



Right from the Start: Exploring the Effects of Early Team Events on Subsequent Project Team Development and Performance

Author(s): Jeff Erickson and Lee Dyer

Reviewed work(s):

Source: *Administrative Science Quarterly*, Vol. 49, No. 3 (Sep., 2004), pp. 438-471

Published by: [Johnson Graduate School of Management, Cornell University](#)

Stable URL: <http://www.jstor.org/stable/4131442>

Accessed: 02/11/2011 13:54

Your use of the JSTOR archive indicates your acceptance of the Terms & Conditions of Use, available at

<http://www.jstor.org/page/info/about/policies/terms.jsp>

JSTOR is a not-for-profit service that helps scholars, researchers, and students discover, use, and build upon a wide range of content in a trusted digital archive. We use information technology and tools to increase productivity and facilitate new forms of scholarship. For more information about JSTOR, please contact support@jstor.org.



Johnson Graduate School of Management, Cornell University is collaborating with JSTOR to digitize, preserve and extend access to *Administrative Science Quarterly*.

<http://www.jstor.org>

Right from the Start: Exploring the Effects of Early Team Events on Subsequent Project Team Development and Performance

Jeff Erickson

Lee Dyer

Cornell University

This study examines if high- and low-performing project teams differ with respect to how they are mobilized and launched and the effects of their mobilization and launch activities and outputs on subsequent team progress and performance. Comparisons of three high- and three low-performing teams drawn from five major corporations showed that the high performers mobilized relatively quickly, used comprehensive rather than limited mobilization strategies, and conducted participatory rather than programmed launch meetings. This combination of activities produced a constellation of salutary outputs: more time for the teams to do their work, team members with essential task-related competencies and sufficient time to contribute to their projects, and complete rather than partial performance strategies. In turn, the three salutary outputs formed a constellation of key inner resources that propelled the high-performing teams on a virtuous path of reinforcing activities and outputs that, despite difficulties, ultimately led to success, whereas the absence of one or more of these resources led the low-performing teams down a vacuous path of accumulating confusion and inactivity from which they never recovered.●

Project teams consist of members who are brought together, usually on short notice and from disparate functions, units, and geographical locations, and charged with analyzing issues and producing and sometimes implementing recommendations, under fixed and often tight deadlines. Those involved are expected to find ways to work together effectively, structure and execute unfamiliar tasks, obtain essential resources, deal with multiple stakeholders, manage time, and ultimately produce high-quality outcomes (Keller, 2001). The stakes are often high and failure is always a possibility (Gersick and Davis-Sacks, 1990). Given all of this, it is not surprising that theorists and researchers have long been interested in documenting the dynamics of project team development and uncovering the correlates of project team effectiveness. What is surprising, however, is the extent to which these two streams of inquiry have traveled down parallel and seldom intersecting paths (Cohen and Bailey, 1997).

A number of studies have examined how teams in general shape and alter their features and activities over time, and multiple models purport to capture these progressions (e.g., Bales and Strodtbeck, 1951; Tuckman, 1965; Tuckman and Jensen, 1977; Gersick, 1988, 1989; Wheelan, 1994; Koslowski et al., 1999; Chang, Bordia, and Duck, 2003). Researchers and theorists typically suggest, and sometimes claim, that teams that follow the described or prescribed progressions outperform those that do not. But, so far, there is only sparse evidence to support such claims. Only a few studies of team development address issues of team effectiveness (Arrow and McGrath, 1993; Smith and Comer, 1994; Waller, 1999; Jehn and Mannix, 2001; Edmondson, Bohmer, and Pisano, 2001), and so far none involving project teams has incorporated the full sweep of team development from beginning to end.

Studies of team effectiveness, in contrast, tend to be cross-sectional analyses of relationships between or among one or more measures of team characteristics, such as design (e.g.,

© 2004 by Johnson Graduate School,
Cornell University.
0001-8392/04/4903-0438/\$3.00.

●

We thank Paul Goodman, Elizabeth Mannix, Pam Tolbert, participants in the ILR School's Human Resource Studies Doctoral Seminar, as well as Reed Nelson and three anonymous ASQ reviewers, for their helpful comments and suggestions. Funding for this research was provided by the Center for Advanced Human Resource Studies (CAHRS) and the Benjamin Miller Scholarship Fund, both of which are affiliated with the ILR School, Cornell University.

Early Team Events

size, diversity), tasks (e.g., autonomy, complexity), processes (e.g., internal or external communication), psychosocial traits (e.g., cohesion), or context (e.g., reward system) and one or more measures of performance (e.g., adherence to deadlines, quality of products or solutions, innovation) (Cohen and Bailey, 1997). From time to time, theorists pick up on the results of such studies and weave feature-based models of team effectiveness (e.g., Kessler and Chakrabarti, 1996; Cohen and Bailey, 1997; Verona, 1999; Sheremata, 2000). While insightful and useful, this work tends to apply to teams in general rather than project teams in particular and to emphasize team "statics" (McGrath, 1986) over dynamics because it downplays or ignores the possible performance effects of team changes over time (Goodman et al., 2001; Marks, Mathieu, and Zaccaro, 2001).

Logically, a study purporting to relate project teams' dynamics to their effectiveness would study teams from start to finish. But when do project teams begin? Studies of project team development typically assume, often implicitly, that the action starts when team members assemble for the first time, usually at launch meetings (e.g., Gersick, 1988). Anecdotal evidence, however, suggests a different view, namely, that important events actually occur when or soon after projects are initiated, when decisions are made to create teams to tackle important issues. Obviously, between project initiations and team launch meetings there is a period during which, at a minimum, team members are identified and recruited and, perhaps, other important decisions around such things as launch meeting agendas and formats are made as well.

Previous research, although sparse and disparate, does suggest that actions taken and decisions made during this formative, or mobilization, period and at launch meetings exert considerable influence on subsequent phases of project team development, as well as the team's performance (Cohen and Bailey, 1997). Hackman (1987, 1990, 2002), for example, has often and forcefully suggested that this formative phase is a major leverage point for team leaders and urged that they use it to create supportive conditions, such as appropriate team designs and clear and compelling tasks "that lead naturally to desired outcomes" (Hackman, 2002: 252). Ancona (1990) studied leaders' pre-launch strategies for dealing with outsiders and found that these exerted considerable influence on subsequent project team processes and performance. Brown and Eisenhardt (1997) noted that the formations of project teams were much more carefully choreographed in high-performing than in low-performing organizations. Gersick (1988) established that events occurring during launch meetings influence teams' attitudes and activities throughout the first half of their projects. And Ginnett (1993), studying airline crews (i.e., temporary work teams rather than project teams per se), found that pilots' approaches to pre-flight briefings influenced crews' perceptions and behaviors for the duration of their trips together, with teamwork-oriented meetings being far more effective than those that were leader-dominated.

Collectively, these results, while suggestive, are incomplete and largely non-cumulative and thus need to be supplemented as well as systematized. The familiar input-process-output (I-P-O) framework provides a useful approach (Gladstein, 1984; McGrath, 1986; Hackman, 1987). Studies based on this framework usually adopt a rather static perspective, either examining I-P-O relationships within a single time period or aggregating longitudinal data into summary indexes for analytical convenience (Marks, Mathieu, and Zaccaro, 2001). A more dynamic conception, however, is to view project team development as a series of I-P-O cycles or phases (Ancona, Okhuysen, and Perlow, 2001; Marks, Mathieu, and Zaccaro, 2001). In this view, mobilization and launch constitutes the initial cycle or phase, and data analysis initially focuses on inputs received at project team initiations, on the activities engaged in by key decision makers to gather other important inputs and convert them to outputs, on the nature of the outputs generated, and on the relationships among these factors. The outputs of mobilization and launch, in turn, would be viewed as inputs into the next cycle or phase of project team development, and so on. This perspective is consistent with Gersick's (1988) well-known punctuated equilibrium model (PEM) of project team development in that the various cycles should track with or even define multiple phases of team inertia and transitions. In addition, it is possible that differences in I-P-O patterns within and across the various phases of project team development would be precursors to variations in overall project team performance.

To examine these issues, and thus help to advance and foster the integration of the project team development and effectiveness literatures, we studied three high-performing and three low-performing project teams from the time their projects were initiated until their work was completed, tracking, categorizing, and comparing all their activities and outputs. We were particularly interested in answering two inter-related questions: (1) How, if at all, do high- and low-performing project teams differ with respect to how they are mobilized and launched? and (2) To what extent, if at all, are these differences manifest or altered during subsequent phases of project team development, and how does this play out in terms of the teams' performance? Our aim was to derive grounded theory that would encourage and help guide future attempts to unravel the obviously complex and currently unclear relationships between project teams' gestations and their subsequent progressions and effectiveness.

METHODS

Given the need to generate grounded theory, we chose to use a field-based, multiple-case-study methodology (Eisenhardt, 1989a; Yin, 1994). We asked personal contacts in several corporations to alert us to the creation of team-based projects that were ad hoc, dealing with important and non-routine issues, and aimed at recommending and/or implementing products or solutions by predetermined deadlines. Of the first nine projects brought to our attention, we rejected three because they involved either preexisting project teams or indefinite deadlines. The remaining six met the criteria, however, and all of the teams agreed to participate in

Early Team Events

the study. Fortunately, three teams, dubbed Paper, Wood, and Glass, were clearly high performers and three, labeled Image, Chair, and School, just as clearly were not.

Data Collection

The first author collected the data through mid-case interviews, observations, secondary documents, and post-case interviews and surveys. Consistent with previous studies of this type (e.g., Eisenhardt, 1989a, 1989b; Brown and Eisenhardt, 1997), much of the data reported here were obtained from semistructured mid- and post-case interviews with project champions, team leaders, and team members. Because of variations in lead times, as well as some delays in gaining access, the first author identified cases and thus began collecting data at varying points in the teams' life spans: Chair and School prior to their launch meetings; Wood, Glass, and Image at about the midpoints between their launch meetings and their deadlines; and Paper very near the end of its project. Table 1 shows which data collection methods were used with which respondents and when.

In total, there were 22 semistructured mid-case interviews, each lasting from about 30 minutes to over an hour; most were conducted by phone. Per team, the number of mid-case interviews varied from zero (Paper) to six (Chair). Every team's project champion (i.e., the person who initiated the team and, in some cases, mentored it occasionally) and team leader, except Paper's, was interviewed at least once, and several more than once, to obtain information about events precipitating the projects, as well as data on the teams' objectives and performance indicators, compositions, and deadlines. At the end of the interviews, informants were asked to provide the names of additional participants with detailed knowledge of their teams' actions to date. The first author then conducted interviews with these individuals to delve further into team activities that had occurred during the first half of the projects.

To help track team events as they unfolded, real-time data were collected via observations and secondary sources. The first author attended numerous all-team meetings either in person or via conference calls, taking notes on activities and impressions. In total, he attended 26 different all-team gatherings for a total of 87 hours and observed every team (except Paper) on at least three separate occasions for a minimum of 10 hours. The proportion of team meetings attended

Table 1

Description of Data Collected

Team	Mid-case interviews			Observation		Secondary sources	Post-case interviews			
	Champion	Leader	Member	Events	Hours		Champion	Leader	Member	Surveys
Paper	0	0	0	0	0	1	2	2	8	8
Wood	2	1	2	4	15	3	1	1	8	9
Glass	2	1	1	8	15	5	2	1	7	10
Image	1	1	1	6	12	6	0	1	5	6
Chair	1	3	2	5	35	5	0	1	7	6
School	1	3	0	3	10	2	1	1	2	4
Totals	7	9	6	26	87	22	6	7	37	43

varied across teams as follows: 80 percent of Chair's, 60 percent of School's, 40 percent of Glass's, 20 percent of Image's, and 10 percent of Wood's. The secondary sources examined primarily involved documents given to or prepared by the teams (e.g., work plans and presentations). Per team, the number of documents obtained and examined ranged from six (Image) to one (Paper).

As the teams completed their work, the first author again interviewed project champions, team leaders, team members, and, when possible, the projects' internal customers using a semistructured format with three parts. First, interviewees were asked to describe their previous and often ongoing roles in their companies, areas of expertise, and roles on the teams, as well as the processes by which the teams were assembled. In the second part, they were asked in most cases to verify data collected earlier, to describe why their teams were formed, the nature of their teams' projects and objectives, and whether their organizations had tackled similar problems in the past. In the final part of the post-case interviews, which represented the majority of the time, respondents were asked to provide detailed descriptions of the teams' events from beginning to end. To tie actions or events to specific dates, interviewees were asked to refer to their calendars and, when available, dated team documents. Neutral, interrogation-style questions (e.g., What happened next? Why did the team decide to do that?) were used to follow up on unclear or potentially important points.

A total of 52 post-case interviews were conducted, ranging in length from one to over two hours (the 50 shown in table 1, plus two with project customers). The number of post-case interviews per team ranged from four (School) to 12 (Paper). Overall, there were six post-case interviews with the seven (Glass had two) project champions (one was interviewed twice, while two others could not be interviewed); seven interviews with the team leaders (one was interviewed twice); and 35 interviews with the 39 team members (two were interviewed twice, six were missed). The multiple interviews involved the Paper team, to ensure that the case story was comprehensive given that data collection for this team started relatively late. Finally, a brief questionnaire was used to obtain data on all teams' demographics and performance. Overall, 43 questionnaires were obtained from five project champions, six team leaders, and 32 team members.

Data Analysis

Data analysis began with the first author writing case stories (Eisenhardt, 1989a). First, all data were entered into chronologically ordered narratives with dates assigned to each team activity and output. Observation notes and secondary source materials were placed into the case stories in the proper sequence. While similarities and differences in the data were noted along the way, no formal analyses were conducted until all six stories were completed. Next, the first author "open coded" the case stories (Strauss and Corbin, 1992), examining each line and grouping quotes or observations into emerging themes. Consistent with the inductive method, this was done with an open mind with respect to potential cate-

Early Team Events

gories of data, with the exception of team performance. When the data suggested more than one theme or category, the quote or observation was placed in both. For example, the comment, "This is a new area for us. All we knew was that it's called 'x' and we have an unreasonable deadline," was coded as both project novelty and perceived time pressure. This process eventually yielded 58 categories of data. Examples include gathering background information ("After we signed the confidentiality agreement, we were able to get our hands on [the acquisition target's] proprietary business case") and creating working documents ("We worked with [the business unit] to create an initial list of functionality requirements").

The case stories were then condensed in two successive steps. Initially, the first author compressed multiple accounts of single activities into one brief description. Both authors then used these compressed accounts, together with the within-case themes or categories, to identify inertial and transition points for each team. Transition points were indicated when the data showed major shifts in the nature, direction, or intensity of a team's work activities. Examples of agreed-upon transition activities included (1) creating an initial approach to the projects, (2) scrapping one approach to the project for another, and (3) dramatically stepping up the pace of work activity. Subsequently, the first author reduced the case stories to one-page overviews, short enough to provide an easily accessible perspective of each major event yet detailed enough to trace general observations back to specific dates and activities. These overviews were organized around the agreed-upon periods of inertia and transition and included descriptions of the teams' primary task focuses and activities, as well as the timing, triggers, contents, and outputs of their transition points.

Next came cross-case analysis (Miles and Huberman, 1984; Eisenhardt, 1989a). Jointly, we used both the compressed accounts and the one-page overviews to identify periods of inertia and transitions that were common across the cases. We analyzed the data in several ways (Eisenhardt, 1989a). Initially, we used the 15 possible case comparisons to identify key similarities and differences (Miles and Huberman, 1984). Then, inasmuch as possible, we made comparisons by data-collection procedures (mid-case versus post-case interviews versus observations and secondary sources) and categories of participants (project champions versus team leaders versus team members), just to be sure that the emerging conclusions held up across data sources.

Ultimately, the cross-case analyses began to yield common patterns and tentative propositions pertaining to relationships among activities and outputs associated with the various periods of inertia and transitions (referred to here as phases). Following several iterations between data and propositions, we returned to the literature to compare the insights that were emerging against existing theory and evidence, some of which had accumulated since the study began. This done, we decided to discontinue data collection and analysis for several reasons. First, the number of cases in hand compared favorably with multiple-case-study theory (Eisenhardt,

1989a; Yin, 1994) and with the number included in comparable research on related phenomena (e.g., Ancona, 1990). Second, we wanted to capitalize on the equal split between high- and low-performing teams. And third, the findings had converged around a set of common, supportable, and intriguing themes (Eisenhardt, 1989a).

Organizational and Team Characteristics

Table 2 provides summary data on the six teams. They came from five large, well-known multinational firms (two from the same photographic equipment firm operated independently and had no known contact with one another). At the time of the study, these corporations had annual revenues ranging from just under \$2 billion to about \$87.5 billion, putting all but one of them in the *Fortune 500* (and the fifth in the *Fortune 1000*). The business units in which the teams were initiated compete in a variety of industries: photographic equipment, scientific and control instruments, telecommunications equipment, computers, and furniture.

The six teams had multiple goals and purposes: to advise top management on the acquisition of an Israeli firm (Paper), to develop and demonstrate a new business-to-consumer Web site (Wood), to design two pilot programs in e-commerce (Glass), to develop and implement a new business model to boost the sales of a newly acquired and high-potential product (Image), to formulate a new global service solution (Chair), and to devise a strategy for delivering distance learning corporate-wide and eventually to the broader marketplace (School). All six teams represented spontaneous organizational responses to unexpected and, for their organizations, novel and important opportunities and challenges, as illustrated by the quotes cited in table 2. Similarly, they were all high-profile teams. The customers for their products or solutions were at or near the top levels of their organizations (i.e., several business unit heads and leadership teams, an executive vice president, and a learning integration team). Most of the project champions (all but School's) were vice presidents or chief financial officers who had the power to reassign or reallocate resources, as well as to influence the careers of the team leaders and members.

The teams varied in size from five to nine members and all six were cross-functional. Glass, Image, and School included participants drawn from four different functions, while Paper, Wood, and Chair had five functions represented. The teams were also diverse with respect to gender; the number of female participants varied from two (on five-, seven-, and eight-person teams) to four (on the nine-person team). In three cases (Wood, a high performer, and Chair and School, both low performers), team members were located at the same site, and in three (Paper and Glass, both high performers, and Image, a low performer), they were geographically dispersed across two sites. Team members were generally unfamiliar with one another. When the teams were formed, on average only 16 percent of the members had current working relationships with each other, while 19 percent had prior but not current working relationships, and 65 percent had neither current nor prior working relationships.

Early Team Events

Finally, the teams were all temporary. All had specific deadlines for the completion of their projects. Expected project durations, in days, were: 39 for School, 40 for Paper, 91 for Chair, 97 for Wood, 101 for Glass, and 259 for Image. All except Image had deadlines that were tied to fixed dates, presentations to scheduled meetings of their customers in

Table 2

Organizational and Team Characteristics

Team	Firm size	Industry	Project purpose	Spontaneity	Task novelty	Task importance
Paper	\$14.1 B	Photographic equipment	Recommend for or against the acquisition of an Israeli firm	"I have a contact in corporate R&D. . . He came to me and told me that there's this company that looks really interesting."	"We knew nothing about [the target company's market] as a team."	"I was very excited after taking an initial look [at the target] . . . we found out that it uses technology unique to [Paper] and very few others."
Wood	\$15.6 B	Scientific and control instruments	Develop and demonstrate a new business-to-consumer Web site	"Our terminology for this project is, it came out of the wood-work."	"We're not sure what we are building, we've never done it before, and we don't know how to do it, but we know it needs to be done. That's the spirit of this project."	"It's like someone flicked a switch and now this [project] is hotter than hell."
Glass	\$4.8 B	Telecommunications equipment	Design two e-commerce pilot programs	"This project came out of the blue."	"The challenge was we were embryonic at [Glass] regarding e-commerce."	"As far as . . . initiatives go, this project quickly became the top one."
Image	\$14.1 B	Photographic equipment	Develop and implement a new business model to boost sales of a new and key product	"The leadership team . . . identified [six strategic initiatives]; this team was the brainchild of that meeting."	"[After the acquisition of a major competitor] we were leaders in the market where before we had been struggling. What can we do to leapfrog . . . that advantage further?"	"We spent big bucks to [acquire the competitor] and our biggest area for growth is in [this product market]."
Chair	\$1.8 B	Furniture	Formulate a new global service solution	"[The executive vice president of the Business Service Group] came to me and asked me to . . . integrate all of the practice areas."	"[The project] represents a fundamental reinvention of customer relationships . . . a new value proposition."	"We've got customers asking for [x] . . . but we don't know what we're willing to give them."
School	\$87.5 B	Computers	Devise a strategy for delivering distance learning corporate-wide and eventually to the broader marketplace	"The trigger was the learning integrators' monthly meeting. They turned to me and said, 'On April 5th and 6th, you will bring us [x].'"	"We're changing our learning services model from classroom-centered to distributed."	The issue at hand right now is the ability to scale this up in a way that's attractive for people to use. . . How do you effectively invest 10 to 15 million . . . ?"

(Continued on next page)

Table 2 (Continued)

Team	Internal customer(s)	Project champion	Team size	Functions represented	Gender mix	Team location	Member familiarity*	Expected project duration†	Nature of deadline
Paper	Business unit CEO and leadership team	VP of new business development	7	5	5M, 2F	Distributed, 2 sites	10, 14, 76	49	Present acquisition recommendation to business unit CEO and leadership team at their August meeting.
Wood	Business unit executive director	Executive director of information technology	9	5	5M, 4F	Co-located	21, 21, 58	97	Kickoff Web site to potential users during a press conference at a major trade show.
Glass	Corporate Excellence Council (CEC); the business unit VP for each pilot	VP of information technology; VP of corporate marketing	8	4	6M, 2F	Distributed, 2 sites	17, 9, 74	101	Present e-commerce pilot plans to CEC on October 8.
Image	Business unit CEO and leadership team	CFO of business unit	8	4	5M, 3F	Distributed, 2 sites	14, 14, 72	259	Implement new business model by the end of the year.
Chair	EVP of Business Services Group (BSG)	EVp of BSG	8	5	5M, 3F	Co-located	11, 29, 60	102	Present proposed service solution to EVP of BSG by the end of the year.
School	Learning integration team	Manager of human resources	5	4	3M, 2F	Co-located	25, 25, 50	39	Present distance learning strategy to learning integrators at their April meeting.

* Percentage of participants on each team that reported ongoing working relationships, prior but not ongoing working relationships, and neither ongoing nor prior working relationships, respectively, at the time the teams were formed.

† In days.

four instances and a trade show exhibit in the fifth. Image's deadline called for the implementation of the new business

Early Team Events

model "by the end of the year." In all cases, it was assumed that the teams would disband when their projects were completed.

Project Team Performance

Project team performance was assessed through post-case interviews and post-case ratings on 7-point scales of three questionnaire items: adherence to deadlines, quality of products or solutions, and degree of team ownership of products or solutions. Although all six teams struggled at various points along the way, ultimately they unambiguously divided into three that were high performers and three that were not.

The high-performing teams. The Paper team made its presentation to top management as scheduled and, following a brief discussion, management accepted its recommendation to acquire the Israeli firm. The chief executive officer (CEO) was delighted with the results: "I have to figure out how to recreate this team . . . it is the way we will have to operate more and more." The project champion proclaimed the team a "smashing success." On the questionnaire, the ratings given by the project champion, the team leader, and the team members (means) were consistently 6.0 or higher across all three dimensions of team performance.

Wood, with some last-minute quick fixes, got its Web site up and running just in time for the industry trade show. The team's internal customers were uniformly pleased. As a key marketing manager said, "We just changed the way we do business. We shook up the competition." The project champion was similarly enthused: "This was highly successful. It may open up anywhere from \$50 to 100 million [in additional revenues]." The project champion, team leader, and team members rated the team 7, 7, and 6.0 for on-time performance and 7, 6, and 5.9 for collective ownership of the product. Although the project champion gave the team a 7 for quality of product, the team leader and team members rated this 5 and 4.8, respectively. One team member summed up the situation this way: "The technical solution is lousy, but we met the business need so it was a success."

The Glass team, the third high performer, presented its business plan for the firm's first two pilot projects in e-commerce on the originally scheduled date, again to rave reviews from the project's internal customer. An executive vice president of marketing said, "I'm impressed. I never thought we'd get this far in a year, let alone 100 days." One of the team's project champions called its final product "one of the strategically most important things we've ever done," while a team member praised the team for "a damn good presentation." Consistently, the two project champions and the team leader rated the team in the 6s and 7s on all three dimensions of team performance, while the team members' average ratings were 6.4, 5.8, and 6.0 for on-time performance, quality of solution, and collective ownership of the solution.

The low-performing teams. Image initially developed a business model with five key components, only one of which was actually implemented. The rest were either dropped or integrated into other projects. Even this took the team four

months longer than originally planned. The project champion's perspective on this is unknown, as he declined repeated requests for a post-case interview. At the time of the team's deadline, the team leader was still lamenting that "Action items were not getting done." One team member wondered, "Why haven't we accomplished more?" while another labeled the performance "horrible." The team leader rated the team with a 3 and 4 for on-time performance and collective ownership of the product, although her rating of 6 indicates satisfaction with the quality of the one model that eventually emerged. The team members concurred with the first two of these ratings (the means were 3.6 and 4.0) but were less sanguine about the quality of the team's product, for which the mean rating was 4.2.

The Chair team essentially disbanded 11 days before its original deadline. Subsequently, the team leader and one of the team members worked with a consultant to produce the desired global service solution some two months after the team's original deadline. Again, the project champion could not be interviewed, in this case because he had left the firm. The team leader said, "I'd rate [the team's performance] down." She gave the team a 4 for on-time performance and a 5 for collective ownership of the solution but rated the quality of the ad hoc group's eventual solution a 6. Again, the team members were less convinced; their ratings were 2.6, 4.3, and 4.1, respectively, for on-time performance, quality of solution, and team ownership of the solution. As one team member put it, "... [in the end] it was a stalemate."

School, the third low-performing team, did not complete its project. A little more than a week before its final deadline, the team's project champion and team leader agreed that "it just wasn't going to happen," and they turned the project over to a group of outside consultants.

MOBILIZATION AND LAUNCH

To determine if high- and low-performing project teams differ in the ways they are mobilized and launched, we focused on the formative phase of project team development, which begins when projects are initiated and ends at the conclusion of the teams' launch meetings. At initiation, the six project teams received basically the same inputs: small amounts of background information, general descriptions of their projects and desired outcomes, which were uniformly perceived by project champions and team leaders as novel and organizationally significant, and deadlines. By the end of this formative phase, however, the leaders of the three ultimately high-performing teams had transformed these and other self-generated inputs into a set of salutary outputs, while those responsible for forming the three low-performing teams had not. We found that the two sets of teams differed during this period with respect to the processes they employed and the outputs they produced and that the former led to the latter. Our analysis showed that during the mobilization and launch phase, between project initiation and team launch, the high- and low-performing teams differed most noticeably with respect to duration, mobilization strategies, and style of launch meetings, as shown in table 3.

Early Team Events

Table 3

Summary of the Mobilization and Launch Processes (Activities) by High- and Low-Performing Teams

Processes (activities)	High-performing teams (Paper, Wood, Glass)	Low-performing teams (Image, Chair, School)*
Duration ^t	35%, 33%, 37%	34%, 51%, 49%
Mobilization strategy	Comprehensive: outreach, content > process, competency-based staffing.	Limited: process > content, politically based staffing.
Launch meeting	Participative: information rich, open discussion, "step-down" agenda from broad issues to specific assignments.	Programmed: information poor, leader imposes problem definition and preconceived work plans.

* Image was a mixed case. In terms of process, the duration of its mobilization and launch was comparable to that of the high-performing teams, and although its leader designed a programmed launch meeting, it turned out to be participative.

^t Days spent as a percentage of total number of project days.

Processes

Duration. Duration refers to the length of time taken to mobilize and launch. To assess this, we simply divided the total number of days spent on this phase, from project initiations through launch meetings, by the total number of days allocated to the projects from initiations to deadlines. Four teams used about one-third of their total time mobilizing and (briefly) launching. Paper, Wood, Glass (the high performers), and Image (a low performer) spent 35, 33, 37, and 34 percent of their total projected project times on mobilization and launch. Chair and School (the other two low performers) spent considerably more time, 51 and 49 percent.

Mobilization strategies. We identified mobilization strategies as follows: by first codifying and classifying the major mobilization activities performed by project champions and team leaders and then identifying patterns in the resulting classifications. The activities fell into four categories: (1) content clarification, which includes activities aimed at (a) elucidating projects' scopes and requirements, (b) gathering supportive background information, and (c) creating working documents; (2) process formation, which involves only activities related to laying out work plans and associated timetables; (3) staffing, which includes three types of activities: (a) defining tentative team members' roles and responsibilities, (b) establishing criteria for selecting team members, and (c) acquiring team members; and (4) outreach, which incorporates activities specifically aimed at involving participants other than project champions and team leaders in the mobilization process. An instance in which a team leader identified potential team members by making calls to colleagues, for example, was classified as both acquiring team members (3c) and outreach (4).

The leaders of the high-performing teams focused on three of these categories: content clarification (1), staffing (3), using a competency-based approach that included all three types of activities noted above (Brown and Eisenhardt, 1997), and outreach (4). Activities pertaining to process formation (2), however, were specifically deferred until the teams' launch meetings. As shown in table 3, we labeled this pattern a comprehensive mobilization strategy. The Wood team

provides an example. Early on, the project champion enlisted several others (outreach) to assess the expectations of the project's customer, especially concerning the hoped-for functionality of the e-commerce Web site the team was to design, to gather product and technical information, to hold preliminary discussions with potential vendors, and to summarize what was learned from these endeavors in a working document for use at the team's launch meeting—all information gathering activities. Concurrently, the project champion began forming what he called "an all-star team," vowing to "bring in the best and the brightest on this one." Accordingly, he adopted a competency-based approach to staffing. As relevant information began to accumulate, he identified a few key team roles and did a preliminary assessment of the knowledge and skills as well as time that would be required to perform them. He then recruited four participants, a team leader and e-commerce specialist from his own organization and two others identified with the help of colleagues and the company's "talent identification process" (outreach again). Subsequently, the project champion pulled back, leaving these four to select five other team members. They, too, took a competency-based approach, again assessing knowledge, skill, and time requirements and casting a wide net (still more outreach) to identify potential team members and, then, conducting extensive interviews to make careful selections. The team leader also took time to negotiate time releases for those selected, often negotiating transfer payments with units that would be temporarily giving up people.

The champions and leaders of the low-performing teams followed what we call a limited mobilization strategy, as shown in table 3. In contrast to the high-performing teams, they actively pursued process-formation activities during mobilization while deferring content-clarification activities for the teams to do later. When staffing, rather than selecting team members based on competencies, they used a stakeholder or politically based approach. Their primary concern was with prospective team members' perceived influence both in representing the interests of their units during the teams' deliberations and in promoting support and acceptance for teams' final products or solutions. These leaders also engaged in only minimal outreach activities, bringing in at most only one other person to assist with their process-formation activities and relying mostly on personal contacts to identify potential team members. For example, the School team leader, with intermittent guidance from the project champion, used much of her mobilization time developing a plan revolving around six one-day sessions over the project's duration that would, in her mind, lead the team naturally to the coveted integrated-service solution. She deferred considering any content-clarification activities, even to the point of ignoring relevant documents that had been prepared earlier, which of course meant that she had no real grasp of the competencies or time commitments that the project might require. The team leader single-handedly identified, selected, and enrolled the team's four members. In her words, "I went through [the relevant practice areas] and pulled them in."

Early Team Events

Launch meeting activities. An analysis of the team leaders' plans for and activities during launch meetings uncovered two distinct types of sessions, as shown in table 3 (Ginnett, 1993). The first, which we labeled participatory, includes meetings in which team members were fully engaged in substantive discussions of project-related issues, including potential products and solutions, and, ultimately, collectively prepared work plans and timetables. The second type, dubbed programmed sessions, subsumes meetings in which team leaders were "telling and selling," while the team members were resisting and questioning. The team leaders went into the meetings intent on imparting their perceptions of the projects and then gaining quick acceptance for their preconceived work plans and timetables but, instead, soon found themselves embroiled in protracted discussions focusing on the specifics of the teams' potential products or solutions.

The three high-performing teams had participatory launch meetings. The Wood team's leader turned the design of the launch meeting agenda over to several team members to assure that it would meet their needs. The team members, in turn, opted to hold the meeting near the site of a key software supplier (in Toronto) so that some of its personnel could also participate, thus enhancing team learning as well as planning. In contrast, two of the three low-performing teams, Chair and School, held programmed launch meetings. The leader of the School team, for example, started the meeting by trying, in her words, "to define the width, the height, and the depth of the problem space." The team immediately began pushing back by generating a series of 14 "problem statements," which in turn led the team leader to complain that the team was "trying to expand the scope of the project." Variations on this basic stalemate continued for over four hours. The third low-performing team, Image, was a mixed case. Its leader planned a programmed launch meeting that actually turned out to be quite participatory because, just days before, the project champion distributed a wealth of information about the purpose and scope of the project and, in turn, specifically asked the team's members to come to the meeting armed with relevant background information and ideas for increasing the sales of the product in question.

With respect to mobilization and launch processes then, the three high-performing teams mobilized and launched relatively quickly. Their project champions and team leaders used a comprehensive mobilization strategy involving extensive outreach activities, both to gather essential information about the substance of their projects and to locate potential team members. Participants were then selected using a competency-based approach. The team leaders also conducted participatory launch meetings in which the teams first examined their projects from all angles and then decided how to tackle them. Chair and School, two of the ill-fated teams, mobilized and launched relatively slowly, even though they opted to employ a limited mobilization strategy and programmed launch meetings. Their leaders tried to impose processes on the teams before the team members had any grasp of what they were involved in, which resulted in deadlocked ses-

sions. One low-performing team, Image, mixed and matched. It mobilized and launched relatively quickly. Its team leader employed a limited mobilization strategy and tried to impose a programmed launch meeting, although in the end she was nudged by the team into a participatory meeting.

Outputs

Our analysis identified three mobilization and launch outputs—time, talent, and task—that systematically differed across the high- and low-performing teams, as delineated in table 4.

Time. The time differences were obvious. Paper, Wood, and Glass, the three high-performing teams, emerged from the formative phase with, respectively, 65, 67, and 63 percent of their total project times remaining. Image did about the same (66 percent), while Glass and School, the other two low performers, had only 49 and 51 percent of their original times left. These experiences created quite different perceptions among team participants (Marks, Mathieu, and Zaccaro, 2001). Those affiliated with the high-performing teams thought that things had moved right along: “did a month’s work in five days” (team member, Paper), “dropped everything and started forming a team” (team member, Wood), and “I thought the [mobilization and launch] was pretty fast all things considered” (project champion, Glass). The team leader of Image was a bit ambivalent about her experience: “A team was formed in a month or two” (on a nine-month project), while those affiliated with the other two low-performing teams thought that the formative phase had moved at a snail’s pace: “There was a timing mishap; everything went sideways for a while” (team member, Chair), and “It’s the three-week startup time [on a 39-day project] that’s the killer” (team leader, School).

Talent. Because team leaders chose their own members, team composition (or design) can logically be seen as an output of the mobilization and launch phase. Following the lead of earlier researchers (for a review, see Cohen and Bailey, 1997), we compared several aspects of team composition

Table 4

Summary of the Mobilization and Launch Outputs by High- and Low-Performing Teams

Outputs	High-performing teams (Paper, Wood, Glass)	Low-performing teams (Image, Chair, School)*
Time to complete projects	Two-thirds of total project time	One-half of total project time
Perceptions of urgency	High	Low
Team composition		
Competencies	Matched to tasks	Not matched to tasks
Time commitments	Sufficient: 29% full-time, 29% part-time, 42% on overtime.	Insufficient: 0% full-time, 25% part-time, 75% on overtime.
Tasks (operational)		
Agreed-upon	Yes	No
Performance strategies	Complete: problem definitions, solution frame- works, individual and subteam assign- ments.	Partial: individual and subteam assignments.

* Image was a mixed case. In terms of outputs, the team was fine on time and had an agreed-upon and complete performance strategy but was poorly staffed in terms of both competencies and time commitments.

Early Team Events

across the high- and low-performing teams. Surprisingly, the two sets of teams did not differ much on such commonly studied factors as team size (the means were eight and seven members), functional diversity (the mean proportion of functions represented to team size were 55 and 64 percent), gender diversity (the percentages of female participants were 33 and 39 percent), geographic dispersion (two of the high-performing teams drew members from two different locations, as did one of the low-performing teams), and team members' familiarity (across the high-performing teams, 10, 17, and 21 percent of the members were working together when the teams were formed, while the corresponding figures for the low-performing teams were 11, 14, and 25 percent). The two sets of teams did differ, however, with respect to two dimensions of talent: team members' task-relevant competencies and team members' time commitments to the projects.¹

The interviews revealed differences in task-relevant competencies, or in Hackman's (2002) terms task-related knowledge and skills; see also, Stevens and Campion, 1994; Cannon-Bowers et al., 1995; Brown and Eisenhardt, 1997; Klimoski and Zukin, 1999. No one connected with the high-performing teams mentioned problems with or concerns about the collective competencies of their teams' members, even with probing, whereas several respondents from the low-performing teams volunteered numerous problematic comments in this context: "the problem was complex and no one had the resources [i.e., knowledge] to address it" (team leader, Image); "There were some inherent limitations in the group we pulled together . . . we had a lot of people . . . with limited understanding" (team member, Chair); and "You need to address a problem and sometimes you don't have the expertise. They weren't the right group" (project champion, School).

The second dimension of talent, members' time commitments, is typically overlooked in project team research (Cohen and Bailey, 1997), yet the high- and low-performing teams clearly differed in this respect. Members of the former were about evenly distributed among those who were assigned to the projects full-time (29 percent), part-time (29 percent had at least some released time from their regular assignments), and on overtime (42 percent were expected to continue doing their regular assignments while also contributing to the teams). Across the low-performing teams, the corresponding figures were zero, 25 percent, and 75 percent. Again, the interviews confirmed the relevance of these differences. Those on the high-performing teams expressed no concerns and made occasional positive comments, for example, "If every project had the number of top people thrown at it like this one did, we'd be a lot more successful a lot more often" (team leader, Wood). In contrast, those on low-performing teams had a torrent of complaints about time conflicts, talent scarcities, and no-shows: "I would have put a person on this full-time . . . the biggest problem is our inordinate workload and this was just another thing to do. Am I going to work on this or that? You can only spend so much time on this stuff" (team member, Image); "Procurement

1

Although the teams could not be sure about the competencies or even the time commitments of their members at this juncture, because they all basically stayed intact for the duration (two of the low performers added one new member each late in their projects), it seemed safe to apply subsequent evidence on these points retrospectively.

was supposed to be there, but they never showed up. Their help would have been critical" (team member, Chair); and "He was supposed to be the corporate IT [information technology] guy. He couldn't make the first meeting. I tried for weeks to get ahold of him, but we haven't gotten anything back from him" (team leader, School).

Task. Task, the third differentiating output of mobilization and launch, refers to the teams' definitions of the work to be done. Our initial analysis indicated that some teams left their launch meetings in complete agreement about where they were going and how they were going to get there, and some did not. A further analysis found that these agreements were framed around performance strategies (Ancona, 1990; Hackman, 2002) involving one or more of three dimensions: (1) problem definitions, providing clear specifications of what the teams were trying to accomplish; (2) solution frameworks, providing schedules of activities for moving forward; and (3) assignments, specifications of post-launch activities to be carried out by individuals or subteams. Logically, we labeled performance strategies as complete when teams coalesced around all three dimensions and incomplete or partial when they settled on only one or two of them. As table 4 shows, the three high-performing teams, plus Image, generated complete performance strategies, while the Chair and School teams failed to agree on problem definitions or solution frameworks, although they did finally agree to sets of assignments. The Glass team, an eventual high performer formed to design two e-commerce pilot programs, for example, initially prepared a formal "team charter" that described its notion of the final product and ran it by the team's main customer for verification: "Is this what success looks like to you?" Only then did the team start to formulate a solution framework that ultimately focused on top-priority technology-related and business-case issues and assigned responsibility for implementation to three subteams, all of which had detailed work plans and timetables. The low-performing Chair team, in contrast, failed to settle on a problem definition and thus never entertained a solution framework. In the words of a team member, "There were lots of definitions in the room." At the very last minute, though, lacking anything better, the team rather half-heartedly adopted the preconceived assignments brought to the meeting by the team leader, thus leaving it with a partial performance strategy, at best.

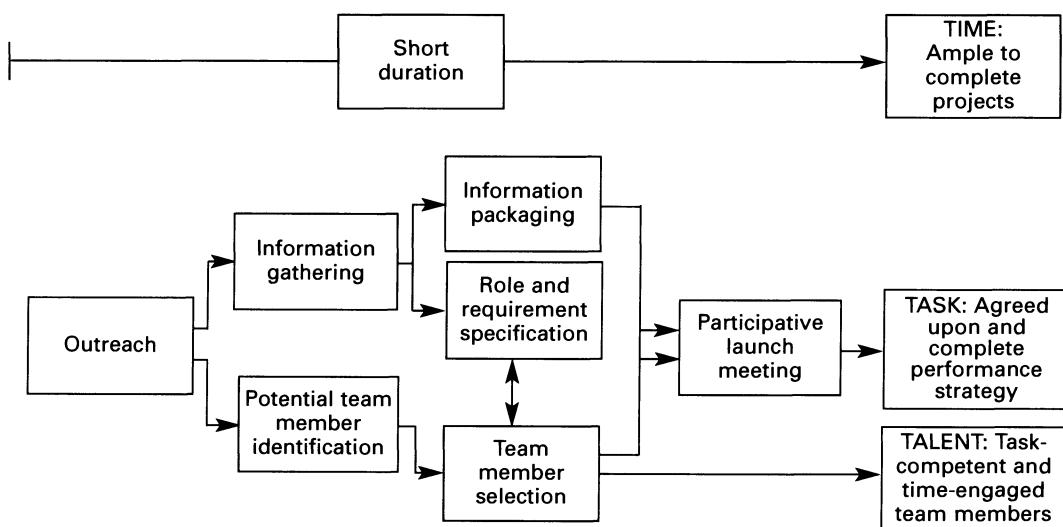
At the end of mobilization and launch, the three high-performing teams were in relatively good shape with respect to all three differentiating outputs: time, talent, and task. Image, ultimately a low performer, was fine on time and task but short on talent, while Chair and School, also low performers, had problems all the way around.

Tracing the Paths: Processes to Outputs

Figure 1 charts the connections between mobilization and launch processes and outputs for the high-performing teams. In two instances, the paths from mobilization and launch processes to corresponding outputs are readily apparent. Obviously, the fact that the project champions and leaders of the three high-performing teams, plus Image, completed

Early Team Events

Figure 1. Mobilization and launch phase of project team development in high-performing teams.



their mobilization and launch activities more quickly than their counterparts on the other two low-performing teams meant that their teams had more time to complete their work. Almost as obviously, the leaders of the high-performing teams, all of whom used a competency-based approach to staffing, successfully composed teams whose members were endowed not only with task-related knowledge and skills but also with sufficient time devoted to the projects to assure that these attributes would be available when needed. Interestingly, however, as Hackman (1987: 326) observed, "this seemingly obvious principle . . . is not always straightforward in practice. Even when people with ample task-relevant knowledge and skill are available, they may be overlooked—for example, when groups are composed with only political considerations in mind." This, of course, is exactly what happened to the three low-performing teams.

As shown in figure 1, the three high-performing teams followed almost as clear a path to establish and codify their tasks in consensual and complete performance strategies. The project champions and team leaders employed a comprehensive mobilization strategy to generate vast amounts of project-related information and task-competent team members. They then conducted participative launch meetings that engaged their fully informed and highly capable team members in open discussions, sometimes augmented by knowledgeable outsiders, designed first to promote common understandings of key issues and shared perceptions of the teams' potential products or solutions and only then to reach decisions on how best to proceed. Two of the low-performing teams, Chair and School, also followed an easily traceable, although hardly logical path through mobilization and launch that resulted, predictably enough, in little more than grudging acquiescence to partial performance strategies. Use of a limited mobilization strategy virtually assured that these teams' members would be insufficiently informed and inadequately equipped to deal with the complexities encountered

at their launch meetings. On the one hand, those assembled were astute enough to sense the teams' many problems and limitations and thus to resist the leaders' efforts to program future team activities unilaterally. On the other hand, they unfortunately lacked the collective capacity to overcome these inherent liabilities (Edmondson, Bohmer, and Pisano, 2001). Finally, the Image team, the third low performer, provided the least clear case. The team actually reached agreement on a complete performance strategy, notwithstanding a limited mobilization strategy and a putatively programmed launch meeting. In this case, the project champion saved the day by providing a last-minute infusion of information and definitional guidance that spurred the team into a de facto participatory launch meeting that, despite competency limitations, was sufficient to generate consensus on a solution framework and set of assignments for the team to pursue in the post-launch period.

Thus, in answer to our first research question, notwithstanding the occasionally anomalous case of the Image team, we offer the following:

Proposition 1: Project teams whose leaders mobilize quickly and pursue comprehensive mobilization strategies and participative launch meetings are more likely than those whose leaders mobilize less quickly and pursue limited mobilization strategies and programmed launch meetings to emerge from the formative phase of project team development with high-quality outputs: ample time to complete their projects, appropriate talent, and concurrence on tasks.

THREE-PHASE VIRTUOUS AND VACUOUS PATHS

To answer our second research question, we examined whether differences in high- and low-performing teams' mobilization and launch experiences appear to influence their subsequent development and performance. With respect to overall team progressions, we found that they did not. Case comparisons yielded a similar sequence across the six teams studied, the partial exception being the School team, which was tracking with the rest until it was disbanded in mid-stream. All six teams proceeded in a manner consistent with Gersick's (1988, 1989) punctuated equilibrium model; that is, they experienced relatively prolonged periods of comparative stability, or inertia, interspersed by relatively short bursts of intense reflection and change, or transitions (Ancona, Okhuysen, and Perlow, 2001). One transition occurred at roughly the midpoints (i.e., from 37 to 60 percent of the way) between the teams' launch meetings and their deadlines (Gersick, 1988, 1989; Okhuysen and Waller, 2002). The other came very near the teams' deadlines (i.e., with between 11 and 24 percent of their times remaining) (Waller et al., 2001). We labeled this "showdown" because in most cases it involved high anxiety about the teams' abilities to finish on time, as well as head-to-head conflicts between team members seeking to simplify their deliverables and/or extend their deadlines and project champions who insisted on sticking to the established plans. Our process model differs from Gersick's (1988) original postulation of a two-phase model, but it squares with her later (1989: 276) delineation of a three-

Early Team Events

phase progression. Subsequently, we refer to the three phases as post-launch through midpoint transition, post-midpoint transition through showdown, and post-showdown to completion.

In contrast to the overall pattern, a more finely grained, phase-by-phase comparison of the high- and low-performing teams uncovered two quite different paths, akin to what Hackman (1990: 481–484) called “self-fueling spirals . . . over time, the rich [got] richer and the poor [got] poorer.” Among the three high performers (Paper, Wood, and Glass), mobilization and launch outputs (time, talent, and task) served as a constellation of key inner resources that fueled a virtuous path that, within and across the subsequent phases, amplified initial strengths and allowed the teams to overcome challenges and accumulate successes. The three low performers (Image, Chair, and School), in contrast, initially deficient on some or all of the key inner resources, slipped into a vacuous path that compounded their incipient shortcomings, fostered inactivity and futility, and ultimately led to failure. Table 5 summarizes the evidence pertaining to these two different paths.

The Virtuous Path

The three high-performing teams engaged in quite different activities, depending on the nature of their projects (Gersick, 1988), but within and across the developmental phases, they displayed remarkably parallel patterns, a virtuous path. Here we focus primarily on the experiences of the Paper team to illustrate the particulars for a high-performing team, although, as shown in table 5, the Wood and Glass teams would have served equally well.

The Paper team, formed to make a recommendation to its business unit’s Executive Committee for or against the acquisition of an Israeli firm, emerged from its launch meeting and thus started the post-launch period well armed with key inner resources. It had 65 percent of its total project time left to do its work and a cadre of task-competent and time-committed team members (one full-time, two part-time, and four on overtime). According to the project champion, these team members had coalesced around a complete performance strategy consisting of a clear problem definition: “We refined it from a concept to here’s what we want to do.” The team had a comprehensive solution framework outlining data-gathering activities aimed at clarifying the target firm’s technology, market potential, regulatory possibilities (the firm had developed a small, “swallowable” camera that required Food and Drug Administration approval), intellectual property rights and protections, manufacturing needs, and overall worth; and, in the words of one team member, “tasks and duties coming out our ears.”

Post-launch through midpoint transition. Post-launch, Paper’s subteams tackled their tasks and duties basically on their own, while coordinating their activities through regular communications and occasional all-team meetings. The team gelled right away; one team member said of the time, “We really pulled together. We had a can-do attitude.” Another

Table 5

Virtuous and Vacuous Paths: Inputs (I), Processes (P), and Outputs (O)

Team/purpose	Post-launch through midpoint transition	Post-midpoint transition through showdown	Post-showdown to completion
Virtuous path (high-performing teams)			
Wood: Develop and demonstrate a business-to-consumer Web site	<p>I: "The [performance strategy] documents look good, but we'll see how they shake out in the end. The proof is in the pudding" (team leader).</p> <p>P: "A lot of synergy built very quickly. We came together and started to make it happen fast" (team member). "We were delayed by two stumbling giants" (team member). "We didn't think we had time to do [business-to-consumer]. There was just too much work there . . . I don't think we ever could have met the deadline" (team leader).</p> <p>O: Team shifts its focus from a business-to-consumer Web site to a purely informational one (observation) and "... readjusted the task designations and milestones schedule" (team member). [Wood's midpoint transition occurred 37% of the way between its launch meeting and its original deadline.]</p>	<p>I: [The team begins to construct an informational Web site.]</p> <p>P: "[A company executive] tried to shut down the project [but] . . . we were willing to sacrifice reliability and dependability objectives to achieve on time completion . . . we compromised on a low of what [information technology executives] typically value" (project champion).</p> <p>O: "[The chief information officer] said, 'This is a priority. Do whatever it takes to get it done. Deliver [the Web site] at all costs" (team leader). [Wood's showdown occurred 89% of the way between its launch meeting and its original deadline.]</p>	<p>I: [The team's project champion insists that the team complete the project by its trade-show deadline.]</p> <p>P: "We had to alter the best laid plans. Things had to get done right now!" (team member). "I worked seven straight days until 11:00 or 1:00" (team member).</p> <p>O: "We were successful . . . [but] we didn't have one minute to spare" (team member). "The chaos of the whole thing forced us to do some things that will have to be redone. On the surface it looks great, underneath it's a house of cards" (project champion).</p>
Glass: Design two e-commerce pilot programs	<p>I: "After the [launch meeting] we showed [the customer] our charter and asked him, 'Is this what success looks like to you?'" (team member).</p> <p>P: "I didn't really know what this [conversation about long-term implications] was all about. I thought the project was going to be something that could be accomplished—low hanging fruit" (team member). "Pull back the curtain and it was ugly. But, I don't think [the customer] saw that" (team member). "I stopped the meeting and Bill, Marie, and I went to see [the project champion]" (team member).</p> <p>O: "We agreed that we didn't want to build the case simply on the pilot and value in Q4 [the fourth quarter] only" (team member). "We worked out detailed information on the pilot . . . [and] ranges on the long-term vision" (team member). [Glass's midpoint transition occurred 56% of the way between its launch meeting and its original deadline.]</p>	<p>I: [The team works to reach agreement with business unit executives on the pilots' ROI and budgetary estimates.]</p> <p>P: "It was amazing how skittish the business units got when it came to the numbers" (team member). "Numbers were key in [the project champions'] minds. They wanted an ROI. We didn't think it was revenue generating . . . they were trying to push a business case template into something that didn't fit. . . . If you put a number on a piece of paper, sooner or later you'll get held to it. That was [the SBU-VPs] concern" (team member). "I lost confidence. I didn't see how we were going to get there and I expressed that . . . how can we walk into the meeting without the numbers? It would have been terrible" (project champion).</p> <p>O: [Project champion calls and conducts three meetings between team and recalcitrant executives and a high-level compromise on numbers is reached.] [Glass's showdown occurred 94% of the way between its launch meeting and its original deadline.]</p>	<p>I: [The team works to finalize financial figures and CEC presentation.]</p> <p>P: "We were working around the clock" (team member). "We started meeting every night until 10:00" (team member). "The numbers decisions were all done on the fly" (team member). "I can't tell you the discretionary time this team has spent to get this done" (project champion).</p> <p>O: "When people look back, they'll say that this is one of the most strategically important things we've ever done, but it takes a grass roots effort to get there" (project champion). "At the end of the day, we had a damn good presentation" (team member).</p>

(Continued on next page)

Early Team Events

Table 5 (*Continued*)

Virtuous and Vacuous Paths: Inputs (I), Processes (P), and Outputs (O)			
Team/purpose	Post-launch through midpoint transition	Post-midpoint transition through showdown	Post-showdown to completion
Vacuous path (low-performing teams)			
Chair: Formulate I:	<p>"It was difficult to know if we were developing a solution for [current customers] or whether we were creating an integrated solution. It was frustrating" (team member).</p> <p>P: "We never got above the dynamic of control ... we were treading water" (team member).</p> <p>"We had some floundering" (team member).</p> <p>"I think my idea of a solution was different from the beginning. We are on the verge of making it too difficult, too complex, and too integrated" (team member).</p>	<p>I: [The team attempts to focus and specify the solution.]</p> <p>P: "These are the six to eight big gaps that still need addressing" (team leader).</p> <p>"There were too many chiefs and not enough Indians [on the team]. There wasn't anyone who could take it and make it go" (internal consultant).</p> <p>"... for some reason the pace seemed to slow down" (team member).</p>	<p>O: [The team leader disbands the team. She and one team member work with an internal consultant to produce a global service solution two months after the team's original deadline.]</p> <p>[Chair's showdown occurred 82% of the way between its launch meeting and its original deadline.]</p>
School: Devise a strategy for delivering distance learning corporate-wide (and eventually to the broader marketplace)	<p>I: "The reason you don't understand the problem is the problem. If you knew the problem we wouldn't have a problem. ... It's frustrating when people who are supposed to be SMEs [subject matter experts] don't even have the background" (team leader).</p> <p>P: "The team that was going to collaborate to bring the cases to the group of seven wasn't working ... we can't collaborate to solve the problem" (team member).</p> <p>"It became clear that ... it just wasn't going to happen. [The team] wasn't going to reach consensus no matter what we did" (team leader).</p>	<p>O: "The team never gelled in the first place. Plus, they really didn't have the time that it would have taken [to complete the project]" (project champion).</p> <p>[School's midpoint transition occurred 60% of the way between its launch meeting and its original deadline.]</p>	

said, "What was special was the excitement and interest level. People would drop everything [to contribute]."

As the halfway point between launch and deadline approached, however, the love-fest disintegrated. Notwithstanding the team's carefully constituted performance strategy, in the words of the project champion, "The team was trying to understand two different [valuation] models. They were really struggling." A team member noted, "We tweaked the model I can't tell you how many times. Fifteen

things would change every time you looked at it. It got to the point where it just wasn't working any more." At this point, 52 percent of the way between launch and deadline, the team leader called an all-team meeting. Initially "ferocious," the meeting produced a breakthrough when the project champion stepped in and, in his words, "went to the board and drew an influence diagram, working back from what you know. What influences these things? What are the key uncertainties involved? This became the model that brought the two [sides] together." Subsequently, the team "filled the whole board, working feverishly. We solidified the stuff into a precise understanding. There were so many puzzle pieces . . . we finally figured out how they all fit together." Once the team had its new problem definition, it took only a short time to regenerate the remaining key inner resources. With respect to the two remaining components of task, the team radically refocused its solution framework around "packaging" the new solution for its presentation and relegated a new set of assignments to team members. Cognizant of time, the team designed these assignments to make maximum use of the 15 days, of the original 49, remaining until its deadline. Finally, the experience rejuvenated team members' commitment to the project. As one put it, ". . . [the midpoint transition] was really important because it brought us all together."

Post-midpoint transition through showdown. Refocused and rejuvenated, the team spent the next 13 days working steadily, although not furiously, on assembling its presentation. Just two days before the big day, however, the team received new information from a physician that contradicted its estimate of the market potential for the Israeli firm's product. This event, which later proved to be a misunderstanding, caused the team to completely lose confidence in the financial data it had assembled. As team members said, "We still had a couple of days, but we were really struggling; it looked like it was going to be a disaster," and "The presentation was at risk." As was typical for the high-performing teams (see table 5), the showdown was triggered when the team asked the project champion to delay the project's presentation. In her words, "They called me, they paged me, they sent notes into the meeting I was attending. When I got back to them they asked me to cancel the EC [Executive Committee] meeting and reschedule for three weeks later. They wanted to be able to address every question that the EC could possibly ask them. They wanted all the i's dotted and all the t's crossed." But, as one team member explained, "She said, 'No, you've got to do it.' I patched her into the team meeting. We had a heated discussion for half an hour. Finally, the team said, 'okay, we'll do it.'" This agreement constituted the team's primary output at showdown. The team also hastily concocted a rudimentary plan of action for the remaining two days but needn't have bothered.

Post-showdown to completion. For Paper, this was a two-day period of heroic improvisation, with the team operating in overdrive. Time was uppermost on the members' minds,

Early Team Events

and any thoughts of its rudimentary plan quickly got lost in the shuffle; the team was operating on adrenaline and accumulated experience. In the team members' words, "We worked really hard. People were up until 12:00 or 1:00 and then back really early"; "There was no roadmap; we were making it up along the way"; "We weren't planning, we were on the fly"; and "We were wiring the thing together with chewing gum." But, as one team member put it, the team "really pulled together at the end," and ultimately made a timely and well-received presentation to the Executive Committee.

The Vacuous Path

In contrast to the high-performing teams, the low performers' experiences were more varied both within and across the developmental phases. All three stumbled in the early going, however, and ended up on a vacuous path. We focus on the Image team here because its experiences are particularly informative for the purposes of our discussion. Additional evidence from Chair and School, the other low-performing teams, is shown in table 5 and discussed briefly below. The Image team was formed to design and implement a business model to boost the sales of a new and highly promising product. Its mobilization and launch was a decidedly mixed bag. On the one hand, the team left its launch meeting with 67 percent of its total time remaining (about the same as the three high-performing teams) and with an agreed upon and complete performance strategy: a clear problem definition containing five initiatives, a comprehensive solution framework (as one team member said, "We knew where we had to spend our time"), and clear assignments (according to another team member, "We walked away with a list of priorities and to do's"). On the other hand, the team lacked some key competencies. There was a clear disconnect between the projects' complexities and the team members' task-relevant knowledge. Further, the team had no full-time participants, and only the team leader was even part-time, which meant that all eight of its members were left to participate when they could find or make the time.

Post-launch through midpoint transition. Early on in the post-launch period, a team of influential managers criticized the Image team's performance strategy for lacking a sufficient customer focus. In response, the team leader tried to refocus the team but failed. Critical, so-called "voice of customer" data went uncollected, promised progress reports failed to materialize, and scheduled meetings were often postponed ("People weren't meeting benchmarks and timelines"), all, the data show, because the team lacked sufficient talent. Even the team leader sensed the problem that she had created: "I wish we could have gotten some finance people involved . . . they really understand what's happening." The team's members knew they lacked the requisite competencies: "My frustration is that . . . the team is responsible to delegate. If the team delegates to you and you don't know what you're doing, you can't just push it off." And they knew that the team was short-staffed: "We stumbled on resources [i.e., people]; we could have moved a lot faster if we could have freed up some resources"; and "[Some peo-

ple] were willing to share and guide during the meetings, but weren't willing . . . to dedicate time to these activities between meetings."

This stalemate continued for almost three months, when, at the project champion's insistence, the team leader called a midpoint transition meeting, 49 percent of the way between launch and deadline, in another attempt to get the team on track. This, too, failed. At the end of the meeting, the team still had not addressed its talent deficiencies, nor had it developed a consensus around a new performance strategy. "We didn't do a good job of defining the deliverables," is the way one team member put it, "It's an indication of product specificity. We need to know what the [solutions] are before we know what we're going to give [the customers]." Another said, "Right now the picture I have is activities without a solid plan." The downward path is apparent; Image started the post-launch phase with two intact key inner resources, time and task, and one, talent, that was deficient, but by the end of its midpoint transition meeting only one, time, was still on its side. Notwithstanding, the team pushed ahead.

Post-midpoint transition through showdown. The confusion and impasse, and thus the downward path, continued. As Image's team members observed, "Every time we meet, the definition [of the solution] changes"; and "The definition of the deliverables—I'm not sure that it's out there in front of people even now. We still need 'voice of customer' data." Still, the team leader refused to give in: "We decided to meet more regularly to try and see if we can bring it to closure as quickly as possible. To drag [the project] out would have given it death." The team's showdown came 84 percent of the way between launch and deadline, or with 42 days remaining, when the team leader finally decided to ask the project champion for more people to complete the project, and the request was denied: "We took it up to the [CEO and CFO] level but [we] weren't high enough priority." Still, after cutting several initiatives out of its problem definition, the team pressed on.

Post-showdown to completion. Here, the team's activities decelerated further and there clearly was no heroic improvisation. Meetings went from twice a month to "whenever"; in the project leader's words, "A lot of people thought [the project] wasn't important any more. It made my job a lot tougher." At this point, the team was just "plodding along," in one team member's words. Some four months after its original deadline, the team completed work on one of its five initial initiatives and disbanded.

Although five of the six project teams experienced a three-phase progression, it is clear that there were distinctive differences between those that traversed the virtuous and vacuous paths. We now turn attention to assessing how the outputs emanating from mobilization and launch, which served as the inputs to the rest of the process, appear to have affected the teams' subsequent development and performance.

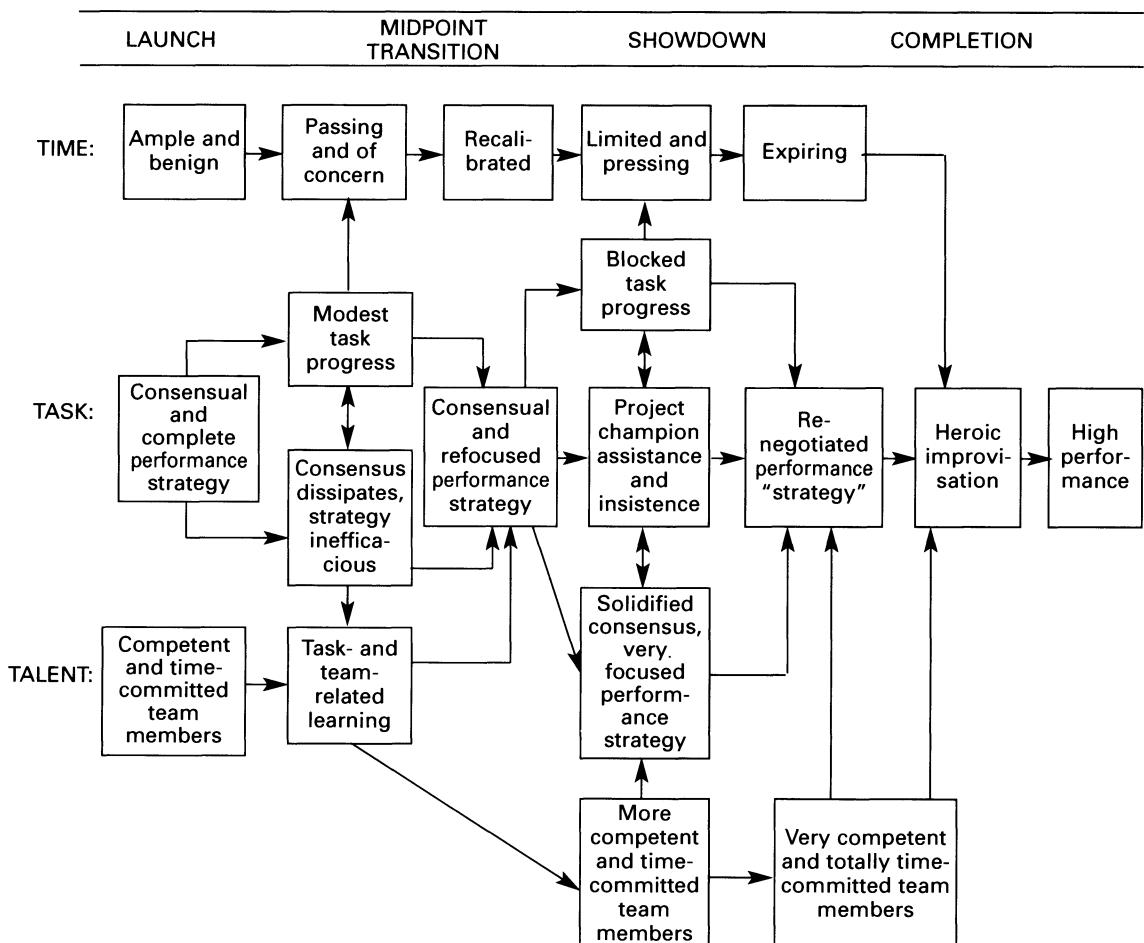
Early Team Events

Making the Input-Process-Outcome Connections

Post-launch, the Paper team and the high-performing Wood and Glass teams hit the ground running. As figure 2 shows, they possessed a powerful set of inputs. They had plenty of time, although our data suggest that this was basically a benign influence at this point. They had capable and time-committed team members who "had a can-do attitude" in part because of the speed, intensity, and effectiveness of their mobilizations and in part because of their consensually derived and complete performance strategies. Conversely, the Image team, as well as the low-performing Chair and School teams, stumbled during the post-launch period. Image lacked a sufficient talent base to overcome the initial challenge to its performance strategy, while the Chair and School teams had virtually no inner resources to draw on at this point.

Figure 2 sketches the elements of the virtuous path the three high-performing teams took, showing how the three key inner resources evolved over time and facilitated team development and performance. Notwithstanding their fast starts, all three high-performing teams encountered challenges that slowed their task-related progress. Paper and

Figure 2. The virtuous path: Evolving roles of key inner resources in high-performing teams.



Glass, it turned out, had less agreement on problem definitions than originally thought and both found themselves working at cross-purposes in the post-launch period. Wood experienced serious delays in vendor deliveries, as well as a serious executive dispute that threatened to scuttle its project altogether. In confronting these challenges, however, the three teams came to learn what they did not know about their projects and also further developed such critical team-related skills as communication, collaboration, and constructive decision making that helped members collectively function more effectively. Thus, as figure 2 shows, even as time passed and performance strategies were crumbling in the face of unanticipated obstacles, the teams' talent bases were consistently being enhanced through collective learning (Edmondson, Bohmer, and Pisano, 2001). In contrast, the three low-performing teams, because they were insufficiently engaged with their projects, failed to garner any discernible team learning at this point. In propositional form:

Proposition 2a: Project teams that enter the post-launch period with complete constellations of key inner resources (ample time, appropriate talent bases, and concurrence on clear and compelling tasks) are more likely than those that enter this phase lacking one or more of these resources to use this phase of project team development to (a) seriously engage with their tasks, (b) make at least a small amount of task-related progress, and (c) learn, acquiring additional task- and team-related knowledge that enhances their talent bases.

The post-launch travails of the high-performing teams soon brought them face to face with the inherent limitations of their extant paces and chosen paths (Okhuysen and Waller, 2002). Consistent with previous research (Gersick, 1988, 1989; Okhuysen and Waller, 2002; Chang, Bordia, and Duck, 2003), the difficulties occurred at roughly the midpoints, specifically between 37 and 56 percent of the way, between these teams' launches and deadlines. At this juncture, team leaders called all-team meetings in which attention abruptly shifted from implementation to analyses (Marks, Mathieu, and Zaccaro, 2001) and from problems to prospects. These transition meetings duplicated the launch meetings in form and format in that they were participative, but around pre-meditated agendas, although they were more efficient and effective as a result of the felicitous task- and team-related learning that occurred during the post-launch period. Thus the high-performing teams rather quickly, sometimes with the help of outsiders, a point to which we will return, reaffirmed their problem definitions (except the Wood team, which totally revamped its mission and had to completely redo its problem definition) and coalesced around new and narrowed solution frameworks, as well as time-calibrated assignments, as shown in figure 2. The three low-performing teams also experienced midpoint transitions, wherein their experiences confirmed Hackman's (1990: 483) observation that "a negative spiral can be very hard to break once it has become established." In brief, none of the three were able to reach agreements on their elusive problem definitions, nor did they make any attempt to address their talent deficiencies. The School team stemmed the downward drift shortly after this

Early Team Events

only by disbanding. These observations lead to two additional propositions:

Proposition 2b: Project teams that use the post-launch period to (a) seriously engage with their tasks, (b) make at least some task-related progress, and (c) engage in task and team learning are more likely than those that do not do these things to use their midpoint transitions to confront and correct deficiencies in all three key inner resources (i.e., time, task, and talent) and thus emerge from these midpoint transitions with rejuvenated and restored constellations of these resources.

Proposition 3: Project teams that enter the post-launch period deficient on or devoid of one or more of the key inner resources are unlikely to correct these deficiencies during this period or during their midpoint transitions and thus would better serve their causes if they quickly and appropriately remobilized and relaunched or, failing this, disbanded rather than continuing on.

Armed with strengthened constellations of key inner resources, the high-performing teams were rejuvenated in the post-midpoint transition period. In contrast to the first half of their project time, the rest of their time together was more focused and more productive and, especially during and after the showdowns, more intense. Team learning and, to a large extent, planning and formal performance strategies lost importance as the teams were pulled along and through the crises by the pressures of passing time or impending deadlines, their now finely honed task- and team-related knowledge and skills, and the assistance and insistence of project champions who rebuffed their attempts to alter the projects' deliverables or to extend team deadlines.

Proposition 4: Project teams that enter the post-midpoint transition period with revived constellations of key inner resources are likely to (a) initially make significant task progress, (b) successfully traverse their showdowns, (c) engage in heroic improvisation during the post-showdown period, and (d) deliver high-quality products or solutions by their deadlines.

DISCUSSION

Comparing the experiences of high- and low-performing project teams using an input-process-output framework, we found that while they started with very similar inputs at initiation—a small amount of background information about their projects, brief descriptions of the desired outcomes, and firm deadlines—their project champions and leaders pursued markedly different approaches to mobilization and launch and, consequently, the two sets of teams emerged from this formative phase with discernibly divergent outputs.

We derived a teleological process model (Van de Ven, 1992; Edmondson, Bohmer, and Pisano, 2001) for the high-performing teams that delineates purposeful leadership activities during mobilization and launch—deliberate speed, a comprehensive mobilization strategy consisting of outreach, content clarification, and competency-based staffing, and a participative launch meeting—and traces how these activities appear to have engendered a set of salutary outputs: sufficient time for the teams to perform their work, competent and time-committed talent, and clear and compelling tasks as detailed

in agreed upon and complete performance strategies. The model depicts a direct connection between deliberate speed and sufficient time. Otherwise, it shows that outreach activities during mobilization enhance knowledge bases and broaden talent pools and thus feed into both content clarification and competency-based staffing activities. Content clarification activities, in turn, translate volumes of information into digestible and usable formats such as briefing books for use during launch meetings. In effect, this provides teams with "scripts" for their first meetings (Bettenhausen and Murnighan, 1985). Competency-based staffing produces task-knowledgeable team members who, through the open discussions and well-planned agendas of participative launch meetings, pursue a step-down process to generate the increasingly detailed components of complete performance strategies: clear problem definitions that are translated into consistent solution frameworks and, ultimately, complementary individual and subteam assignments.

This model, as well as proposition 1, suggests that the delineated mobilization and launch activities collectively constitute necessary, although not necessarily sufficient, conditions to produce the three key outputs, the inner resources of time, talent, and task. The formulation also implies, as our results show, that the obverse, a lengthy and limited mobilization strategy combined with a putatively programmed launch meeting, virtually assures that teams will leave the formative phase of project team development tight on time, poorly staffed, and uncertain about their tasks. The model and proposition further suggest that although researchers tend to treat factors such as team and task design as givens, perhaps it would be better to view them as outputs of the mobilization and launch phase and thus as key inputs to subsequent phases of project team development (Edmondson, 1999).

Constellation of Key Inner Resources

Our data support Hackman's (1987, 1990, 2002) contention that the first responsibility of project champions and team leaders is to "stack the deck" by creating initial conditions that foster the emergence of positive team experiences and eventual team success. For the high-performing teams, the three mobilization and launch outputs—ample time, suitable talent, and clear and compelling tasks in the form of complete performance strategies—served as inputs, a constellation of key inner resources, that propelled them on a virtuous path of renewing activities and renewable outputs and eventually on to success. For the low-performing teams, in contrast, the absence or inadequacy of these initial outputs sent them down a vacuous path from which they were unable to recover. At a deeper level, however, the extant constellation of key inner resources squares only partially with previous theory and research.

Time. Gersick's (1988, 1989) research, in particular, turned researchers' attention to team pacing and transitions, or temporal milestones, especially with respect to the emergence of and activities associated with midpoint transitions (e.g., Okhuysen and Waller, 2002) and the final phase of project team development (e.g., Lim and Murnighan, 1994; Seers

Early Team Events

and Woodruff, 1997; Waller et al., 2001). The results of the present study are generally consistent with previous findings. They also extend them by highlighting a potentially important new dimension of team pacing that warrants further investigation. Specifically, the duration and intensity of mobilization and launch activities appear not only to affect the actual amount of time project teams have to do their work but also to serve as models of behavior that influence team members' perceptions of time and thus their collective motivation during the immediate post-launch period. Among the high-performing teams, relatively quick agreement on complete performance strategies seems to have energized team members during their early times together, creating a "can-do attitude." Among the low performers, however, using one-half of total project time to produce only limited performance strategies may have engendered perceptions of low project priority and chimerical team deadlines, as evidenced by the Image team leader's post-launch lament, "People weren't meeting benchmarks and timelines."

Talent. Studies of the effects of team composition on team performance have focused on elements of team design such as size and member diversity or mix (Cohen and Bailey, 1997; Hackman, 2002). In the present study, however, these factors did not differ much across the high- and low-performing teams. Rather, our analysis uncovered two dimensions of talent—team members' task-related competencies and time commitments—that, when present, served as key inner resources that fostered the project teams' development and effectiveness and, when absent, clearly inhibited the teams' progress and performance. At one level, these results might be considered obvious. With respect to task-related competencies, for example, Hackman (2002: 115) stated, "The mistake that [team leaders] generally do *not* make is to overlook members' task-relevant knowledge and skill. We all know that a team is likely to get into trouble if members are not expert in the technical aspects of their work, so those who create teams generally take care to ensure that the team has plenty of task-relevant talent." With respect to time commitments, it is equally difficult to imagine that leaders with any team experience at all, even in classroom settings, would be unaware of the need for team members to have sufficient time to devote to their projects. Yet one-half of the leaders in the present study did "overlook members' task-relevant knowledge and skill" as well as time commitments when assembling their teams. An identical pattern emerged in a recent study of a new technology implementation in 14 hospitals (Edmondson, Bohmer, and Pisano, 2001: 699). Collectively, these data make a compelling case for systematically studying how team leaders actually go about staffing their projects, as well as carefully evaluating the ways in which key characteristics of the assembled talent, including task-relevant competencies and time commitments, change over time and thus affect teams' development and performance.

Task. Researchers tend to treat task design as a static input and focus on such intrinsic task characteristics as autonomy and complexity (Cohen and Bailey, 1997). Here, too, the present study opens additional avenues of potentially fruitful

research. It is apparent, for example, that project team tasks are of two types, general and operational. A project's purposes constitute the general tasks that serve as the initial inputs to the mobilization and launch phase. In this study, the general tasks consisted of bits of contextual information, brief descriptions of desired products or solutions, and deadlines. Presumably, the nature and perhaps the framing of general tasks influence leaders' perceptions of the project's salience in terms of importance or urgency, which in turn may affect choices about mobilization and launch activities. Clearly, more thorough investigations are required to sort out the relative effects of the general task vis-à-vis other important inputs or influences on the processes, and possibly the outputs, of the formative phase of project team development.

General tasks are translated into operational tasks during mobilization and launch. In the present study, the high-performing teams used their launch meetings to reach final agreements on operational tasks in the form of complete performance strategies. The high-performing teams seem to have initially benefited both from the motivational effects of the means used to translate the general tasks into operational tasks—addressing content first and deferring collective decisions on process until relatively late in launch meetings—and from the characteristics of the operational tasks themselves, including the clarity provided by problem definitions and solution frameworks and the compelling nature of the immediate individual and subteam assignments (e.g., Locke and Latham, 1990; Hackman, 2002). The efficacy of these early effects rather quickly dissipated, however, in the face of unanticipated obstacles and problems. This suggests, as Ger-sick (1988) noted, that for project teams, the role of initial operational tasks is to spur short-term action, facilitate team learning (Edmondson, 1999; Edmondson, Bohmer, and Pisano, 2001), and carry teams forward until midpoint transitions, when their tasks can and must be reformulated. It also suggests that subsequent models of project team performance might do well to incorporate operational tasks not as one-time static inputs but, rather, as constantly evolving outputs that serve as revised inputs for subsequent phases of project team development.

A constellation? By use of the phrase "a constellation of key inner resources," we imply that, in our view, ample time, suitable talent, and clear and compelling tasks in the form of complete performance strategies are necessary conditions for effective project team development and performance, but this requires verification. In our study, these three mobilization and launch outputs were out of synch in only one case. This involved the Image team, which had ample time and a complete performance strategy but lacked essential competencies and time commitments from its members and rather quickly after launch entered a vacuous path. Would the result have been the same if the team had other combinations of key inner resources, such as ample time and suitable talent, but an incomplete performance strategy? Further, we do not mean to imply that these three key inner resources are sufficient to assure suitable project team development or effective performance. Hackman (2002), for example, suggested

Early Team Events

other possible candidates for consideration, including team boundedness, delimited authority, core norms, and team members' interpersonal skills. So further research is in order here as well.

Beyond Key Inner Resources

Key inner resources might be expected to have a stronger effect on the development and performance of project teams than on the evolution and effectiveness of more permanent or recurring types of teams given that the latter are typically bolstered by supportive organizational contexts in the form of rewards, formal training, and information systems (Hackman, 2002). This is not to suggest, however, that project teams live or die entirely by their own wits. In the present study, for example, once the teams were launched, project champions tended to withdraw from their ongoing operations. Nonetheless, they did from time to time judiciously intervene to help the high-performing teams over particularly rough patches, as happened when the Wood team lost its initial franchise and had to quickly regroup and when the Paper team lost its nerve at showdown and had to be "persuaded" to stick to its original deadline and helped to a compromise with key line executives. Perhaps it is time as well for researchers to dig more deeply into the contributions made by project champions to team development and performance (Clark and Wheelwright, 1992). Further, while the interventions of project champions were particularly obvious from our analyses, there may well have been other contextual or even external influences that our interviews and observations failed to pick up but subsequent studies might reveal.

Taken together, the findings of this study suggest that the formative phase of project team development is a potentially even richer vein for exploration than previous researchers have realized. Thus, those who ignore or in the laboratory cannot replicate this surprisingly time-consuming period run the risk of overlooking important, even critical determinants of the ways in which actual project teams subsequently develop and perform. Thus, without in any way dismissing the inherent limitations of the present study, we suggest that it offers an overriding proposition for researchers. One clear path to understanding project team effectiveness may well lie in systematically unraveling the complexities of project team development right from the start.

REFERENCES

- Ancona, D. G.
1990 "Outward bound: Strategies for team survival in an organization." *Academy of Management Journal*, 33: 334–365.
- Ancona, D. G., G. A. Okhuysen, and L. A. Perlow
2001 "Taking time to integrate temporal research." *Academy of Management Review*, 26: 512–529.
- Arrow, H., and J. E. McGrath
1993 "Membership matters—How member change and continuity affect small group structure, process, and performance." *Small Group Research*, 24: 334–361.
- Bales, R. R., and F. L. Strodtbeck
1951 "Phases in group problem solving." *Journal of Abnormal and Social Psychology*, 46: 485–495.
- Bettenhausen, K. L., and J. K. Murnighan
1985 "The emergence of norms in competitive decision making groups." *Administrative Science Quarterly*, 30: 350–372.
- Brown, S. L., and K. M. Eisenhardt
1997 "The art of continuous change: Linking complexity theory and time-paced evolution in relentlessly shifting organizations." *Administrative Science Quarterly*, 42: 1–34.

- Cannon-Bowers, J. L., S. I. Tannenbaum, E. Salas, and C. E. Volpe**
 1995 "Defining competencies and establishing team training requirements." In R. A. Guzzo, E. Salas, and Associates (eds.), *Team Effectiveness and Decision Making*: 333–380. San Francisco: Jossey-Bass.
- Chang, A., P. Bordia, and J. Duck**
 2003 "Punctuated equilibrium and linear progression: Toward a new understanding of group development." *Academy of Management Journal*, 46: 106–117.
- Clark, K., and S. C. Wheelwright**
 1992 "Organizing and leading 'heavyweight' development teams." *California Management Review*, 34 (3): 9–28.
- Cohen, S. G., and D. E. Bailey**
 1997 "What makes teams work: Group effectiveness research from the shop floor to the executive suite." *Journal of Management*, 23: 239–290.
- Edmondson, A. C.**
 1999 "Psychological safety and learning behavior in work teams." *Administrative Science Quarterly*, 44: 350–383.
- Edmondson, A. C., R. M. Bohmer, and G. P. Pisano**
 2001 "Disrupted routines: Team learning and new technology implementation in hospitals." *Administrative Science Quarterly*, 46: 685–716.
- Eisenhardt, K. M.**
 1989a "Building theories from case-study research." *Academy of Management Review*, 14: 532–550.
 1989b "Making fast decisions in high velocity environments." *Academy of Management Journal*, 32: 543–576.
- Gersick, C. J. G.**
 1988 "Time and transition in work teams: Toward a model of group development." *Academy of Management Journal*, 31: 9–41.
 1989 "Marking time: Predictable transitions in task groups." *Academy of Management Journal*, 32: 274–309.
- Gersick, C. J. G., and M. L. Davis-Sacks**
 1990 "Summary: Task forces." In J. R. Hackman (ed.), *Groups That Work (and Those That Don't): Creating Teams for Effective Teamwork*: 146–154. San Francisco: Jossey-Bass.
- Ginnett, R. C.**
 1993 "Crews as groups: Their formation and their leadership." In E. L. Wiener, B. G. Kanki, and R. L. Helmreich (eds.), *Cockpit Resource Management*: 71–98. Orlando, FL: Academic Press.
- Gladstein, D. G.**
 1984 "Groups in context: A model of task group effectiveness." *Administrative Science Quarterly*, 29: 499–517.
- Goodman, P. S., B. S. Lawrence, D. G. Ancona, and M. L. Tushman**
 2001 "Introduction to the special topic forum on time and organizational research." *Academy of Management Review*, 26: 507–511.
- Hackman, J. R.**
 1987 "Design of work teams." In J. W. Lorsch (ed.), *Handbook of Organizational Behavior*: 315–342. Englewood Cliffs, NJ: Prentice-Hall.
 1990 "Creating more effective work groups in organizations." In J. R. Hackman (ed.), *Groups That Work (and Those That Don't): Creating Teams for Effective Teamwork*: 479–504. San Francisco: Jossey-Bass.
 2002 *Leading Teams: Setting the Stage for Great Performances*. Boston: Harvard Business School Press.
- Jehn, K. A., and E. A. Mannix**
 2001 "The dynamic nature of conflict: A longitudinal study of intragroup conflict and group performance." *Academy of Management Journal*, 44: 238–251.
- Keller, R. T.**
 2001 "Cross-functional project groups in research and new product development: Diversity, communications, job stress and outcomes." *Academy of Management Journal*, 44: 547–556.
- Kessler, E. H., and A. K. Chakrabarti**
 1996 "Innovation speed: A conceptual model of context, antecedents, and outcomes." *Academy of Management Review*, 21: 1143–1191.
- Klimoski, R. J., and L. B. Zukin**
 1999 "Selection and staffing for team effectiveness." In E. Sundstrom and Associates (eds.), *Supporting Work Team Effectiveness*: 63–94. San Francisco: Jossey-Bass.
- Koslowski, S. W. J., S. M. Gully, E. R. Nason, and E. M. Smith**
 1999 "Developing adaptive teams: A theory of compilation and performance across levels and time." In D. R. Ilgen and E. D. Pulakos (eds.), *The Changing Nature of Work Performance: Implications for Staffing, Personnel Actions, and Development*: 240–292. San Francisco: Jossey-Bass.
- Lim, S. G. S., and J. K. Murnighan**
 1994 "Phases, deadlines, and the bargaining process." *Organizational Behavior and Human Decision Processes*, 58: 153–171.
- Locke, E. A., and G. P. Latham**
 1990 *A Theory of Goal Setting and Task Performance*. Englewood Cliffs, NJ: Prentice-Hall.
- Marks, M. A., J. E. Mathieu, and S. J. Zaccaro**
 2001 "A temporally based framework and taxonomy of team processes." *Academy of Management Review*, 26: 343–360.
- McGrath, J. E.**
 1986 "Studying groups at work: Ten critical needs for theory and practice." In P. S. Goodman (ed.), *Designing Effective Work Groups*: 362–392. San Francisco: Jossey-Bass.
- Miles, M. B., and M. A. Huberman**
 1984 *Qualitative Data Analysis*. Thousand Oaks, CA: Sage.
- Okhuysen, G. A., and M. J. Waller**
 2002 "Focusing on midpoint transitions: An analysis of boundary conditions." *Academy of Management Journal*, 45: 1056–1065.
- Seers, A., and S. Woodruff**
 1997 "Temporal pacing in task forces: Group development or deadline pressure?" *Journal of Management*, 23: 169–187.

Early Team Events

- Sheremata, W. A.**
2000 "Centrifugal and centripetal forces in radical new product development under time pressure." *Academy of Management Review*, 25: 389–408.
- Smith, C., and D. Comer**
1994 "Self-organization in small groups: A study of group effectiveness with non-equilibrium conditions." *Human Relations*, 47: 553–582.
- Stevens, M. J., and M. A. Campion**
1994 "The knowledge, skill, and ability requirements for teamwork: Implications for human resource management." *Journal of Management*, 20: 503–530.
- Strauss, A. L., and J. M. Corbin**
1992 *Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory*. Newbury Park, CA: Sage.
- Tuckman, B. W.**
1965 "Developmental sequences in small groups." *Psychological Bulletin*, 63: 384–399.
- Tuckman, B. W., and M. Jensen**
1977 "Stages of small group development." *Group and Organizational Studies*, 2: 419–427.
- Van de Ven, A. H.**
1992 "Suggestions for studying strategy process: A research note." *Strategic Management Journal*, 13: 169–191.
- Verona, G.**
1999 "A resource based view of product development." *Academy of Management Review*, 24: 132–142.
- Waller, M. J.**
1999 "The timing of adaptive group responses to non-routine events." *Academy of Management Journal*, 42: 127–137.
- Waller, M. J., J. M. Conte, C. B. Gibson, and M. A. Carpenter**
2001 "The effect of individual perceptions of deadlines on team performance." *Academy of Management Review*, 26: 586–600.
- Wheelan, S. A.**
1994 *Group Processes: A Developmental Perspective*. Sydney: Allyn and Bacon.
- Yin, R. K.**
1994 *Case Study Research: Design and Methods*. Thousand Oaks, CA: Sage.