetti and Levinthal (2000) simulated forward-looking, cognitive, and experiential search that is not solely dependent on the past or the behavior of others. Miner and Haunschild (1995) also showed that a firm is capable of distinguishing among targets of its imitative behavior.

The literature on competitive dynamics, which captures discrete measures of the levels of firm competitive activity, offers rich potential to investigate the role of firm reflexive and selective processes. To date, empirical research on interfirm rivalry has failed to address the degree to which firms and their managers discriminate and are selective in their action choices. What would cause one firm to imitate some rivals, but not others, is yet unclear. Or when might a firm reflexively repeat its past actions versus act in a more unpredictable manner? The AMC perspective in management theory, however, provides important insight regarding the drivers of firm competitive behavior (Chen, 1996). Specifically, this perspective maintains that firms vary in their awareness, motivation, and capability to engage other firms in rivalry. Drawing from this conceptual framework, we develop and test the theory that firm decision makers are not only predisposed to reflexively engage in a level of competitive activity that is based on past experience or the activity of others, but are also influenced by a set of contextual factors that demonstrate cognitive selection, yielding a level of activity that is more strategic and less predictable.

Our theory begins with two baseline hypotheses that suggest firm competitive activity is deterministic or *reflexive*.¹ That is, we hypothesize about the impact of prior focal firm and rival behavior, such as the level of marketing activity, including past promotional and advertising campaigns, on the focal firm's future marketing activity. We then introduce the notion that competitive activity is at times *selective*, defined as behavior that is directed or altered by managerial capabilities and attentional focus. We analyze the

¹The term *reflexive* is also found in the book *The Alchemy of Finance*, by George Soros (1987). In that original work, Soros used the term in connection with the theory of reflexivity to describe the recursive interplay between observers of events and events being observed. More recently, the *Journal of Economic Methodology* devoted a special issue to the concepts and development of the theory; interested readers may refer to a paper by Soros (2013) included in the issue for a greater summary and clarification. Our separate use of the term here derives more directly from dictionary definitions associated with reflex actions in describing the tendency of firms to repeat past behaviors. We are grateful to an anonymous reviewer for calling attention to the other use of the term.

relationship between competitive activity and contextual conditions such as prior focal firm performance and rival performance, industry leadership, and similarity in industry standing. Specifically, we apply the conceptual building blocks of the AMC perspective to explain the moderating influence of awareness, motivation, and capability on reflexive activity.

To empirically investigate our theory, we performed structured content analysis on published accounts of the observable activities of firms over time. Consistent with prior research that examined firm behavior in specific behavioral settings, including mergers and acquisitions (Haleblian & Finkelstein, 1999; Haleblian et al., 2006), alliance activity (Hoang & Rothaermel, 2005; Simonin, 1997), and product introduction activity (Katila, 2002; Li, Maggitti, Smith, Tesluk, & Katila, 2013), we examined discrete levels of marketing activity. Our empirical setting is composed of the aggregate marketing activities of 2,164 industry-specific, firm-rival dyads from 11 industries ranging from hard goods manufacturers and general retailers to utility providers and national supermarkets over a 6-year period.

We make several specific contributions to prior research on the dynamics of firm behavior. First, we add to the firm evolutionary literature that views firm behavior and routines as path dependent and repetitive by using the AMC framework to identify boundary conditions that explain why some firms are capable of overcoming a tendency to automatically repeat prior levels of competitive activity. Similarly, our use of the AMC framework also enables us to explore conditions that predict firm mimetic tendencies, as described by institutional theorists. As such, we contribute to unraveling tension in the literature between reflexive and selective competitive activity by identifying key contextual conditions. We also contribute to the competitive

dynamics literature, specifically in the area of competitor analysis (Chen, 1996; Zajac & Bazerman, 1991), in that our framework speaks directly to the conditions that would allow firms to predict future levels of competitive activity. By identifying conditions that suggest a firm may repeat past competitive activity or imitate rivals, we enhance the ability to predict impending behavior. Finally, our application of AMC helps further articulate this framework as a useful concept to explain firm competitive actions in a variety of applications. We now develop these arguments and then test them as follows.

Reflexive behavior: Focal firm and rival prior activity level

We model a firm's competitive activity in the context of interfirm rivalry that involves both reflexive and selective processes (see Figure 1). We begin our description of the model with a discussion of reflexive competitive activity. Organizational studies have long argued that a firm's information processing is routine based, inertial, bound by historical precedent, and not necessarily intentional (Cohen & Levinthal, 1990; Levitt & March, 1988; Nelson & Winter, 1982). Defined here as reflexive, these processes predictably yield future levels of competitive activity that are closely coupled with the firm's own past activity and that of its rivals.

The tendency of the firm to draw from its experience with prior behavior is a core element of organizational research. Brown and Eisenhardt (1997, p. 29) speculated that with little regard for ongoing events in the competitive environment, firms create "links in time" that they described as "the explicit organizational practices that address past, present, and future time horizons and the transitions between them." The authors posited that firms bridge past and future activity

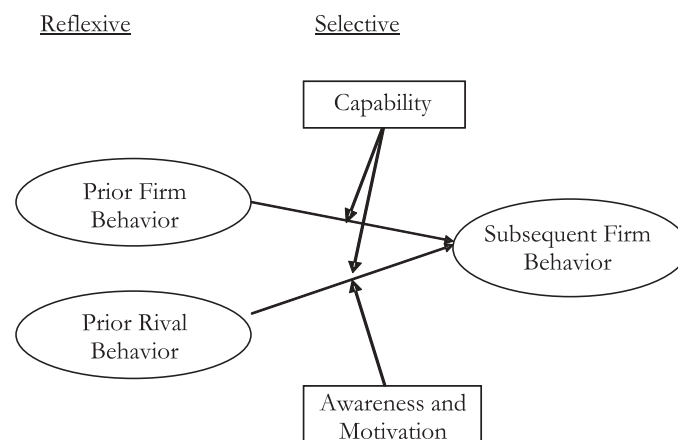


Figure 1. Conceptual model of reflexive and selective behaviors.

through explicit practices and sufficiently rigid routines. The host of research that applies this reflexive perspective spans a number of strategic settings, including mergers and acquisitions (Haleblian & Finkelstein, 1999; Hayward, 2002), alliances (Simonin, 1997), and market penetration (Zahra et al., 2000). The consistent underlying premise across these studies is that routine-based behavior preconditions a firm to repeat the actions of its own past.

The research on reflexive processes typically casts their repetitive nature as somewhat dysfunctional. Levitt and March (1988) applied the term “competency traps” to describe processes that often hold firms in perpetual dependence on procedures that produced prior behaviors. A firm tends to fixate on a familiar course of action or level of activity that tightly aligns with its own prior actions (Brown & Eisenhardt, 1997). As processes within the firm advance with successive repetition, the firm becomes increasingly reliant upon a constrained set of actions. Likewise, the evolutionary perspective of adaptation identifies inertial forces acting on the firm that ties its past to its subsequent behavior. Barnett, Greve, and Park (1994) suggest that larger, established firms tend to be less adaptive. They argue that absent environmental shocks, a firm will only incrementally vary its activity over time and will be subject to repeating its prior actions (Barnett & Sorenson, 2002). Consistent with extant findings, we expect that the focal firm’s future level of competitive activity will be a function of its own prior activity level.

Studies also find evidence that the predisposition toward reflexive behavior, influenced by the past, exists irrespective of outcomes—whether or not past behavior proved correct. The firm settles into a set of actions partially from its successes but also from its failures. Henderson and Cool (2003) suggest that there are reflexive tendencies even in the face of a growing record of poor outcomes. Also, Leonard-Barton (1995) suggests that core competencies of firms may give way to “core rigidities,” wherein managers fall into a set of mindless routines that are almost impervious to new inputs from the environment. The nature of the firm’s past behavior becomes a more formidable influence even as it grows more rigid (Barnett & Sorenson, 2002; Leonard-Barton, 1995). This accumulation of past actions informs the firm’s ongoing future behavior and is manifested in close coupling between prior levels of activity and the firm’s subsequent activity level. All of the preceding arguments give rise to the following hypothesis:

Hypothesis 1: The prior level of focal firm competitive activity will be positively related to the level of future focal firm competitive activity.

Complementing the organizational experience perspective, there is a more externally directed literature, which posits that organizations, situated in a community of organizations, imitate each other (Cyert & March, 1963; Levinthal & March, 1993; Levitt & March, 1988; Derfus, Maggitti, Grimm, & Smith, 2008). Beyond its own past, a firm’s future behaviors are influenced by behavior it observes from others (Davis & Greve, 1997; Kraatz, 1998; Rao, Greve, & Davis, 2001). Moreover, the literature on institutional and competitive forces suggests that mimetic processes of adoption result from decisions that are not fully rational (DiMaggio & Powell, 1983; Fiol & O’Connor, 2003; Levitt & March, 1988) and stresses the role that social influences play in the tendency to follow the behaviors of others (Davis & Greve, 1997; Kraatz, 1998; Kraatz & Moore, 2002; Rao & Drazin, 2002). Abrahamson and Rosenkopf (1993, pp. 488, 513) describe an effect of bandwagon pressures whereby an organization adopts behavior because of its popularity, not because of its own assessment of the behavior’s value to the organization. They argue that the pressures fueling bandwagon behavior may be so great that even an organization that has determined the behavior to be ill-suited will often nonetheless adopt it.

Empirical studies find support for the existence of such bandwagon effects. For example, in a study of major credit-rating agencies, such as Moody’s and Standard & Poors, Vaaler and McNamara (2004) find that acute uncertainty causes agencies to match the overly pessimistic rating practices of their competitors. The authors concluded that the overwhelming bandwagon pressures among competing agencies caused the firms to rate emerging-market sovereigns substantially lower than objective criteria would prescribe. In like manner, actions on Wall Street preceding the advent of the 2007–2009 recession arguably point to similar bandwagon effects that led to overvaluation of mortgage securities. In an extensive review of research in matching behaviors, Miner and Haunschild (1995) also show evidence across studies that organizations demonstrate a strong propensity toward replication of the common actions of others. Similarly, Derfus, Maggitti, Grimm, and Smith (2008) demonstrates the tendency of media organizations to behave similarly to their competitors when deciding what firms to cover in their publications. Thus, the theoretical foundation and abundance of research findings suggest that visible behaviors of others are readily manifested in a focal firm’s subsequent behaviors:

Hypothesis 2: The prior level of rival competitive activity will be positively related to the level of future focal firm competitive activity.

Selective behavior: Focal firm and rival contextual factors

In contrast to an organization that is destined to reflexively repeat the past or automatically imitate others, the awareness–motivation–capability (AMC) perspective provides a conceptual framework to examine a firm's selective behavior. This management perspective, with roots in social cognitive theory (Bandura, 1986, 1989), offers a powerful lens for predicting a firm's propensity to engage a rival in competitive interaction (Chen, 1996). The key precursors to interfirm rivalry, as described by the AMC perspective, include the firm's levels of awareness, motivation, and capability (Chen, Su, & Tsai, 2007). That is, a firm will respond to a rival's actions when the firm is aware of the rival, motivated to take action, and capable of mounting a response. The firm tends to be aware of a particular rival when that rival shares similarities with the firm, such as similarities in resource endowment and market share, or when the rival manifests some considerable degree of market power, such as market leadership. However, awareness alone, in the AMC sense, is not sufficient to trigger the engagement of the firm in tactical interaction with a rival. The firm is likely motivated to respond to a rival in a market leadership position, but will only do so if it has adequate operational capability.

These conceptual principles of the AMC perspective have been applied in recent strategic management studies, with important results (Chen et al., 2007; Yu & Cannella, 2007). In a study of airline competition, Chen et al. (2007) found that the precursors to rivalry had significant impact on perceptions of competitive tension within the focal firm's top management team. Those airline competitors identified as chief rivals by the firm's executives were associated with greater indicators of awareness, motivation, and capability. Also, in an empirical study of multinational firms, Yu and Cannella (2007) demonstrated that AMC variables influenced global rivalry, in that home and host country characteristics likewise had an impact on awareness, motivation, and capability. In the current study, we argue that these precursors serve as a basis for a firm's selective or strategic focus on the competitive activity of particular rivals.

A number of researchers have called for the examination of selective behavioral mechanisms beyond automatic responses to experience and vicarious stimuli (Shipton, 2006; Spender, 2008; Zollo & Winter, 2002). Although the theoretical basis for the matching of past behaviors or the widespread behaviors of others has been well established (DiMaggio &

Powell, 1983; Haunschild & Miner, 1997; Levitt & March, 1988), the foundation for how firms distinguish or select among potential imitation targets has not yet been fully clarified. The AMC perspective provides a basis to argue that firms can behave selectively in certain settings based on the level of their awareness, motivation, and capability to do so. Using the perspective, we link human agency to competitive behaviors to provide deeper insight into firms' selectivity. Thus, consistent with a firm's awareness, motivation and capability, managers direct the firm along a set of contextual factors that influence the firm's subsequent behavior.

Contextual factors

The AMC perspective provides the theoretical lens to focus on firm capabilities and the attention of individuals who make decisions regarding future behavior. In harmony with early work by Child (1972) to account for the role of organizational decision makers, we stress the fact that organizations consist of such human agents at the helm. Beyond the firm's expected inclination to follow the actions of the past, whether its own actions or the actions of rivals, managers guide internal processes by situating the attention and cognition of firm actors (Ocasio, 1997). From this perspective, the firm's behavior is the net effect of the internal focus of organizational actors along a range of potential imitation targets. Locke and Latham (1990) suggest that managers direct a process that filters the firm's experience based on alignment with organizational goals. Managers gain an enhanced understanding of causal linkages between the behaviors and resultant outcomes of both themselves and rivals and use this experience to select what level of activity the focal firm should engage in in the future (Zollo & Winter, 2002). This selective behavior is a matter of context—including the firm's performance toward those goals, the performance of the firm's rivals, and its relative market position vis-à-vis those rivals. We theorize not only that a firm will reflexively follow past experience or simply attempt to replicate behavior of any and all rivals, but that the firm's capability, awareness, and motivation will manifest in certain circumstances. In this research we focus on four context areas that may affect a firm's selective behavior and moderate its future competitive activity level: prior focal firm performance, rival firm performance, rival industry leadership, and similarity in industry standing. We use these contextual variables to theorize about the interplay of reflexive and selective behavior.

Focal-firm performance

A firm's past performance will have an influence on the extent to which the firm is able to overcome its tendency to repeat its own prior activity by influencing its capability to engage in slack search. Per behavioral theory of the firm, increased performance allows for broad experimentation and organizational search that would otherwise not be available to those firms experiencing low performance (Cyert & March, 1963; Greve, 2003). Slack search, or search "that would not be approved in the face of scarcity but [has] strong subunit support," may lead to more effective and innovative behavioral processes (Cyert & March, 1963, p. 279). Increased performance should then relax the firm's dependence upon its past behavior. In a study of public hospitals, Salge (2011) demonstrated that those firms with greater financial attributes concentrated greater efforts on pursuing novel behaviors. A high-performing firm with greater slack may be more likely to deploy resources to understand and differentiate between effective and ineffective past levels of competitive activity. Routine-based arguments (Nelson & Winter, 1982) suggest that firms in general may tend toward repeating past activity, whereas the greater slack available to higher performing firms allows for the development of tools to interpret past and rival activity and make adjustments. In short, the relationship between a focal firm's past level of competitive activity and future activity will be weaker in high performance, and likewise, the relationship between rivals' past level of activity and the focal firm's future activity will also be weaker in high-performing firms. Thus, the high-performing firm is more capable and therefore is less bound by its own past activity, and better equipped to engage rivals as a consequence.

Hypothesis 3a: Focal firm performance will negatively moderate the relationship between the prior level of focal firm competitive activity and the future level of focal firm competitive activity.

Hypothesis 3b: Focal firm performance will negatively moderate the relationship between the prior level of rival competitive activity and the future level of focal firm competitive activity.

Rival performance and industry standing

We also contend that firms will be aware of and motivated to select a particular subset of external rivals as imitation models. While imitation fundamentally relates to a firm's ability to generally recognize and process the behaviors of others and their internal procedures that produce such behaviors, sociocognitive

underpinnings to the AMC perspective describe a process that is model driven (Bandura, 1986). Managers, as firm actors, select models from within the broader environment. In an environment where multiple rivals simultaneously take actions, managers, bounded in their capacity for external focus (Ocasio, 1997), selectively attend to and become aware of some of them more so than others. Hence the firm's awareness and motivation is necessarily narrowed to only some salient subset of rivals as models.

Fiske and Taylor (1991) describe how attention is one of the first stages in information processing and note that without attention, nothing else can happen (1991, p. 245). The selected target of attention is largely determined by the degree to which the observer is aware of its presence and motivated to focus on it. Something motivates focus, or is salient, if it stands out from other stimuli in a particular context (Derfus, Maggitti, Grimm, & Smith, 2008). Characteristics that make stimuli salient include their extremity (Taylor & Fiske, 1975) and frequency (Crocker & McGraw, 1984; Hawkins & Hoch, 1992; Kahneman, Slovic, & Tversky, 1982). Extreme and/or frequently observed stimuli tend to dominate in a particular context and are thus more prone to be selected for attention (Bonardi & Keim, 2005).

Awareness and motivation by a firm's managers of select rivals as salient environmental models allows the firm to interpret external events (Chattopadhyay, Glick, & Huber, 2001; Cohen & Levinthal, 1990), understand and frame external actions (Huber, 1991; Nutt, 1998), and conserve and retrieve from its organizational memory (Levitt & March, 1988). Over time, managers build increasingly accurate cognitive maps of only a subset of select rivals. Rival decision rules, information processing, and framing become clearer to the firm as it continually tweaks and clarifies its collective understanding of model-selected rival behaviors.

Observation of the most salient rivals as models allows the firm to predict, with increasing accuracy, internal and external triggers that lead rivals to act. Porac, Howard, and Baden-Fuller (1989) refer to cognitive communities surrounding rivals that influence the development of their decision triggers. From repeated direct interactions, the firm hones its understanding of model rivals' cognitive communities that may include rival supplier relationships, relationships with advertising agencies, customer contracts, state regulations, or other external triggers. The quality of observed actions of its selected rivals depends upon its understanding of their operating heuristics and their cognitive triggers. Awareness of those external triggers enhances the firm's ability to recreate the comparable

heuristics necessary to replicate the modeled activity of selected rivals. In a study of competition and evolution in the Illinois banking industry, Barnett et al. (1994) showed that those firms that actively engaged direct rivals adapted best.

Research on strategic groups also suggests that a firm is more keenly aware of some rivals in its industry than it is of others (Porter, 1980; Reger & Huff, 1993). Rather than a mere reflexive processing of information from the common practices of all rivals, the firm discriminates and selects among behavioral models. Rivals at the extreme in terms of high performance will be salient to a focal firm and will thus be the target of its awareness and motivation for action. In addition, the activity of more proximate and similar rivals allows for more frequent and richer observation that is less prone to causal ambiguity; as such, these rival actions may be more recognizable to the focal firm's managers and such managers will be motivated to incorporate them into the firm's subsequent behavior. Consequently, more so than the firm's broad vicarious observations, the actions of the selected subset of rivals provide appreciable influence on the firm because of increased awareness and motivation. Some level of uncertainty will undoubtedly persist even about the most understood rivals, as demonstrated by Bloodgood and Bauerschmidt (2002) in their study of competitive knowledge across manufacturing plants. Nonetheless, the firm's understanding of these salient rivals is strengthened through competitive interactions and focused observations. As such, the causal linkages to their behaviors, though not perfectly understood, are less ambiguous to the firm. We predict that the firm will be most aware of and motivated to imitate the level of competitive activity of those particular rivals that are high performers (Levitt & March, 1988), that hold a high market share position in the industry (Haunschild & Miner, 1997; Korn & Baum, 1999), and that are most similar to the firm (Baum et al., 2000).

First, we expect that high performing rivals will have greater influence on the firm as they draw greater awareness and motivation. Levitt and March (1988) highlight the influence of high-performing rivals by suggesting that in competitive situations, powerful organizations effectively "create their own environment" to which others must adapt. High-performing rivals will trigger greater awareness and motivation by observers because their performance places them at the extreme of others in the industry, thus potentially magnifying the focal firm's focus on the level of their competitive activity. Haveman's (1993) study of market entry showed that for firms diversifying into new markets, the greater the performance of rivals, the greater is their motivating influence. Rival high

return on assets unwittingly drew attention to the attractiveness of their behavior. Also, effective actions by a given rival are those that destroy competitor advantages and generate rival gains (Chen & MacMillan, 1992; Derfus, Maggitti, Grimm, & Smith, 2008). High performance by that rival then is observable evidence of success in its competitive behavior. The behaviors of high-performing rivals are also likely to receive broad media coverage and may be frequently cited as exemplars in a given industry—and thus be especially motivating to observing managers. The higher performing rival is an especially salient model for the firm. Therefore, the firm is more inclined to replicate the behavior level of rivals that perform well in the competitive environment.

Second, rivals at the highest industry standing, such as the industry market share leader, will increase awareness and motivation by the focal firm, and thereby draw greater attentional focus. Theory suggests that the firm's awareness is strongest among those rivals of high industry standing. Networking studies suggest that higher standing rivals tend to be the most salient. Podolny and Stuart (1995) showed in a study of technology innovations that high standing indeed drives subsequent behavior among other innovators. The focal firm will more readily select the rival that is the industry market leader as a model of behavior. A simulation by Abrahamson and Rosenkopf (1997) investigated a moderating influence on imitation that is tied to the size and network centrality of contextual models. The findings showed a significantly enhanced bandwagon effect. Also, within the competition research domain, Korn and Baum (1999) found that among an array of rival attributes, firms were motivated by the industry standing of rivals. Thus, the subsets of rivals with high industry standing may serve as prime contextual models for a firm's selective behavior.

Third, as a matter of similarity between a focal firm and rivals, investigation into new market entry in the study by Haveman (1993) showed evidence of the influence of "size-localized" similarity on imitation by the firm. Until the new market approaches competitive saturation, firms outside the new market will follow their size-wise peers to imitate. Therefore, like the impact of industry leadership, rivals that are more similar to the focal firm in industry standing will draw greater awareness and motivation by the focal firm, and thereby be more likely to influence its subsequent level of competitive activity. As such, the firm will be more influenced by these similar rivals than by dissimilar rivals.

Hypothesis 4a: Rival performance will positively moderate the relationship between the prior level of rival

competitive activity and the future level of focal firm competitive activity.

Hypothesis 4b: Rival industry leadership will positively moderate the relationship between the prior level of rival competitive activity and the future level of focal firm competitive activity.

Hypothesis 4c: Rival-firm similarity in industry standing will positively moderate the relationship between the prior level of rival competitive activity and the future level of focal firm competitive activity.

Data and methods

Sample

Consistent with prior research that examined firm behavior in specific settings, such as mergers and acquisitions (Haleblian & Finkelstein, 1999; Haleblian et al., 2006; Hayward, 2002), alliance activity (Hoang & Rothaermel, 2005; Simonin, 1997), and product introduction activity (Katila, 2002; Li et al., 2013), we focus specifically on the marketing activity of firms. Marketing activity consists of discrete actions, including promotions and advertising actions taken by each firm each year. These actions tend to be broadly observable, and therefore especially provide the basis to expect that firms and rivals may be cognizant of one another.² Our study focuses on the marketing activity of firms in multiple industries across multiple years of observation. An important criterion in selecting the sample was that firms and rivals were operating in the same geographic markets so that their specific actions could be directly connected. We therefore focused solely on the marketing activity of firms in the U.S. market. Also, to facilitate the matching of the marketing activity of each firm with its performance only in that market, firms needed to be publicly traded, have distinct single-business entities, and report performance figures for that entity. Therefore, we included in our sample only those industries where 70% or more of industry sales were generated by firms that were public, had a distinct single-business entity competing in the specific U.S. market, and reported performance relative to that U.S. market. The industries used in the sample include appliances, athletic footwear, auto manufacturing, beer, book superstores, general retail,

lumber and hardware, national supermarkets, office supplies, steel, and telephone service. On average, the firms included in our study accounted for 87% of their respective industry sales.

In harmony with the body of literature on competitive behavior, *actions* are defined as specific and observable moves initiated by a firm to defend or improve its relative market position (Smith, Grimm, & Gannon, 1992, p. 1). To build a comprehensive set of actions, structured content analyses were conducted on newspaper and trade magazine article accounts of observable market activities, including promotional and advertising campaigns and market positioning. This approach is consistent with previous studies of competitive behavior, including Miller and Chen (1994), and follows the procedure for structure content analysis in Jauch, Osborn, and Martin (1980). Financial data were collected from SEC and other public reports. Our procedure resulted in the identification of 2,796 distinct marketing actions taken in respective markets by 58 companies in 11 industries across 6 years. In our analysis, the 58 companies operate both as firms and rivals. For the sake of clarity, *firm* refers to the focal company consistently throughout this analysis, and *rival* refers to every other company within the focal company's industry.

Data

To test the hypothesized relationships, the data are organized in two ways: (1) a data set with aggregated industry actions and (2) a dyadic data set consisting of dyads of each firm with each pair-wise rival. First, the industry aggregated data set consisted of 348 total lines of data for companies that included annual, detailed accounts of marketing actions and both firm-specific and industry financials. The arrangement of this data set was consistent with procedures followed in the development of data sets in extant competitive dynamics studies (Basdeo, Smith, Grimm, Rindova, & Derfus, 2006; Derfus, Maggitti, Grimm, & Smith, 2008). This data set is used to test both the behavioral effects of a firm's own experience and behavioral effects from a firm's imitation of aggregated industry rivals (Basdeo et al., 2006). Second, the original data set was rearranged into dyads of each firm to each rival per industry—yielding 2,164 lines of detailed data of both firm and each pair-wise rival. The dyad construction is

²It is notable that rather than corporate-level strategic actions, such as acquisitions or alliances, this study purposefully focuses on other discrete competitive actions, consistent with product introduction activity (Katila, 2002; Li et al., 2013). The choice to focus on the discrete marketing activity of firms represents a conservative test of theory, given that firm behaviors such as mergers and acquisitions may more expectedly draw attention because of their potential impact on industry structure.

similar to Baum and Korn's (1996, 1999) pairing of firms to multimarket rivals (however, unlike the city-pairings of Gimeno and Woo [1996] in that rather than city-to-city dyads, dyads in this study comprise firm-to-rival pairs). The dyads preserve the detail of each firm's aggregate activity per year, while also allowing for tests of each individual rival effect. It is used here to evaluate the effects of imitation of specific rivals in the context of the moderators of this selective behavior. Details of the operationalization of each of the hypothesized relationships follow.

Dependent variable

The dependent variable in the testing of all hypotheses is the marketing activity of the focal firm i in each year j . Marketing activity consisted of a count of all marketing actions taken by the firm—including marketing and advertising campaigns, marketing promotions and sponsorships, and product announcements—in each given year. Construction of the measure follows consistently with previous competitive dynamic studies (Derfus et al., 2008; Ferrier, Smith, & Grimm, 1999). This count variable is the primary measure of future behavior in a given year used throughout the study.

Independent variables

For the testing of the hypothesized causal relationships, each of the independent variables was lagged by 1 year. The variables included measures of marketing activity, performance, industry leadership, and similarity in industry standing.

Main effects

The main effect of the focal firm's prior activity on future behavior was measured using a lagged count of marketing actions for each focal organization. As with focal firm prior behavior, the main effect of rival prior market activity on future firm behavior was measured using a lagged count of marketing actions for each rival. We also constructed a second measure, an aggregate measure of industry market activity. The lagged industry activity included a count of marketing actions for all companies in the industry, excluding the focal firm.

Moderating effects

For the moderating impact of performance, the focal firm's prior performance was tested using a lagged version of a standard profitability measure—the firm's return on sales (ROS). Likewise, rival prior performance was tested with a lagged measure of each rival's return on sales. To evaluate the impact of industry

leadership and similarity in industry standing, parallel dichotomous variables were included, based on the prior year's market share for each company per industry. This approach follows Derfus et al. (2008). In their study, they examine the contextual effect of market position using an ordinal variable, ranking firms based on market share percentage. Our industry leadership measure is also derived from market share percentage. The authors (Derfus et al., 2008, 67) theorize about the dichotomous differences between "market leaders and nonleaders" and constructed the ordinal variable to test the hypotheses. In harmony, our variables capture this primary distinction between firms consistently per industry. First, for industry leadership, a dummy variable of market share leaders (share leader = 1 for the company with the largest share and zero for all others) was included for each industry in the previous year. And second, to capture similarity between focal firm and rival, a dummy measure divides industry competitors into leaders and nonleaders. All competitors with less than the largest share in each industry were assigned a nonleader distinction—a point of similarity that may make focal firm and rival more receptive to each other's actions. The dummy variable captured whether or not pairs of competitors were similarly nonindustry leaders (nonleaders = 1 when neither pair-wise company has the largest share and zero when either one of the pair has the largest share).

Control variables

With every test of the hypotheses, a consistent set of controls was employed. As a primary control variable, the focal firm's quick ratio is included as a proxy measure of its slack resources to prevent the effects associated with high liquidity from masking the hypothesized effects on a firm's future behavior (Smith, Grimm, & Gannon, 1992). Also, the Herfindahl–Hirschman Index (HHI) is included as a control variable throughout. This commonly accepted measure of industry concentration accounts for systematic differences associated with the level of concentration in the industry (Carroll & Swaminathan, 2000). As noted by Derfus, Maggitti, Grimm, and Smith, "In such environments (where industry concentration is high), search and action will be less frequent, and so it is easier for firms to learn and to comprehend the consequences of their actions" (2008, p. 65). The HHI variable controls for any such effects associated with concentration. Finally, to distinguish the effect of one behavioral driver from the other (experience and imitation), a lagged control variable of total marketing activity is included in each test reciprocally—for Hypothesis

Table 1. Descriptive statistics and correlation table for firm–industry ($n = 310$) and firm–rival dyadic data set ($n = 1732$).

Firm–industry data set ($n = 310$)		Mean	SD	1	2	3	4	5			
1	Quick ratio	0.6	0.5	1.00							
2	Industry concentration	0.2	0.2	0.09	1.00						
3	Aggregate industry marketing activity lag	33.7	29.9	-0.33*	-0.31*	1.00					
4	Firm performance lag	0.0	0.1	0.14*	0.16*	-0.24*	1.00				
5	Firm marketing activity lag	7.0	7.0	-0.05	0.21*	0.38*	0.13*	1.00			
Firm–rival dyadic data set ($n = 1732$)		Mean	SD	1	2	3	4	5	6	7	8
1	Firm marketing activity	6.1	6.8	1.00							
2	Firm marketing activity lag	6.2	6.6	0.81*	1.00						
3	Quick ratio	0.6	0.5	-0.23*	-0.25*	1.00					
4	Industry concentration	0.2	0.1	0.24*	0.23*	0.03	1.00				
5	Dyadic rival marketing activity lag	6.1	6.6	0.44*	0.45*	-0.26*	0.22*	1.00			
6	Firm performance lag	0.0	0.0	0.01	0.02	0.19*	0.07*	-0.09*	1.00		
7	Dyadic rival performance lag	0.0	0.0	-0.08*	-0.09*	0.07*	0.08*	0.02	0.18*	1.00	
8	Dyadic rival industry leader lag	0.1	0.4	-0.03	-0.02	0.03	0.18*	0.32*	0.00	0.13*	1.00
9	Rival-firm similarity lag	0.7	0.5	-0.26*	-0.24*	0.10*	-0.28*	-0.24*	-0.11*	-0.11*	-0.64*

3a, a lag of rival total marketing activity was included, and for Hypotheses 3b and 4a–4c, a lag of firm total marketing actions was included. In other words, when testing the interactive effects of the focal firm’s own prior marketing behavior, the prior marketing activity of the industry was accounted for. Likewise, when testing for interactive rival effects, we controlled for the focal firm’s own lagged marketing activity.

Statistical methods

In studies such as ours, with lagged values of the dependent variable as regressor, there is a good chance that both variables are correlated with some unobserved firm-specific attributes (Basdeo et al., 2006; Godfrey, 1997). To account for idiosyncratic firm effects, fixed-effects regression models are often used for analyses (Cameron & Trivedi, 1998; Halaby, 2004), and significant results of the Hausman test ($p < .001$) confirm that fixed-effects procedures should be used in our case (Godfrey, 1997; Halaby, 2004). The attributes of our data further specify negative binomial fixed-

effects regression be employed. Particularly, zero-inflated negative binomial fixed-effects regression is specified for tests of discrete dependent variables that are overly dispersed, with high occurrences of zero values (Cameron & Trivedi, 1998). Our data of discrete counts of firm marketing activity have a mean of 12.1 and variance of 108; and the Vuong test (Greene, 2003, pp. 751–752) confirmed that the zero-inflated framework was favored. Therefore, the count of actions is predicted by negative binomial regression with a zero inflation model to address excess zeroes, inflated by industry concentration. The fit of the estimates to the data is consistently good.

The descriptive statistics and correlations are shown in Table 1. We observed no unexpectedly high correlations among independent variables.

Results

The variables used to operationalize the hypothesized relationships just described are modeled in Figure 2.

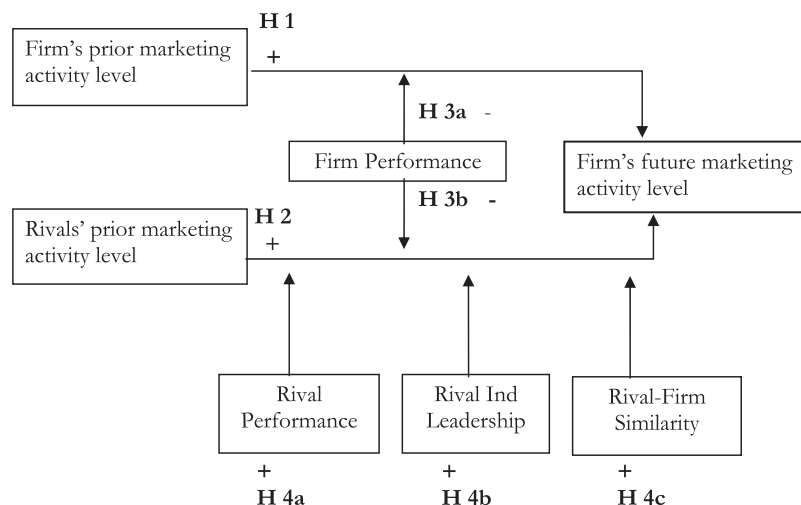


Figure 2. Hypothesized model of reflexive and selective behaviors.

Table 2. Regression on firm marketing activity.

	Model 1	Model 2	Model 3	Model 4
Quick ratio	-0.083 (0.089)	-0.066 (0.088)	-0.436 (0.045)**	-0.372 (0.047)**
Industry concentration	1.602 (0.289)**	1.642 (0.293)**	1.008 (0.129)**	1.152 (0.141)**
Firm marketing activity lag	0.081 (0.006)**	0.098 (0.009)**	0.099 (0.003)**	0.097 (0.003)**
Hypothesis 1 Aggregate industry marketing activity lag	0.010 (0.002)**	0.010 (0.002)**		
Hypothesis 2 Dyadic rival marketing activity lag			0.028 (0.003)**	0.023 (0.008)**
Firm performance lag		2.469 (1.241)*		0.330 (0.659)
Firm performance lag × Firm marketing activity lag		-0.241 (0.092)**		
Hypothesis 3a Firm performance lag × Dyadic rival marketing activity lag				-0.093 (0.063)
Hypothesis 3b Dyadic rival performance lag				-0.650 (0.620)
Dyadic rival performance lag × Dyadic rival marketing activity lag				-0.070 (0.058)
Hypothesis 4a Rival industry leader lag				-0.365 (0.110)**
Rival industry leader lag × Dyadic rival marketing activity lag				0.016 (0.009)*
Hypothesis 4b Rival-firm similarity lag				-0.273 (0.075)**
Rival-firm similarity lag × Dyadic rival marketing activity lag				0.026 (0.008)**
Hypothesis 4c Constant	0.405 (0.138)**	0.234 (0.154)	0.787 (0.048)**	0.933 (0.087)**
Log likelihood	-790.54	-787.20	-4166.09	-4125.43
LR chi ² (d.f.)	268.51 (4)	275.18 (6)	1495.72 (4)	1529.90 (12)
Observations	310	310	1732	1732

Note. One-tailed test of significance: * $p < .05$; ** $p < .01$. Standard errors are in parentheses. Models 1 and 2 test H1, H2, and H3a using the firm–industry data set; models 3 and 4 test H3b, H4a, H4b, and H4c using the firm–rival dyadic data set.

The test of the hypotheses returned consistent support for the main effects of both the focal firm and rival prior levels of competitive activity on future firm activity level, providing evidence of the existence of reflexive competitive behavior. There is also support for selective behavior in the influence of certain contextual factors. Regression results are shown in Table 2.

Beginning with Model 1, there is support for Hypothesis 1 with significance of the main effect of firm prior marketing activity on subsequent firm marketing activity ($\beta = 0.081$; $p < .01$). The regression results also illustrate that prior rival marketing activity had a significant effect on the firm's subsequent marketing activity ($\beta = 0.010$; $p < .01$). Hypothesis 2 is therefore also supported. Taken together, the results from Hypothesis 1 and Hypothesis 2 provide evidence that the focal firm behaves reflexively regarding its level of marketing activity.

Now turning to the hypotheses regarding selective behavior, Hypothesis 3a, the moderating effect of focal firm performance on the relationship between prior firm activity and subsequent firm activity, is supported

($\beta = -0.241$; $p < .01$); these results are found in Model 2. Graphical representation of the interaction may provide useful visual information in support the hypothesis. Figure 3 depicts the two-way effect of firm performance and prior activity level on the firm's subsequent activity level. All variables are at their mean except the interacted variables. As illustrated, the curves demonstrate that subsequent activity of high performing firms is less tied to prior activity level. The effect of rivals, as in Hypothesis 3b, however, is not supported. Specifically, we hypothesized a negative significant influence of focal firm's performance on the relationship between a rival's past activity and the focal firm's subsequent activity ($\beta = -0.093$; $p < .10$).

We next turn to Hypothesis 4 regarding the other drivers of the firm's selective competitive behavior. Beginning with Hypothesis 4a, we argued that rival performance, as a contextual factor, would positively moderate the relationship between prior rival marketing activity and subsequent firm marketing activity. As reported in Model 4, the moderating effect of rival performance on the relationship was not significant. That is,

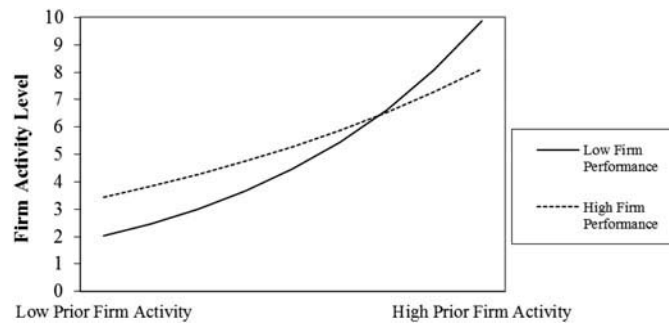


Figure 3. Graph of interaction effect of prior firm activity level and performance on firm activity level.

the influence of rivals as models of behavior for the focal firm was not significantly altered by the prior performance of rivals. Hypothesis 4a is therefore not supported.

The tests concerning the industry leadership of rivals and similarity in industry standing, Hypotheses 4b and 4c, show evidence of selective behavior. With regard to industry leadership, the interaction between the variables for rival industry leader and rival marketing activity was significantly positive ($\beta = 0.016; p < .05$). The results therefore indicate that rival industry leadership strengthened the relationship between the prior marketing activity of that rival and the focal firm's subsequent marketing activity. Hypothesis 4b is supported. Figure 4 depicts the interaction of rival's industry leadership and prior activity level on focal firm activity

level. Prior activity of industry leaders demonstrated greater influence on the focal firm than did other rivals. This is consistent with Hypothesis 4b.

The final test of selective competitive behavior, similarity in industry standing between the focal firm and pairwise rivals, yielded significant results. The interaction of rival-firm similarity on the relationship between rival prior marketing activity and the focal firm's future marketing activity was significantly positive ($\beta = 0.026; p < .01$). Hypothesis 4c is therefore supported. Figure 5, showing the two-way effect of similarity of industry standing and prior activity level of pairwise rivals on focal firm activity level, offers visual support of the hypothesis. The results indicate that similarity in industry standing

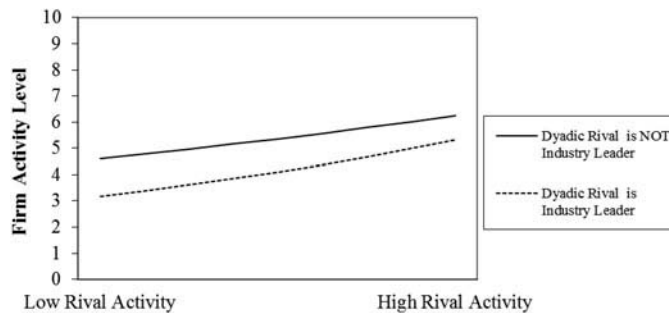


Figure 4. Graph of interaction effect of prior dyadic rival activity level and industry leadership on firm activity level.

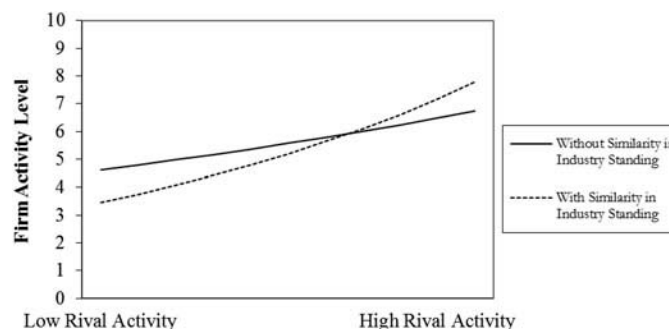


Figure 5. Graph of interaction effect of prior dyadic rival activity level and pairwise similarity in industry standing on firm activity level.

between firm and rival augments the influence of the rival's prior marketing activity on the focal firm's subsequent marketing activity. In the discussion section that follows, we consider the implications of these results.

Discussion

This study examined an important set of questions in strategic management literature concerning the extent to which firm behavior is reflexive or automatic versus selective and more unpredictable. Will a firm emulate the past, being as active as it has been or being as active as others around it? Will contextual factors, driven by the firm's awareness, motivation, and capability, influence the firm's subsequent behavior? The findings support the core conceptual arguments on the reflexive nature of firm behavior, and support our contention that there is also selectivity among firms within the context of rivals. Specifically, our study demonstrates that the influence of the firm's prior experience with actions and the effect of rivals' actions on future actions are moderated by the focal firm's prior performance, as well as the rivals' similarity and industry standing. We therefore advance the conversation of prior experience and imitation beyond routine-based, reflexive behavior as theorized in routine-based and institutional literature to include the moderating influence of context on the relationships between firm and rival activity.

Our study both confirms earlier research and carves a new path. Consistent with earlier studies that conceptualized firm behavior as a passive and deterministic process, our analysis shows that reflexive behavior that occurs automatically through a firm's own experience and through broad imitation of their rivals' levels of behavior is indeed occurring. Specifically, we found evidence that there is a tendency to reflexively repeat prior activity in support for Hypothesis 1, which argued for a positive relationship between prior focal firm marketing activity and subsequent firm marketing activity. Similarly, our results indicate imitative behavior as reflex to the activity of rivals. This finding supports our contention in Hypothesis 2 that prior rival marketing activity will be positively related to subsequent firm marketing activity. While these baseline results to some extent primarily replicate previous research findings, they provide evidence of the validity of our approach and set up the logic for exploring the contextual boundary conditions in later hypotheses. We also make a contribution by empirically examining and demonstrating the impact of both experience-driven and imitation-driven behavior together within the same study.

Importantly, we add richness to the literature by demonstrating that firms are not wholly bound to repeating their past behavior by clinging to the behavioral lessons of their own and their rivals' activity. Our test shows evidence of a more selective decision process. In support of Hypothesis 3, the tests yield findings that a firm's capability, as determined by its own prior performance, moderates the influence the firm's past has on its future marketing activity. We argued in Hypothesis 3a that through their human-agent managers, high-performing firms are more capable of overcoming the tendency to reflexively succumb to repetition and inertia of their own past activity. Support for the hypothesis counters an alternate perspective of persistent repetition and inertia that hardens with increasing performance. This finding is important because it contributes to a nascent area of research investigating the antecedents of firm heterogeneity (Smith & Cao, 2007). We also provide insight and empirical support to recent theories of organizational learning that argue for the feedback effect of firm performance on learning (Zollo & Winter, 2002). These studies contend that higher performing firms are more aware of the implications of and causal links between their actions and resulting outcomes and therefore are better able to direct their cognitive effort more explicitly. Our empirical examination seems in harmony with their rationale. Particularly, the results of Hypothesis 3 suggest that these high-performing firms can be discerning in their behavior as it relates to the levels of marketing activity of others, as well as to their own past activity level.

That managers may direct the firm's awareness and level of motivation to particular rivals as behavioral models is important as it highlights the power of the AMC perspective in furthering our understanding predicting competitive rival behavior. Specifically, our arguments in Hypothesis 4, regarding the positive influence of rival performance, rival industry leadership, and similarity in industry standing on the relationship between rival marketing activity and firm subsequent marketing activity, are generally supported. While rival firm performance did not seem to have an effect, rival industry leadership and rival-firm similarity in industry standing did strengthen the positive relationship between rival firm prior marketing activity and focal firm future marketing activity. This is consistent with Abrahamson and Rosenkopf's (1997) findings of a selective reputation-enhanced, bandwagon effect. Their simulation of bandwagon pressures also investigated the influence of contextual factors. In their test, reputation significantly amplified the relationship between the behavior of the firm and the behavior of salient, reputable others.

The empirical approach of our study allowed for the examination of a more nuanced selective relationship between firm and rival that is beyond the reach of extant aggregated industry studies, in at least two respects. First, where the tests of the traditional aggregated data set support the notion that the focal firm factors in the actions of those around it, the dyadic data set reveals which rival behaviors are more salient and more influential to the firm than others. We, in effect, have uncovered boundaries to imitative behavior, or the influence of others. In terms of Lane and Lubatkin's (1998) work on firm similarity, our results suggest some degree of related influence that is biased toward like-rivals and those of high industry standing. Second, our study may provide insight into the impact of shifting competitive landscapes on firms' pair-wise selective tendencies. Since we examined firms in the sample longitudinally, the findings here suggest that these behaviors hold up to changing environmental conditions and time heterogeneity. As the environments within the firms' respective industries undoubtedly experienced some changes over time, it seems we have supporting evidence that the influence of contextual factors persisted.

Our study also directly advances the emerging research on competitor analysis (Chen, 1996). Specifically, the use of the AMC perspective and the empirical findings of the present research reinforce the idea that future firm behavior is predictable. By adding the notion of selectivity we also show that predicting rival future behavior is more complicated than simply studying a firm's past behavior or the behavior of its rivals. In particular, assessing the level of awareness, motivation, and capability of a firm might lead to a more accurate prediction of its future behavior. For example, just being able to differentiate those rivals who act reflexively versus selectively could prove important to managers attempting to design future actions vis-à-vis specific rivals. Future research might explore the extent to which the findings of this research hold up for other types of actions, for example, pricing, alliance, cooperative, or other nonmarketing behaviors.

Beyond the contributions already listed, this study also contributes to management research by introducing the pair-wise examination of firm activity as a methodological tool to unearth more subtle relationships among direct rivals. Future studies, however, might also make contributions to the research through a qualitative approach. Field studies could more explicitly expose the internal processing that leads to selective behavior—including capabilities and focus of managers engaged in directing the firm's competitive processes. For instance, in a multinational field study, Bingham and Eisenhardt (2011) deconstructed the development of firm behaviors from the vantage point of investors, partners, and country-specific experts. Their research found

that consistent developmental processes are active in shared, cooperative relationships. However, additional field study that went further to expose internal processes that link firms to rivals would yield additional insight into the mechanisms that ultimately generate variations in firm activity levels.

Our empirical investigation into variation in competitive behavior tests the overarching hypothesis that firms go beyond simply repeating the past or the activity levels of others to instead engage in selective behavior. The findings indicate that not only is a firm impacted by the past, but through its awareness, motivation, and capability, a firm is also influenced by certain contextual factors. In sum, firm behavior is both reflexive and selective. Importantly, we find the effect of prior competitive behavior on future behavior is moderated by the firm's own prior performance, and that imitation of rivals has important selective components, including the industry standing and similarity of rivals. Taken together, these results offer useful insight into competitive interaction. Specifically, the findings in this investigation, especially as they relate to selective behaviors, offer evidence that firms in competitive environments indeed distinguish or select particular rivals as potential imitation targets.

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