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Laying the Foundation for Successful Team Performance Trajectories: The Roles of Team Charters and Performance Strategies

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This study examined the influences of team charters and performance strategies on the performance trajectories of 32 teams of master's of business administration students competing in a business strategy simulation over time. The authors extended existing theory on team development by demonstrating that devoting time to laying a foundation for both teamwork (i.e., team charters) and taskwork (performance strategies) can pay dividends in terms of more effective team performance over time. Using random coefficients growth modeling techniques, they found that teams with high-quality performance strategies outperformed teams with poorer quality strategies. However, a significant interaction between quality of the charters of teams and their performance strategies was found, such that the highest sustained performances were exhibited by teams that were high on both features.

Keywords: teams, planning, charters

Bringing team members together to accomplish interdependent tasks does not automatically result in effective team performance (Salas, Stagl, & Burke, 2004). Although team designs may be well suited for dealing with the challenges associated with complex environments, they require additional skills and processes if they are to be effective organizational arrangements. Team members need to effectively manage not only their work tasks but how they work with each other. In other words, team effectiveness hinges in part on members' abilities to manage two major tracks of activities: taskwork and teamwork. "Task work represents what it is that teams are doing, whereas teamwork describes how they are doing it with each other" (Marks, Mathieu, & Zaccaro, 2001, p. 357). In other words, taskwork refers to what it is that the team is performing, whether that is, for instance, playing a game, developing a product, serving a customer, or starting a business. In contrast, teamwork refers to how the members work together to perform their tasks and includes factors such as designating roles, determining the timing of activities, coordinating action, and managing interpersonal factors (e.g., decision making and conflict resolution). Developing a better understanding of the interplay between members' taskwork and teamwork activities offers great promise for advancing theory and practice concerning current and future team-based organizational designs.

Given that team functioning develops along both teamwork and taskwork tracks (Ilgen, 1999; McIntyre & Salas, 1995), it is important that teams establish a solid foundation for each track during the early stages of team development. However, team researchers have acknowledged for many years that the norm in teams is not to take time out to explicitly make plans for how team members will work together (Weick, 1969). Planning activities tend to be viewed as lower in priority than actual task performance activities (Shure, Rogers, Larsen, & Tassone, 1962), and this suggests that many teams jump directly into task performance without taking time to address how they will manage their teamwork and taskwork activities. Hackman (2002) referred to creating teams as akin to laying a solid foundation for a building. "If the foundation is well conceived and solid, the builder can proceed to erect the rest of the structure with confidence," he noted. "If it is not, the building will never be as sturdy as it could have been" (Hackman. 2002, p. 60). By way of analogy, if teams lay down a solid foundation, they are poised to work effectively. If they fail to establish such a foundation, they are quite likely to encounter process losses later on.

Erickson and Dyer (2004) suggested that "one clear path to understanding [team] effectiveness may well lie in systematically unraveling the complexities of development right from the start" (p. 469). Making a similar observation, Hackman (1976) argued that because long-lasting effects flow from events early in a team's life, it is worth the trouble to help the team get started on the right foot. Yet, we have limited understanding of how initial activities, which we refer to as foundational activities, can influence team performance over time.

Against this backdrop, we submit that teams that produce high-quality teamwork (i.e., a team charter) and taskwork (i.e., a performance strategy) plans early in their life span will exhibit better performance trajectories. By performance trajectories, we mean patterns of performance over time. We propose that teams will exhibit different patterns of performance over time and that the

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quality of their initial plans will relate significantly to such performance patterns. Here, we define team charters as codified plans for how the team will manage teamwork activities. In contrast, we define team performance strategies as codified, deliberate plans about what it is that the team intends to do (i.e., taskwork). Consequently, our primary aim in this study is to investigate the largely taken-for-granted idea that crafting well-thought-out team charters and performance strategies will benefit team performance. In doing so, we (a) describe a time-based framework for studying the relationships between teamwork, taskwork, and team performance trajectories; (b) advance hypotheses concerning the influences of structured foundational activities aimed at the development of high-quality teamwork plans (charters) and taskwork plans (performance strategies) on such performance trajectories; and (c) test our hypotheses using random coefficients growth modeling techniques and a sample of master's of business administration (MBA) teams that competed in a business simulation over multiple rounds.

Teams and Time

It is widely accepted that teams are dynamic entities that have a past, present, and future (McGrath, Arrow, & Berdahl, 2000). Gully (2000) submitted that "to fully understand work teams, researchers must investigate how team dynamics develop and change over time" (p. 35). This temporal dimension has been incorporated into studies of teams in two main fashions: developmental approaches and task-based cycles. Developmental theories suggest that teams go through a series of phases as members seek to understand their task environment and get to know one another. Team development is described as "the path a [team] takes over its life-span toward the accomplishment of its main tasks" (Gersick, 1988, p. 9), and many models of such processes exist (e.g., Ancona & Chong, 1996; Bennis & Shephard, 1956; Gersick, 1988; Kozlowski, Gully, McHugh, Salas, & Cannon-Bowers, 1996; Morgan, Salas, & Glickman, 1993; Tuckman, 1965). In contrast, the task-based-cycles approach focuses on task episodes; it suggests that teams execute different processes at different times as a consequence of task demands and that these patterns of activities tend to have recurring cycles (e.g., Brown & Eisenhardt, 1997; Marks et al., 2001; McGrath, 1991). Episodes consist of alternating phases of transition (i.e., periods when teams focus on evaluation and planning activities) and action (i.e., periods when they engage in taskwork activities). Such theories stress that teams must successfully orchestrate interpersonal processes throughout all phases (Marks et al., 2001).

Team development is conceptualized as occurring in various ways, but a common theme spanning both the developmental (e.g., Bales, 1950; Gersick, 1988, 1989) and task-based approaches (e.g., Brown & Eisenhardt, 1997) is that early team activities are important for the successful execution of later work, because "they set the tone of the group's activity over its life and can 'make or break' the group" (Chidambaram & Bostrom, 1996, p. 183). Further, both approaches highlight the dynamic nature of teams and the need to study the temporal nature of their processes and performance. Though scholars have suggested that criterion measures are dynamic across time (e.g., Landis, 2001; Oser, McCallum, Salas, & Morgan, 1989), few studies of teams include longitudinal criterion measures that allow analyses of dynamic effects.

Foundational Team Activities

Although there is general agreement in the literature that events occurring early in a team's life span have long-lasting effects (e.g., Bales, 1950; Braaten, 1974; Gersick, 1988, 1989; Mills, 1964), our understanding of how foundational activities can influence team performance over time is still limited. Existing theory does, however, provide insights regarding the potential influence of different foundational activities. For example, Gersick and Hackman (1990) proposed that team patterns develop in one of three ways: importation (i.e., a source external to the team prespecifies a pattern of behavior); evolution (i.e., patterns emerge over time as members gain experience working as a team); and creation (i.e., team members initiate behavior patterns). To date, the creation of patterns has been depicted as a relatively passive process in which natural interactions between members have long-lasting consequences.

These insights suggest that occasions exist in which teams can lay the foundation for effectiveness early in their developmental sequences. Yet, how might they do so? Although we agree that enduring patterns can emerge through the spontaneous interaction of team members (Gersick & Hackman, 1990), we submit that teams also can establish lasting patterns through structured teamwork and taskwork planning activities designed to establish a solid foundation for later efforts. Indeed, Hackman's (1976) response to the question we posed above was to (a) develop an appropriate boundary for the group, (b) come to terms with the group's task, and (c) develop norms to guide group behavior. McGrath (1984) described planning as an activity "that requires the group to lay out a course of action by which it can attain an already chosen objective" (p. 127). This definition is similar to Weingart's (1992) description of pre-planning and to Steiner's (1972) definition of comprehensive planning as "a process of deciding in advance what is to be done, how it is to be done, and who is going to do it" (p. 4). Each of these definitions, and our study, focuses on planning that occurs before and independently of task performance rather than on reactive strategy adjustments (Marks et al., 2001), which also may occur during task activity.

The literature on planning has emphasized that the degree to which planning improves performance depends upon the quality of the resulting plans (Weingart, 1992). Smith, Locke, and Barry (1990) described high-quality planning as being characterized by (a) a future orientation; (b) extensive interaction between organizational members; (c) a systematic analysis of strengths, weaknesses, opportunities, and threats; (d) a clear definition of the roles and functions of organizational members; and (e) the development, communication, and allocation of resources to action plans. Although Smith et al. emphasized the quality of planning activities rather than merely the time spent planning, as was common in prior research, their conceptualization of planning quality blended teamwork- and taskwork-related factors. In sum, prior work has attested to the value of planning activities for effective team performance. Unfortunately, such work has not distinguished taskwork-related plans from teamwork-related plans. Therefore, it is not clear whether the benefits of planning are attributable to codification of what it is the team intends to do, how the team intends to accomplish it, or an interaction between the two. Accordingly, we submit that there is value to be gained in separating the two types of activities and examining their respective individual and combined effects on team performance over time.

The Teamwork Track

Practitioners widely regard team charters as valuable teamwork starter exercises. Generally speaking, a team charter represents an agreement among members as to how the team will work as an empowered partnership in making binding decisions and sharing accountability for delivering quality products/services that meet user/customer needs in a timely and cost-efficient way. More specifically, team charters represent a structured activity designed to prompt members to (a) consider their team mission and objectives; (b) identify important stakeholders for successful team functioning; (c) identify individual members' strengths, weaknesses, and work styles; (d) outline members' roles and responsibilities; (e) specify how the team will function (e.g., decision-making styles) and how work will be accomplished (e.g., sequential vs. reciprocal work processes); (f) establish useful feedback mechanisms; and (g) determine the basis and mechanisms by which performance will be evaluated (cf. Bolton, 1999; Fisher, Rayner, & Belgard, 1995; McKendall, 2000; Mohrman, Cohen, & Mohrman, 1995; Wilkinson & Moran, 1998). In this sense, team charters are the product of an initial teamwork planning process, or what Marks et al. (2001) referred to as an initial transition process, and they can be viewed as the explicit norms or guidelines for future behavior. To the extent that members develop a plan for how they will operate, that plan will facilitate later action processes and help to minimize dysfunctional interpersonal processes, such as conflicts over how a decision might be made or who is responsible for completing a certain activity.

Practitioners have repeatedly identified the development of a team charter as a vital step in the formation of a team (e.g., Harris & Harris, 1996; Hickman & Creighton-Zollar, 1998; Wilkinson & Moran, 1998) and have argued that a well-designed charter helps to clarify expectations, focus activities, and provide a basis for decision-making (Fisher et al., 1995). The academic literature on teams also emphasizes the importance of clarifying responsibilities and expectations for team members (Bettenhausen & Murnighan, 1985; Gersick, 1988). Usually, such attention has been referred to as team building or team dynamics (cf. Salas, Rozell, Mullen, & Driskell, 1999; Tannenbaum, Beard, & Salas, 1992). Reviews of the effectiveness of team-building exercises have yielded mixed results. Tannenbaum et al. (1992) classified team building into four approaches (i.e., goal setting, problem solving, interpersonal, and role specification) and concluded that "in general, team building interventions were fairly effective" (p. 146). However, they qualified this conclusion, which pertains mostly to perceptual and attitudinal outcomes, and provided scant evidence that team performance improves. A more recent meta-analysis by Salas et al. (1999) used Tannenbaum et al.'s (1992) categorization scheme and concluded that, generally speaking, all team-building approaches yielded negligible effects on performance. According to Salas et al., the first three approaches yielded null results, but role clarification—which is a key component in team charters—had a modest positive effect on performance.

There is evidence that interpersonal processes benefit team performance, particularly when members work together for an extended period of time. According to Bradley, White, and Mennecke (2003), "Team members can endure poor interpersonal relationships for an hour or even a few days, but when team members must work closely together for an extended period of time, cooperative relationships are essential for cohesive team performance" (p. 367). Druskat and Kayes (2000) found that interpersonal processes positively predicted performance for teams working on projects that lasted 4 months. Similarly, the work of Jehn and colleagues showed that failure to manage interpersonal conflicts is detrimental to team performance (see Jehn, 1995; Jehn & Chatman, 2000). In light of the benefits of teamwork functioning, such as those outlined above, it is surprising that little attention has been to devoted the crafting of teamwork plans (e.g., a charter).

A high-quality team charter, which is both comprehensive and consistent in its content, should yield multiple benefits that will minimize later team process losses. Therefore, we submit that high-quality charters will translate into enhanced team performance by the midpoint of a team's task episode, which is recognized by many to be a critical and natural temporal milestone in teams (Chidambaram & Bostrom, 1996; Gersick, 1988). By the midpoint, a sufficient amount of time has passed for the effects of teamwork functioning to have translated into team performance. Teams with high-quality charters are more likely to have thoroughly outlined member roles and interaction processes early on, so members can better concentrate on taskwork without pausing to debate issues already addressed in the team charter and can thereby perform better. To the extent that the charter is comprehensive, it should lay the foundation for a wide variety of circumstances that the team may confront. This comprehensiveness should minimize the need to sort out roles and responsibilities or to establish how the team would operate if it confronted a dynamic environment. Indeed, Gersick found that events that occurred during launch meetings influenced activities of teams throughout the first half of their projects. Additionally, Steiner (1972) noted that teams often fail to reach their performance potential because of process losses associated with poor communication and different perspectives concerning appropriate actions.

A team charter that exhibits consistency among its various components should provide members with a template that will guide interactions from the start and minimize confusion and misunderstandings. Conversely, teams that craft charters that are narrowly focused and contain inconsistent content are likely to spend undue time grappling with teamwork issues that were not outlined initially and to suffer performance consequences. For example, if the team agrees to develop a consensus among members when confronting important challenges, yet also agrees to vote on alternative courses of action, there is bound to be conflict when members disagree about some important decision.

We further submit that high-quality charters will benefit team performance in the long term. There is evidence that team behavioral norms that are established early tend to be "cemented" once in place (Bettenhausen & Murnighan, 1985; Gersick & Hackman, 1990). Feldman (1984) referred to this tendency as "primacy" and emphasized that the earliest behavioral patterns to emerge often establish team expectations and norms. Thus, high-quality charters should provide members with an agreed-upon and consistent framework concerning such teamwork issues as team objectives, stakeholder and team member roles and responsibilities, and how decisions will be made as the team goes about accomplishing its work. Hackman (2002) suggested that the formative phase of a team's life cycle is a major leverage point for future performance and that it should be used to create supportive conditions "that lead naturally to desired outcomes" (p. 252). Team charters should function in this fashion and should help to create such conditions and to provide a stable platform from which a team can operate for subsequent task episodes. Thus, we hypothesized the following:

> *Hypothesis 1:* The quality of team charters would exhibit a positive relationship with (a) team performance levels evident by the midpoint of the simulation and (b) performance trajectories over time.

The Taskwork Track

The importance of developing and articulating plans for achieving task-related goals has long been recognized in the team literature (e.g., Hackman & Morris, 1975). Considerable evidence has linked task-related planning activities (e.g., goal prioritization, anticipated sequencing of task components) to team performance (Cannon-Bowers, Tannenbaum, Salas, & Volpe, 1995; Fleishman & Zaccaro, 1992; Gladstein, 1984; Hackman & Oldham, 1980; Levine & Moreland, 1990; Prince & Salas, 1993). Yet, one area in which our understanding is incomplete concerns how the development of taskwork plans can influence team performance over time.

Deliberate plans are the formulation of a principal course of action for task accomplishment and are akin to formalized plans that are established before teams engage in taskwork during performance episodes (Marks et al., 2001). In this way, they represent agreed-upon strategies and tactics for completing taskwork activities and are the products of initial, structured transition processes. Such plans are in contrast to reactive strategy adjustments, which are spontaneous and instantaneous planning performed in real time while teams are actively engaged in task performance (Marks et al., 2001). The distinction between deliberate and reactive planning processes has been advanced previously. For example, Locke, Durham, Poon, and Weldon (1997) argued that planning activity could occur before actions begin and evolve dynamically during task episodes. In this fashion, the preaction, or deliberate, plans can provide a backdrop or template that helps the team interpret and react to dynamic events. So as to minimize any confusion with the teamwork track of activities, we use the term *performance strategies* to refer to the deliberate taskwork plans that are developed prior to engagement in the task environment.

We anticipated that teams that developed high-quality performance strategies during their early, formative phase of development would be likely to exhibit higher levels of team performance by the midpoint of their task episode (cf. Janicik & Bartel, 2003). Crafting high-quality performance strategies that thoroughly and consistently outline performance objectives and tactics, as well as likely environmental contingencies and alternative courses of action, should help the teams execute and coordinate their taskwork activities more effectively. Such strategies should yield higher performance levels by the midpoint of the task's life span. In contrast, teams that develop low-quality performance strategies may become mired in haphazard and reactive task-related decisions that result in lower levels of midpoint performance.

We also expected that teams that developed high-quality performance strategies would exhibit better performance trajectories over time. In light of the challenges associated with forecasting in today's fast-changing environment, formal planning has increasingly come under fire (e.g., Mintzberg, 1994), particularly in the strategic management literature. Mathieu and Schulze (2006) argued, however, that formal performance strategies are valuable because they provide teams with a framework for the execution and adjustment of more dynamic tactical plans in response to fluid environmental contingencies. Similarly, Kaplan and Beinhocker (2003) suggested that the development of performance strategies is valuable, in part, because it facilitates a shared schema for a team's interpretation and understanding of fluid environmental events. Consequently, our supposition was that crafting high-quality performance strategies that are thorough and internally consistent will benefit team performance not only by the midpoint of the simulation but over time (Meyer, 1982; Weldon, Jehn, & Pradhan, 1991). Accordingly, we hypothesized the following:

> *Hypothesis 2:* The quality of team performance strategies would exhibit a positive relationship with (a) team performance levels by the midpoint of the simulation and (b) performance trajectories over time.

Interaction of Tracks

There is a long-standing belief that team effectiveness is a product of both task-oriented and interpersonal-oriented functions (Bales, 1953; Cannon-Bowers et al., 1995; McIntyre & Salas, 1995; Morgan, Glickman, Woodward, Blaiwes, & Salas, 1986). More important, researchers agree that these two sets of behaviors (i.e., teamwork and taskwork) operate in concert with one another, rather than independently, as a team functions. Tuckman (1965), for instance, delineated between task activity and interpersonal relationships in his model of team development, noting that both "occur as *simultaneous* [emphasis added] aspects of group functioning" (p. 385). Similarly, Hackman and Morris (1975) highlighted task performance strategies as a strong driver of team performance but emphasized that their effectiveness depends in large part upon the team's interaction processes. In sum, there exists considerable theoretical evidence that teams must attend to both taskwork and teamwork functions to be effective and that the two tracks are best considered in conjunction with one another.

Because team effectiveness is driven by both teamwork and taskwork, we argue that developing high-quality plans for both aspects of team functioning is important. Having a high-quality plan for either teamwork or taskwork should relate positively to team performance, but neither track can stand on its own. It is not sufficient to have good teamwork in the absence of effective performance strategies, nor is it sufficient to have well-developed strategies yet poor teamwork processes. For example, Mathieu and Schulze (2006) conducted a longitudinal study of team performance in an environment similar to the one we examine here. They found that the quality of teams' performance strategies interacted with both interpersonal processes (i.e., conflict management, motivation/confidence building, and affect management) and transition processes (i.e., mission analysis, goal specification, and strategy formulation and planning), as related to team performance. Consequently, the highest performance levels in the Mathieu and Schulze study were evident among teams that had high-quality performance strategies and well-executed teamwork activities. Notably, however, Mathieu and Schulze operationalized teamwork in terms of dynamic episodic processes observed during task engagement. In contrast, we are interested in whether codifying plans for both teamwork and taskwork before engaging in the task pays dividends in terms of enhanced performance trajectories.

Teams that establish a solid foundation by constructing high-quality frameworks for both teamwork and taskwork should see greater midpoint performance payoffs and higher performance trajectories over time. We anticipated that the presence of high-quality plans for teamwork (i.e., charter) and taskwork (i.e., performance strategies) would yield the best performance trajectories over time. In contrast, we anticipated that teams that were strong on one track yet lacking on the other would exhibit flatter performance trajectories over time. Whether the taskwork or the teamwork track, alone, would prove to be more beneficial is an open question, although we did anticipate that teams that had both poor-quality charters and performance strategies would illustrate the worst performance trajectories. Therefore, we hypothesized the following:

> *Hypothesis 3:* The quality of team performance strategies and charters would positively interact, such that the highest (a) team performance levels by the midpoint of the simulation and (b) performance trajectories over time would be evident among teams that were high on both factors.

Method

Research Setting and Sample

Data were collected from 105 students enrolled in five sections of a core MBA organizational behavior course in a large northeastern public university. Members were randomly assigned to 32 teams, although an attempt was made to balance the ethnicity and gender composition of teams. On average, participants were 28.5 years old; 43% were women, and 73% were second-year students. The representations of majors were as follows: 11% accounting, 14% information systems, 45% finance, 9% marketing, 4% management, and 18% other.

The student teams that participated in this study are perhaps best conceived of as project teams, as they were assembled to perform a given task activity and disbanded upon its completion (Sundstrom, 1999). In these instances, members must develop an understanding of their task environment, develop and execute plans for actions, and make adjustments as circumstances warrant; they must also get to know one another, establish roles, work together, and adjust their teamwork processes as deemed necessary. In contrast to other team arrangements, in which long-standing members might cycle through recursive activities (e.g., production, action, or managerial teams), project teams exhibit a natural alignment of the developmental- and task-based rhythms of processes. Consequently, we believe that project teams represent an ideal setting for studying influences on team performance trajectories.

The Simulation

The "Business Strategy Game" (BSG) business simulation required members to work as an integrated top management team (Thompson & Stappenbeck, 2001). The PC-based simulation was an ongoing experiential exercise for these students, and their performance in it constituted 20% of their course grade. The same professor taught all sections of the course and used the same materials, tests, and so forth, in all sections. The interactive BSG simulation developed an understanding of interrelationships among business functions, in a capstone fashion, and developed teamwork skills. Each team was responsible for managing an athletic footwear manufacturer in a competitive global environment. Teams could maintain operations and sell in four different markets (i.e., North America, Asia, Europe, and Latin America). The simulation is designed to emphasize integration across functions, and all team members were rewarded in the same way, on the basis of how well their team performed.

During each round, members used decision support software to make and integrate dozens of decisions concerning plant operations (e.g., plant upgrades, closings, capacity); human resources (e.g., wages and bonuses, hiring and layoffs); warehouse and shipping (e.g., exchange rates, speed vs. cost of delivery options); sales and marketing (e.g., variety of shoe models, pricing, celebrity spokespersons); financial resources (e.g., cash flow, bonds, and loans); and other strategic decisions. Following two practice rounds, the BSG simulation unfolded over eight rounds that were played one per week. Team decisions were uploaded and processed in a competitive environment, and the simulation then provided a quantitatively weighted team performance composite at the end of each round. Detailed feedback reports were generated for each company, along with nonproprietary information on competitors and the industry as a whole.

Measures

Team charters. Members were required to complete a structured team charter exercise after the practice rounds and before the beginning of the simulation performance rounds. Drawing on recommendations for the design of team charters (e.g., Bolton, 1999; Cox, College, & Bobrowski, 2000; Fisher et al., 1995; Mohrman et al., 1995; Wilkinson & Moran, 1998), the exercise was fashioned along the lines of those commonly used in industry and contained three major sections. A synopsis of the measure appears in the Appendix. First, members were asked to identify their individual business-related strengths and weaknesses, preferred work styles, availability in terms of hours and days, and contact information. In effect, this section of the charter helped to establish members' roles. Second, as a group, members outlined how they would coordinate their activities and interact in order to get work accomplished. This section included factors such as timing and scheduling issues, backup and feedback mechanisms, how they would meet (e.g., face-to-face vs. virtually), and general work styles. For example, teams needed to outline how they would go about making decisions should a disagreement arise (e.g., follow majority rules vs. develop consensus). Accordingly, this section addressed goal-setting and problem-solving aspects of team building. Finally, in the third section, members were asked to develop plans for dealing with performance problems as well as for providing positive feedback and rewards. In other words, members needed to develop preventative measures for minimizing dysfunctional conflicts (see Marks et al., 2001), as well as processes for dealing with interpersonal problems effectively, should they occur. The charter exercise was introduced and explained during class time, and the teams could complete them in any way they chose. They had a week to finalize the assignment, which they performed outside of class time.

The team charter exercise was a graded assignment worth 5% of the student's course grade. The instructor assessed the quality of team charters using two criteria: completeness and consistency. As for completeness, the charters were evaluated in terms of the thoroughness of completion of the sections and the depth of the answers. For example, some teams simply stated that "they would arrange meetings as needed," whereas others attached a detailed schedule including where, when, and for how long each meeting would occur. The best charters also noted procedures that members should follow if they had to miss a meeting or if they had to contact other members. As for consistency, the extent to which different facets of the charter held together was assessed. For example, if a team stated that it placed a premium on consensus yet said it would vote in instances of disagreement, its charter was inconsistent. The alignment of members' backgrounds and stated areas of expertise and of each person's designated task and roles for the simulation revealed varying degrees of consistency.

One charter was submitted for each team. A single score was awarded to each team and was assigned to all team members for grading purposes. This arrangement created a condition of common fate, or outcome interdependence, among team members. The charters were also evaluated by a second coder, who was blind to team identities and whose scores exhibited a high convergent validity with those of the instructor ($r = .88$, $p < .001$). Consequently, we averaged the two evaluations to yield overall team charter scores. They ranged from 69.86 to 100 and had an average of 86.51 ($SD = 8.33$).

Performance strategies. We employed a detailed, structured framework for the formulation of performance strategies that was designed specifically for the simulation that the participants played (Thompson & Stappenbeck, 2001). This task-planning exercise was developed by the game authors; it is an integral part of the simulation and learning experience and contains three sections. In the first section, teams outlined an overall strategy that the team planned to pursue (e.g., low-cost vs. differentiation). Further, they were asked to specify their market share objectives in each of four geographical areas that the game simulated. They also were asked to detail yearly and 5-year performance objectives in terms of (a) return on investment, (b) their bond rating, (c) revenues, (d) net income, and (e) earnings per share.

The second section of the performance strategy exercise had members rank order the strategic importance of the different geographical markets and then had them identify how they planned to position themselves relative to competitors in terms of pricing, product quality, service to retailers, brand image, product line breadth, company-owned megastores, number of retail outlets, advertising budget, use of customer rebates, and online sales efforts. All of these features were under team control during the simulation. Finally, the third section of the exercise had teams outline, in a narrative, the key driving forces for their strategy to be effective, the key indicators for them to monitor (of both their own actions and those of competitors), and their plans for operation. Teams were specifically asked to map out contingency plans, or key decision points, that might cause them to alter their initial plans and to pursue alternative options.

Teams were responsible for completing and turning in a performance strategies exercise (i.e., a 5-year plan) after the practice rounds and before beginning the simulation. The exercise was a graded assignment worth 5% of the student's course grade. Each participant had a detailed manual that outlined facets of effective business strategies, as related to the simulation. Additional supplemental materials were available to players on the simulation and on a class website. Again, a single score was awarded to each team and was assigned to all members for grading purposes. The performance strategy assignment was introduced and explained in class, and students had the week before the simulation began to complete it.

The instructor assessed the quality of performance strategies using two criteria: completeness and internal coherence. As for completeness, the strategies were evaluated in terms of how well they addressed all of the requisite exercise questions. Some teams neglected to address certain aspects; some provided terse, superficial answers, whereas others provided complete, well-thought-out answers for all of the questions that were asked. Regarding coherence, the instructor made an overall judgment about how consistent and complementary the various portions of the plan were with other portions. For example, a coherent focused or niche strategy would identify a market segment in which buyers have distinctive preferences, special requirements, or unique needs and in which the company has or can develop unique capabilities to serve that buyer segment. This strategy would likely involve a highly differentiating approach toward customers and markets and alignment of internal processing with the targeted niche. In contrast, a low-cost alternative strategy would place a premium on efforts to maximize efficiencies (e.g., use of cheaper labor, greater automation, and lower quality materials than used by competitors) and maximization of one's customer base. Because of the interrelated aspects of this plan, the instructor provided an overall score for the exercise along with detailed feedback to teams. The performance strategies were also evaluated by a second coder, who was blind to team identities and whose ratings were found to exhibit highly convergent validity with the instructor's ratings ($r = .85$, $p < .001$). Consequently, we averaged the two evaluations to yield overall scores. They ranged from 70.62 to 100 and had an average of 90.52 ($SD = 6.12$).

Team performance. We operationalized team performance as a weighted index of five factors: after-tax profits (40%), bond rating (20%), return on investment (15%), market capitalization (15%), and sales revenue (10%). The simulation automatically calculated a team's overall score per round by indexing each factor on a scale of 0–100, according to the team's relative performances in the simulation, multiplying by its respective weight, and then summing across factors. This approach is akin to the "balanced scorecard" approach, in which different performance indices are combined to yield an overall performance composite.

The performance measure was constructed on the basis of recommendations of the simulation manufacturers (Thompson & Stappenbeck, 2001), who suggested that a scheme such as this would equalize the effectiveness of different overall strategies. Both the mix of indices included in the composite and the weighting scheme were adopted with the aim of remaining neutral in terms of the types of strategies that teams might pursue, such as low-cost and high-volume versus low-volume and high-profit niche. For example, the return on investment measure (after-tax profit plus interest payments divided by total debt plus shareholders' equity) was chosen because it is neutral insofar as companies' decisions regarding the use of debt or equity to finance capital requirements (Thompson & Stappenbeck, 2001). The performance index was known to all participants and provided the basis for their team performance grade.

Our examination focuses on trend-based team performance trajectories rather than a single snapshot measure of team performance. We modeled within-team changes in performance over the course of the business simulation by fitting a performance curve to each team. Our variable of interest with regard to performance is, consequently, team performance over time. Consistent with the growth curve methodology (e.g., Rogosa, Brandt, & Zimowski, 1982), this approach considers whether team-level predictors (i.e., the quality of team charters and performance strategies) are related to differences in the trend parameters (i.e., in the way team performance unfolds over time). Thus, the team performance trajectories capture team performance, as a curve, over the course of the simulation rather than capture team performance only at the start or end of the simulation. Examinations of this type provide a far richer picture of performance than that provided by simply analyzing difference in group means at several time periods or by aggregating data over time (cf. Mathieu & Schulze, 2006; Ployhart & Hakel, 1998).

Analysis

The design of this study is a two-level, or mixed-model, framework. Simulation performance constituted a within-team, or temporally varying, measure (i.e., Level 1, eight repeated measures) that was subject to the between-team (i.e., Level 2) influences of the quality of team charters, performance strategies, and their interaction. Notably, we controlled for average team ability at Level 2 using two different indices. First, we used the average of members' Graduate Management Admission Test (GMAT) scores as an index of the team's general cognitive abilities. Devine and Phillips (2001) illustrated that team members' average cognitive ability relates positively to team performance. Second, we used the average member score across other class projects (i.e., exams and cases studies) that were unrelated to the simulation as an index of the team's task knowledge. Mathieu and Schulze (2006) used a similar index and found that it related positively to team performance in a management simulation that was similar to the one used here. We employed random coefficients growth modeling techniques in the form of hierarchical multivariate linear modeling (HMLM; Raudenbush, Bryk, Cheong, and Congdon, 2001) to test our hypotheses.

The Level 1 (within-teams) model uses time-related variables to predict changes in the outcome variable. In our study, this model included the linear and potential higher order quadratic and cubic time functions, which were associated with the game rounds. We indexed the linear, quadratic, and cubic temporal trends using orthogonal polynomials. Orthogonal polynomials accurately represent these temporal trends and yield variables that are uncorrelated. Their use enabled us to decompose the total criterion variance that covaries with each temporal effect and meant that the intercept term represented team performance at the midpoint of the simulation; we used the intercept term to test Hypotheses 1a, 2a, and 3a. In contrast, the linear and higher order temporal trends captured teams' performance trajectories and collectively served as the criteria for testing Hypotheses 1b, 2b, and 3b. HMLM provides a statistical test of the general time-related trends exhibited within teams, and it also reports a deviance statistic that can be used to perform nested model contrasts and thereby to test whether temporal patterns are homogeneous across teams. Notably, heterogeneity of one or more Level 1 temporal parameters is a prerequisite for modeling Level 2 effects.

We should note that additional concerns are warranted when the lower level (i.e., within-team performance trajectories) of a multilevel design is represented by repeated measures. The time-based nature of the outcomes means that within-unit errors will exhibit some degree of autocorrelation and may not be independent (Bliese & Ployhart, 2002). Thus, we first modeled the influences of linear, quadratic, and cubic temporal trends on the Level 1 performance and examined alternative models of their error variances (see Bliese & Ployhart, 2002). We converted team charters and performance strategies to *z* scores at the between-team level of analysis to (a), in effect, mean center both variables at Level 2; (b) establish a common scale for both variables; and (c) reduce collinearity associated with their product term.

To summarize, modeling these Level 1 temporal parameters formally captures performance trajectories (i.e., patterns) over time. If teams exhibit significantly different performance trajectories, the technique provides the opportunity to model Level 2 influences (e.g., the quality of team charters and performance strategies and their interaction) to account for those differences. The use of this longitudinal design and growth modeling technique allows researchers to test such hypotheses, which would not be feasible with more traditional regression or repeated-measures analyses (see Bliese & Ployhart, 2002; Bryk & Raudenbush, 1987).

Results

Correlations

Table 1 presents correlations and descriptive statistics for all study variables. Notably, members' mean GMAT scores correlated positively with team performance over the first six rounds and tapered off to a nonsignificant level thereafter. The correlations between members' task knowledge and performance were far more variable and insignificant over time. Team charters evidenced nonsignificant yet positive correlations with early performances and rose fairly consistently over time to substantial levels by the end of the simulation (Performance 8, $r = .52$, $p < .01$). In contrast, performance strategies exhibited nonsignificant negative correlations with earlier performances yet steadily progressed to moderately positive correlations with performance over time (Per-

Table 1
Correlations and Descriptive Statistics for All Study Variables

Variable	1	2	3	4	5	6	7	8	9	10	11	12
1. GMAT, mean	—											
2. Knowledge, mean	−.29	—										
3. Team charters	−.00	.06	—									
4. Performance strategies	−.12	.21	.23	—								
5. Performance 1	.38	−.00	.20	−.16	—							
6 Performance 2	.38	−.10	.22	−.10	.61	—						
7. Performance 3	.30	−.17	.30	−.02	.39	.79	—					
8. Performance 4	.30	−.26	.32	.09	.27	.71	.87	—				
9. Performance 5	.34	−.27	.24	.18	.32	.63	.83	.92	—			
10. Performance 6	.31	−.05	.47	.31	.39	.46	.64	.68	.80	—		
11. Performance 7	.16	.09	.48	.31	.27	.25	.46	.47	.61	.94	—	
12. Performance 8	.18	.02	.52	.39	.29	.28	.48	.49	.61	.92	.95	—
M	638.5	90.1	86.51	90.52	61.13	59.31	58.19	58.75	55.84	51.66	51.38	51.59
SD	57.2	4.18	8.33	6.12	18.26	23.12	23.75	23.44	26.63	26.31	29.13	28.70

Note. $N = 32$ teams. For correlations $|.31|$, $p < .05$; $|.39|$, $p < .01$. GMAT = Graduate Management Admission Test.

formance 8, $r = .39$, $p < .01$). Clearly, the pattern of results indicated that both relationships were growing stronger over time, when viewed from a between-team perspective.

Baseline Analyses

We calculated that, taken as a whole, 43% of the total variance in team performance resided within teams (over time) and 57% of the total variance resided between teams. Adding a fixed (i.e., consistent across teams) linear trend to the within-teams model yielded a significant model improvement, $\Delta\chi^2(1, N = 32) = 12.16$, $p < .01$, although adding the fixed quadratic trend, $\Delta\chi^2(1, N = 32) = .01$, *ns*, and cubic trend, $\Delta\chi^2(1, N = 32) = .36$, *ns*, did not. This result is not surprising, given the proportional nature of many of the elements of the performance criterion. In other words, because the performance criterion is based, in large part, on indices such as market share, if one team's performance exhibits improvement over time, some other team or teams must show a corresponding decrease. Far more important for testing our hypotheses is the variability of these performance trajectories. Nested model contrasts between fixed and random trajectories illustrated that significant variability was evident for each of the Level 1 parameters: intercept, $\chi^2(31, N = 32) = 516.08$, $p < .001$; linear, $\chi^2(2, N = 32) = 72.94$, $p < .001$; quadratic, $\chi^2(3, N = 32) = 49.42$, $p < .001$; and cubic, $\chi^2(4, N = 32) = 38.63$, $p < .001$. These results indicate that different team performance trajectories are evident, and this distinction enabled us to test our hypotheses. The linear, quadratic, and cubic trends accounted for approximately 17%, 8%, and 3% of within-team variance over time, respectively. These percentages translate to a total of about 12% of total team performance variance (cf. Kreft & de Leeuw, 1998; Snijders & Bosker, 1999).

Because of the temporal nature of the Level 1 data, error terms associated with adjacent rounds are more likely to be correlated than are error terms more distant in time (i.e., evidence autocorrelation). Moreover, the magnitudes of error terms may vary systematically or in complex ways over time and thereby would warrant the modeling of heteroscedastic or unrestricted error term structures, respectively. We performed a series of nested model tests and determined that an unrestricted error term structure fit significantly better than did the homogeneous structure, $\Delta\chi^2(25, N = 32) = 68.57$; $p < .001$, autoregressive structure, $\Delta\chi^2(24, N = 32) = 209.88$, $p < .001$; or heterogeneous structure, $\Delta\chi^2(18, N = 32) = 52.60$, $p < .001$, respectively. Therefore, we employed an unrestricted error matrix in the remaining analyses (see Bliese & Ployhart, 2002, for further details).

Intercept Analyses

Table 2 presents a summary of the performance intercept and trajectory substantive analyses. As depicted in the "Linear" column under the "Intercept" heading, we first regressed team performance intercepts on team members' average GMAT and knowledge scores, as well as on the team charters and performance strategies indices. As one might expect, mean GMAT related positively to the intercept term ($\Gamma = 6.01$, $SE = 2.66$, $p < .05$), although mean knowledge did not ($\Gamma = -.87$, $SE = 2.70$, *ns*). Team charters related positively and significantly with team performance intercepts ($\Gamma = 10.52$, $SE = 2.62$, $p < .001$), but performance strategies did not ($\Gamma = 2.72$, $SE = 2.68$, *ns*). Therefore, Hypothesis 1a was supported, although Hypothesis 2a was not. As shown in the "Interaction" column beneath the "Intercept" heading in Table 2, adding the Team Charters × Performance Strategies interaction failed to account for significant intercept variance ($\Gamma = -1.57$, $SE = 3.38$, *ns*) and thereby failed to support Hypothesis 3a.

Trajectories Analyses

Because our hypotheses concerning influences on performance trajectories involved simultaneous analyses tied to three temporal parameters (i.e., linear, quadratic, and cubic trends), we performed omnibus tests using a series of nested model comparisons. We followed these up with more focused analyses to discern the precise nature of any overall significant effects. The results of these analyses are summarized in Table 2.

Table 2
Summary HMLM Analyses Predicting Performance Trajectories

	Intercept		Linear trend		Quadratic trend		Cubic trend	
Predictor	Linear	Interaction	Linear	Interaction	Linear	Interaction	Linear	Interaction
Intercept	56.80 (2.50)**	57.20 (2.61)**	−3.57 (1.31)*	−2.59 (1.28)†	0.95 (0.95)	1.64 (0.94)†	0.57 (0.77)	0.26 (0.79)
GMAT, mean	6.01 (2.66)*	5.97 (2.66)*	1.41 (1.39)	1.31 (1.31)	−0.58 (1.01)	−0.65 (0.95)	−0.72 (0.82)	−0.69 (0.81)
Knowledge, mean	−0.87 (2.70)	−1.18 (2.80)	−2.28 (1.42)	−3.04 (1.38)*	0.77 (1.03)	0.23 (1.00)	−0.38 (0.83)	−0.13 (0.85)
Team charters	10.52 (2.62)**	10.41 (2.67)**	1.38 (1.37)	1.12 (1.31)	−1.42 (0.99)	−1.61 (0.96)	0.83 (0.81)	0.91 (0.81)
Performance strategies	2.72 (2.68)	3.32 (2.98)	5.87 (1.40)**	7.34 (1.47)**	−0.18 (1.01)	0.86 (1.07)	−0.76 (0.82)	−1.24 (1.02)
Interaction		−1.57 (3.38)		−3.87 (1.66)*		−2.73 (1.21)*		1.24 (1.02)

Note. Table values are parameter estimates (i.e., gamma and beta weights), and values in parentheses are standard errors. $N = 32$ teams over eight performance rounds. HMLM = hierarchical multivariate linear modeling; GMAT = Graduate Management Admission Test.
† $p < .10$. * $p < .05$. ** $p < .01$.

First, we constructed a base model that included the two covariates as predictors of the performance intercept and each of the three temporal trends. We also included team charters and performance strategies as predictors of the performance intercepts in this base model. Next, we simultaneously added team charters and performance strategies as predictors of the linear, quadratic, and cubic trends. This model exhibited a significant improvement over the base model, $\Delta\chi^2(6, N = 32) = 18.04$, $p < .01$, and the parameter estimates are shown in the "Linear" columns beneath the three temporal trends. More detailed analyses illustrated that the overall effect was attributable to significant relationships involving performance strategies, $\Delta\chi^2(3, N = 32) = 15.09$, $p < .01$, but not those involving team charters, $\Delta\chi^2(3, N = 32) = 4.78$, *ns*. Specifically, performance strategies evidenced a significant relationship with the linear performance trend ($\Gamma = 5.87$, $SE = 1.40$, $p < .001$). Therefore, Hypothesis 1b, which predicted that team charters would relate to performance trajectories, was not supported, whereas Hypothesis 2b, which predicted that performance strategies would relate positively to performance trajectories, was supported. Although the estimation of effect sizes in models that include random slopes is imprecise at best, the team-level predictors collectively accounted for approximately 34% of the between-team performance variance, which translates to approximately 19% of total variance (cf. Kreft & de Leeuw, 1998; Snijders & Bosker, 1999).

We next simultaneously added the product term computed between the team charters and performance strategies into each of the three temporal trends. We contrasted the results with those of the previous model, which included all of the linear effects.[1] Note that this technique is akin to traditional moderated multiple regression analysis. Adding the interaction terms yielded a significant model improvement, $\Delta\chi^2(3, N = 32) = 10.65$, $p < .05$, which provided support for Hypothesis 3b. The results of this model appear in the columns labeled "Interaction" in Table 2. Specifically, the interaction term yielded a significant relationship with both the linear ($\Gamma = -3.87$, $SE = 1.66$, $p < .05$) and quadratic trends ($\Gamma = -2.73$, $SE = 1.21$, $p < .05$) but not with the cubic trend ($\Gamma = 1.24$, $SE = 1.02$, *ns*). Collectively, the models including the interaction terms accounted for approximately 36% of the between-team performance variance, which corresponds to roughly 20% of total variance. When this percentage was combined with the variance accounted for by the within-team temporal relationships, as summarized in Table 2, the complete model accounted for approximately 32% of overall performance variance.

Figure 1 contains a plot of the combined effects of these interactions as derived by computing the performance trajectories for combinations of high-quality (+1 standard deviation) and low-quality (−1 standard deviations) charters and performance strategies. Again, this plot parallels conventional methods for depicting interactions following significant moderated multiple regression results. As shown, teams with relatively high-quality charters started on a positive trajectory, whereas teams with relatively poor-quality charters evidenced a negative slope through roughly the first four rounds. Teams with relatively high-quality charters yet poor-quality performance strategies peaked around the third round of the simulation and then fell drastically to average levels by the end of the simulation. In contrast, teams with relatively high-quality charters and performance strategies rose steadily until about the fourth round and then held fairly level throughout the rest of the simulation. Among teams with relatively poor-quality charters, those that also had relatively poor performance strategies exhibited a consistent negative slope and finished at the bottom of the competition. In contrast, those teams with relatively poor charters yet high-quality performance strategies illustrated a relatively flat trajectory over the course of the simulation. By the end, however, as suggested in the pattern of correlations discussed earlier, the value of relatively high-quality performance strategies was evident, as the trajectories of the teams with low-quality charter/high-quality performance strategies merged with those of the teams with high-quality charter/low-quality performance strategies. It is worth noting that, in effect, these results represent a three-way interaction among the quality of team charters, the quality of performance strategies, and time, as related to team performance.

Discussion

Our purpose in this study was to examine the influence that foundational team activities, in terms of the development of high-

[1] Note that the base model for this comparison includes the interaction term as a predictor of performance intercepts.

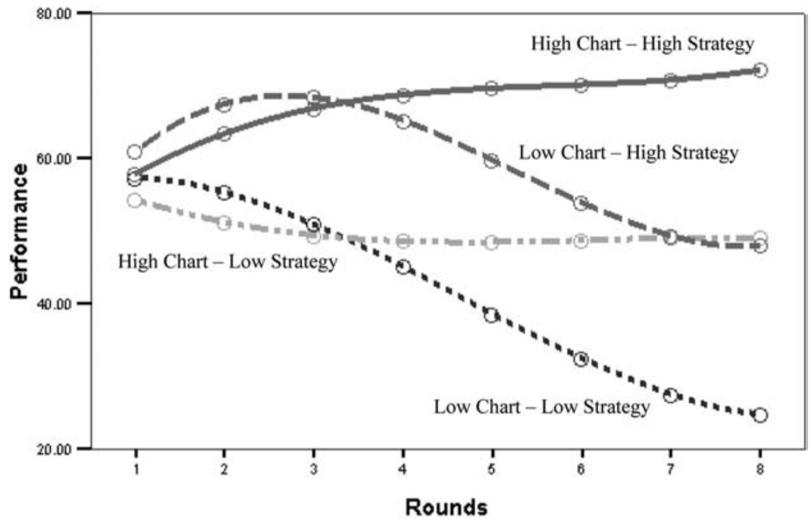

Figure 1. Team charters and performance strategies interaction as related to team performance trajectories.

quality team charters and performance strategies, have on team performance over time. The substantive contributions of this study are threefold. First, we extend existing theory on team development by demonstrating that devoting time to laying a foundation for both teamwork (i.e., team charters) and taskwork (performance strategies) can pay dividends in terms of more effective team performance over time. Our findings suggest that these early team events can indeed yield both fairly immediate and longer term performance benefits. As depicted in Figure 1, teams that developed high-quality team charters and performance strategies sustained levels of high performance throughout the simulation.

Teams that developed either high-quality team charters or high-quality performance strategies exhibited less effective performance trajectories than did those teams that developed both high-quality charters and strategies. It is interesting that, whereas the benefit for teams of having high-quality charters, even with poor performance strategies, was apparent in the early rounds of the simulation, these teams faded quickly from around the midpoint to the end of the simulation. In contrast, teams with relatively high-quality performance strategies yet low-quality charters maintained steady performance levels throughout the competition. We surmise that high-quality charters may have enabled teams to coordinate their efforts and implement their strategy from the onset and, thus, to generate early successes. These same successes, however, may have served to “lock in” a particular mind-set for team members and make them less willing to question their strategy. Because both competitive tactics and performance were fully transparent across teams throughout the simulation, any initial competitive advantage was not immutable. Consequently, as the competition heated up and rivals adapted their tactics, teams who were committed to a poor overall performance strategy would likely have suffered.

An interesting observation concerns the clear change in trajectories that occurred around Rounds 3 and 4, which suggests a period of transition consistent with a punctuated equilibrium pattern (Gersick, 1988). Specifically, approximately midway through the simulation, teams with low-quality performance strategies evidenced dramatic downturns in performance from which they were never able to recover, while teams that developed high-quality performance strategies either sustained or began a slight increase in performance. These results suggest that foundational team activities may meaningfully influence the manner in which a team is able to navigate the tumultuous transitional phase of its development. They may also signal that other team dynamics are activated around the midpoint of an overall performance engagement. In any event, the pattern of results adds to the evidence that the midpoint of a team’s overall performance period is indeed an important temporal milestone and suggests that further examination of such periods is certainly warranted.

The second contribution of this study is the illustration of interactive effects between team charters and performance strategies. In the long term, the teams with high-quality performance strategies outperformed teams with poorer quality strategies, regardless of their charters. As is evident in Figure 1, however, among teams with high-quality performance strategies, those with relatively poor charters never reaped the benefits that those with high-quality charters did. Whether this was attributable to team members having difficulties in aligning their efforts, team members not trusting one another enough to modify their original strategies as needed, or some other factor is unclear and remains a question for future research. In any case, teams that developed only high-quality performance strategies exhibited consistently average performance.

These findings offer support to the notion that teams need to attend to both teamwork and taskwork functions to be effective (Cannon-Bowers et al., 1995; McIntyre & Salas, 1995; Morgan et al., 1986). The teams in our study that “stacked the deck” (Hackman 1987, 2002) with well-articulated charters and performance strategies created initial conditions that fostered the emergence of team success. These results also extend our understanding of early team events. Although the literature to date has suggested that teams create lasting patterns through unprompted interaction, we demonstrated that teams that completed formal planning activities, for both taskwork and teamwork, evidenced better performance trajectories over time. We extend Gersick and Hackman's (1990) notion of creating early and lasting patterns to include intentional as well as unplanned activities. We also offer the first empirical support of which we know for common practitioner claims regarding the benefits of team charters.

The third contribution of this study stems from the longitudinal design and application of HMLM growth modeling techniques, which allowed us to uncover phenomena that might otherwise have been obscured. Had we applied the common methods of measuring team performance at a single point (or two points) in time, we would not have revealed such a rich picture of team dynamics and performance (cf. Mathieu & Schulze, 2006). Our results offer further evidence that team performance criteria are indeed dynamic (cf. Landis, 2001; Oser et al., 1989) and lend support to the calls for a greater appreciation for, and modeling of, temporal effects in team research (Gully, 2000; Kozlowski & Bell, 2003; Marks et al., 2001). We should highlight the fact that, given the largely zero-sum nature of our criteria, there were no significant overall temporal trends in team performance. In other words, if one team improved, some other team or teams would necessarily decline; hence, no overall temporal patterns would be evident. However, substantial systematic variability in the patterns of team performance over time was unearthed by the growth modeling analyses and was predicted by the quality of team charters and performance strategies.

Limitations and Directions for Future Research

There are a number of boundary conditions for this work that we should highlight. First, the use of students and business simulation data limits the generalizability of our findings. On one hand, participants were MBA students with significant amounts of work experience, and this sample better approximated real work teams than would an undergraduate sample. Also, the students truly functioned as teams, in that they were interdependent, shared a common goal, and were embedded in a larger context that set boundaries, introduced constraints, and influenced exchanges with other teams in the classroom. On the other hand, because members lacked a history with one another, they should perhaps be considered to have constituted project teams according to Sundstrom's (1999) classification. However, given the episodic nature of the performance environment (i.e., game rounds) and the fact that the task of the teams was essentially to make a series of realistic and interrelated business decisions, they also had features of action and managerial teams, respectively. Despite these factors, the generalizability of our results remains limited until empirical research explores these relationships in field settings.

Second, we should note that we did not employ traditional control group teams, which would have played the simulation without having completed these foundation exercises. We believe that doing so would have been unethical, because team charters and performance strategies were thought to be beneficial and grades were contingent on how well the students did in the simulation. Nevertheless, some teams clearly took the foundation exercises more seriously than did others, and that is the variance that we modeled in our study. If feasible, future research would benefit from similar studies and designs that included formal control groups. A third limitation stems from the fact that we sampled only 32 teams over eight performance rounds; this sampling yielded relatively low power to detect subtle effects. The fact that we obtained the significant findings that we did despite this limited power is encouraging, but future researchers should certainly seek to sample a greater number and variety of teams and to track them over longer periods of time.

As for directions for future research, we did not formally model any time-sensitive mediating mechanisms that may account for the relationships observed here. Marks et al. (2001) suggested that foundational-type activities could well influence episodic team processes, which in turn might relate more directly with team outcomes. Mathieu and Schulze (2006), for example, found that performance strategies influenced episodic transition and interpersonal processes and thereby related to episodic team performance. They also observed some interactive relationships between more stable and more variable team attributes. Alternatively, emergent team states, such as efficacy, potency, or psychological safety, might operate as mediators of the effects seen here. Our current design has highlighted the fact that unpacking such dynamic relationships offers promise and can yield insights that would have remained hidden if data were aggregated over time. Incorporation of more dynamic mediating variables (formally referred to as time-varying covariates) into this type of design is likely to yield further insights into the nature of the underlying dynamic team phenomena.

Future research should also examine the influence of taskwork and teamwork foundational activities with larger teams. Given the added difficulty of coordinating the actions of larger numbers of people and the complexity of the task environments that they operate in, we believe that the importance of establishing such initial understandings will be even more critical as the number of team members increases. Yet, this claim remains to be demonstrated by future investigations.

The applied implications of this study are twofold. First, our results lend support to practitioner claims about the benefits of developing team charters. Wilkinson and Moran (1998) noted, "The team charter is often overlooked because it is time consuming to develop" (p. 355). Our findings suggest that the time devoted to developing charters is time well spent. Second, however, this suggestion does not imply that developing a well-articulated charter translates automatically into effective team performance. Rather, teams need to develop strategies for dealing with both the taskwork and teamwork aspects of their functioning. The implication for those interested in maximizing team effectiveness is that taking time out early in a team's life cycle to establish both task and people strategies can benefit team performance over time.

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Appendix

The Team Charter

The Team Charter was a lengthy, structured exercise that was introduced and explained during class time. It was framed in terms of how the team would function to compete in the business simulation. It contained three major parts, as detailed below. Teams could complete it in any way they chose (methods ranged from completing it together in person to exclusive use of virtual communications). Teams had a week to complete the assignment outside of class time.

Part 1: Individual Preparation
(Each member completed separately)

Members were asked to detail, in writing, their personal characteristics in terms of their

> personal background (whatever they chose to share; usually, it was where they grew up, major, hobbies, personality features);
>
> contact information and preferred medium or mediums (e.g., text, e-mail, voice, face-to-face);
>
> availability in terms of hours and days, as well as preferred work times;
>
> individual business-related strengths and weaknesses, including factors such as content knowledge and work experiences;
>
> preferred work styles, particularly as related to teamwork, and;
>
> anything else they believe the team should know.

Part 2: Team Roles, Expectations, and Processes
(One version for the entire team)

Members were to meet and share their individual information from Part 1 and then to determine, as a team, how they would operate and what types of norms they wished to establish. They were provided with a series of questions to prompt such a discussion:

> What are your goals for the simulation, performance and otherwise?
>
> Who will be responsible for what activities (including, perhaps, backup roles)? and
>
> What is your timetable for activities?

As for norms, they were prompted to address specific expectations regarding

> meeting attendance;
>
> task performance and quality;
>
> idea contributions;
>
> cooperation and attitudes; and
>
> anything else they wanted.

Part 3: Rewards and Sanctions
(One version for the entire team)

Members also determined, as a group, how they would

> Ensure expected contributions and performance levels;
>
> Reward members and the team for successes; and
>
> Manage or sanction poor performance (often tied to peer evaluations, which contributed to students' course participation grades).

Teams were required to circulate a single copy to all members and to incorporate any edits or changes that were warranted. The final integrated document was passed in for the team grade and was posted in their team web space.

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Correction to Mathieu and Rapp (2009)

In the article "Laying the Foundation for Successful Team Performance Trajectories: The Roles of Team Charters and Performance Strategies," by John E. Mathieu and Tammy L. Rapp (*Journal of Applied Psychology, 94,* 90–103), the "High Chart–Low Strategy" and the "Low Chart–High Strategy" lines were inadvertently reversed in Figure 1. Below is the corrected version of Figure 1.