

TEAM PROCESSES THAT MATTER MOST TO TEAM PERFORMANCE IN GLOBAL, CROSS-FUNCTIONAL PRODUCT DEVELOPMENT TEAMS

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We study global, cross-functional, product development teams to identify the team actions and strategies that matter most for team performance. Our multi-method research reveals that “team emotional intelligence (Team EI),” is more strongly associated with high team performance than more traditionally studied team actions and strategies (e.g., clear roles, clear goals). Overall, the study identifies four categories of behaviors that differentiate high performing from average performing teams. These include: Team EI norms, External Support, Team Fundamentals, and Team Social Capital (an outcome of Team EI norms). Study results provide a practical framework that enables team coaches and team leaders to develop average performing teams into top performers.

Keywords: team process, team performance, emotional intelligence.

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INTRODUCTION

Pressure, compressed deadlines, conflict, and unpredictable change are normal challenges faced by work teams in today's organizations. Teams are often staffed with members who are skilled technically and scientifically, but many teams are not composed of team members who are skilled at managing the stress and interpersonal challenges common in teams today. In this study, we sought to identify the actions and strategies adopted by top-performing teams who seem to do it all well, despite their challenges.

As researchers, we know that perceptions about why some teams are more effective than others are not reliable. In our own work in organizations, we find that one common perception is that the highest performing teams are simply populated with the most competent and experienced team members. This common assumption presumes that team troubles are the fault of specific team member knowledge and skill (Thompson, 2004).

Experienced team members greatly contribute to a team's effectiveness, but research on this topic has long revealed an even more potent driver of team performance: productive team-level strategies and actions (Campion, Papper & Medsker, 1996). Thus, in this study, we begin with the premise that team-level strategies and actions matter to team performance. Thus, we set out to identify exactly which strategies and actions matter most to the performance of global, cross-functional, product development teams.

Team Effectiveness

Team effectiveness is a well-studied topic. A recent search of the word "teams" in the *Business Source Corporate* database yielded 58,126 citations. Yet, this only partially represents the amount of research and interest in the topic of team building and effectiveness. Team-based work in Fortune 1000 companies has increased from 20% in the 1989's to over 80% today (Hollenbeck, Beersma & Schouten, 2012). Moreover, interest in this topic has been growing in the last decade. As such, in this study, we were not interested in identifying the basic needs of the teams we were studying (global, cross-functional, product development teams). Many researchers have already done that work. Instead, we asked two research questions:

Research Question 1: What are the actions and strategies that differentiate average performing global, cross-functional, product development teams from those that are top performers.

Research Question 2: What is the relative impact of team emotional intelligence on the performance of these teams. Is it more or less important than other, more well-known, factors in differentiating the average performing from top performing teams in our sample (e.g., clear goals, roles, charters, etc.).

To answer our research questions, we started out by reviewing the empirical literature on factors that contribute to the performance of work groups and teams. Among others, our literature review included work by Hackman (1987), Katzenback & Smith (1993), and Kozlowski & Ilgen (2006); we also examined some of the early writings on teams by researchers such as Luft (1984) and Bennis and Shepard (1956). Our goal in this literature was to identify team actions and strategies that were repeatedly found to have a positive influence on team performance. In addition, we added a construct we developed over a decade ago: Team Emotional Intelligence (see Druskat and Wolff, 2001). As mentioned in Research Question #2, we were interested in the relative impact of Team Emotional Intelligence on team performance, when compared to other constructs. The factors included in the study include the following:

- Goals and Planning (including alignment and managing change)
- Roles and Responsibilities (including defining roles, responsibilities and expectations).
- Processes and Procedures (including performance measurement and evaluation, decision-making, meeting management and productivity, problem resolution and escalation).
- Leadership (coaching, direction-setting, and stakeholder management).
- Team Member Skills (including work and teamwork competencies).
- Relationships (communications, managing diversity, team synergy, rewards, recognition, and motivation).
- Team Emotional Intelligence
- Team Social Capital (including emergent states such as: group efficacy, open and honest communication, trust, safety, cooperation).
- External Environment (senior management sponsorship and engagement, performance measurement and evaluation, decision-making).

What is Team Emotional Intelligence?

Emotion is unavoidable and pervasive in teams because every human interaction creates emotion (Kemper, 2000) and the basic building blocks of work teams are interactions. Emotion is at the heart of the differences and conflicts that can pull team members apart and at the cohesion that engages members and can bring them together. Given the prevalence of emotion in team environments, it is surprising that so little theory and research have examined how emotion is best regulated or managed in teams (George, 2002). Our research has sought to fill this gap. We define team emotion management as the actions a team uses to build positive emotion and also to respond to emotional challenges or threats, e.g., conflict, competition, external threats. Just as effective individual emotion regulation is associated with the quality of an individual's social interactions (Lopes, Salovey, Côté, Beers, & Petty, 2005), effective team emotion management is associated with the quality of team member interactions; the more effective a team's emotion management, the more constructive are team member interactions (Huy, 1999; Holmer, 1994).

Teams who do not manage emotion well run into a number of serious performance problems. Research suggests that such teams tend to avoid "emotionally hot" topics, do not fully engage reality, communicate guardedly, and are less effective during times of stress and change (Huy, 1999; Holmer, 1994). They are also more likely to suffer from what Steiner (1972) referred to as "process losses," which were the result of "irrational bends in direction" (Steiner, 1972, p.9). According to Anderson (2007), emotion is a signaling device that provides valuable information about member needs and goals; thus, avoiding emotion rather than managing it, creates missed opportunities for improving team member interactions or engaging motivation.

We developed the concept of Team Emotional Intelligence (Team EI) (see Druskat and Wolff, 2001) because of the absence of useful conceptual frameworks for helping teams learn to manage emotion. Team EI is defined as: A team culture created by a set of norms and expectations that build a productive social and emotional environment (e.g., trust) that leads to constructive interactions, collaborative work processes, and team effectiveness. Team EI is composed of team norms and expectations focused on nine emotionally laden issues in teams, including: Interpersonal understanding, caring behavior, addressing counterproductive behavior, team self-evaluation, creating resources for working with emotion, creating an affirmative environment, proactive problem-solving, organizational awareness, and building external relationships. Team EI theory proposes that these nine norms lead to the development of team social capital (defined as team efficacy, team trust, and team identity), which leads to higher levels of team performance.

Our early research supports our theory. The present study set out to examine how Team EI norms compare, on a relative basis, to other factors commonly linked to team performance.

METHODOLOGY

A group of team and organizational development experts both internal and external to a Global Fortune 100 company planned and carried out a study designed to identify the specific strategies and actions that differentiate average performing from high performing cross-functional product development teams. The study was carried out in two stages. Stage 1 involved collecting quantitative (survey) data. Stage 2 involved collecting qualitative (interview) data; its purpose was to test the reliability of the findings in Stage 1, to search for new information not tested through the survey, and to deepen our understanding of the behaviors and strategies differentiating high performing from average performing teams.

Stage 1: Survey Development and Administration

Our goal was to identify the factors that most strongly linked to performance in this environment. We started with the list of factors identified through our literature review. We next convened a panel of experts, both internal and external to the organization to help us develop survey items to measure each factor. When possible we used already validated items from previous research. A survey was created and pilot tested. Items were revised to improve clarity and relevance. The final survey contained 63 items.

The survey was administered to the 527 members of 51 global cross-functional product development teams. The average team leader tenure on the team was 17 months and the average team member tenure on the team was 21 months. We required an 80% team member response rate for a team to be included in the study. All teams met this requirement.

Team performance was measured by an 8-item survey administered to senior managers. Sample items include: achievement of critical milestones, performance against other teams, and quality of the team's work. Because Senior Managers were extremely busy, we had trouble getting replies for all 51 teams. In the end, we received performance data for 33 teams. Also, some Senior Managers would only agree to categorize their teams as either "top" or "not top" performing. So, again, in the end, we analyzed team performance as a binary variable. All 33 teams were categorized as either "top performing" (i.e., top 25% of our sample) or "not top performing." Thus, for Stage 1

of the study, we compared team survey results to team performance using non-parametric Kendall's tau correlations between survey questions and team performance.

Stage 2: Critical Incident Interviews

We also conducted critical incident interviews with 57 team leaders and members (90 - 120 minutes). We interviewed three people from each of 19 teams to get a clear picture of the actions and strategies in each. Teams interviewed were selected through nomination from three sources: 1) senior managers, 2) the Director of Team Development, and 3) team leaders familiar with a large number of teams. Teams nominated as "top performing" by all three sources were coded as "top performing teams." Teams nominated as average performers were randomly selected to inclusion in the study. Interviewers were blind to the performance category of all teams. The interview sample and the survey sample had some overlap, but most of the teams interviewed, did not participate in the survey research.

The interviews were recorded and transcribed. Content analyses of the interviews combined with our literature review led to the identification of 60 codes. A codebook with definitions and examples was created. Two coders who were blind to the purpose of the study were hired and trained on a sample of transcripts until they achieved a 70% inter-rater reliability. The coders then divided the remaining transcripts and coded them individually.

For each code an independent-samples t-test was performed to determine if there were mean differences in the application of codes applied to the top performing versus the average performing teams.

DATA ANALYSES AND RESULTS

Analyses of the survey data are based on the 33 teams for whom we had both survey and performance data. We started by dropping all survey items if: 1) they were not at least close to being significantly correlated with team performance and 2) if they did not show up as relevant to performance in our interview analysis. For example, we did not drop items focused on leadership behavior because our interview analysis demonstrated a link between leader behavior and team performance.

An exploratory factor analysis with the remaining 26 items resulted in three factors groups (see Table 1). These were labeled: 1) team emotional intelligence (15 questions), 2) external support (5 questions), and 3) team fundamentals (7 questions). For

conceptual reasons, one item was moved out of the “team emotional intelligence” factor and into the “team fundamentals” factor because it related to the development and support of team goals. A second and third item, was moved from the external support factor into the “team emotional intelligence factor,” because, of the conceptual fit of these items with team emotional intelligence. Table 1 shows the results of the factor analysis including final items in each of the three factors.

Insert Table 1 about here.

We next analyzed the interview data. We were looking for corroboration of the survey data as well as drivers of performance that were not identified by the survey. Additionally, we used the interview data to create insights into the survey results and to help refine those results. We obtained the frequency with which each code was applied to each team. For each code, an independent-samples t-test was performed to determine if there was a significant difference in the mean frequency with which it was mentioned in the high-performing versus average-performing teams.

The interview codes corroborated the three factors identified by the survey data. The interview data also revealed that team leadership was an important factor that was not identified by the survey data. When we returned to the survey data to examine the leadership items, we found that they had not shown significant differences between high and average performing teams, because both groups scored high on leadership. We therefore concluded that team leadership was relevant to the functioning of all teams. This was the only factor studied that showed this pattern.

We now had support from both the survey and interview data for the relevance of three clusters of team behaviors. For conceptual reasons, we broke the team emotional intelligence (Team EI) cluster into two factors. Team EI theory (Druskat & Wolf, 2001) proposes that team emotional intelligence leads to social capital (defined as an emergent state of team efficacy, trust, and team identity). We therefore divided the Team EI factor into two factors – one focused on Team EI and the second on social capital (Table 2 shows these as Factors 1a and 1b). The end result was a four-factor model including: Team EI, External Support, Social Capital, and Team Fundamentals. Table 2 shows the four factors and the correlation of each factor to team performance. It should be noted that the team emotional intelligence factor (Factor 1a) has the highest correlation to team performance.

DISCUSSION

Research Question #1

This study was designed to answer two research questions. The first question asked about the actions and strategies that differentiate average performing from top performing global, cross-functional, product development teams. We measured a great number actions and strategies traditionally found to be important to team effectiveness. Four categories of actions and strategies emerged as significantly differentiating the top performing teams: Team EI, Team Social Capital, External Support, and Team Fundamentals.

The Team Fundamental factor focused on goal clarity and alignment, balancing strategic with operational tasks, managing ambiguity, and timely decision-making. This was perhaps the most traditional of the factors. Of the four factors, this one had the second weakest correlation with performance. Nevertheless, it was a strong correlation and demonstrated that, without a doubt, these “fundamental” behaviors matter to team performance.

The External Support factor focused on support received from senior or group management outside of the team. Top performing teams reported that external leaders empowered them, recognized their hard work, and supported them with clear direction, and timely decisions. However, it is important to note a related finding from our interview analysis. It turns out that top performing teams more often proactively reach out for support from senior managers. An interview code that focused on reaching outside of the team’s boundary for external leader support was coded twice in the average performing team sample and 28 times in the sample of top performing teams. Of course, we can’t rule out the idea that teams receiving more support from external leaders also reach out for support more often.

The Team EI factor included items pulled directly from our already validated Team EI Survey (Wolff, 2006). The items emerging as related to performance in this study focused on six of the nine norms in the model. These six included: Interpersonal understanding, addressing counterproductive behavior, creating an affirmative environment, proactive problem-solving, organizational awareness, and building external relationships. This finding supports the relevance of Team EI norms to the performance of the teams in our study.

We labeled the 4th factor that emerged as related to team performance, Team Social Capital. This factor is a set of emergent team properties (Marks, Mathieu, & Zaccaro, 2001), that is, rather than specific actions, strategies, or behaviors, they are expressions of relational and emotional outcomes that emerge from team actions, strategies and behaviors. Our Team EI theory (Druskat & Wolf, 2001) argues that Team Social Capital emerges from Team EI norms. The Team Social Capital factor included items focused on team trust, safety, honesty, cooperation, and a sense of team pride and efficacy.

Research Question #2

Our second research question asked about the relative importance of Team EI in its relationship to team performance. When we compare our Team EI Factor to the other factors, it is clear that Team EI is more strongly associated with team performance than the others. This suggests that Team EI norms are of great importance to team performance in global, cross-functional, product development teams. More specifically, our study reveals that top performing teams were significantly more likely to display Team EI norms than average performing teams. It stands to reason that average-performing teams would benefit from developing Team EI norms. We propose that if average performing teams develop Team EI norms, they will also benefit from the development of Team Social Capital. It should be noted, however, that Team EI norms were only slightly more associated with top team performance than External Support and Team Fundamentals. We should not underestimate the relevance of fundamental actions such as creating clear and aligned goals, tolerance of ambiguity, and a balance between a strategic and operational focus.

LIMITATIONS & IMPLICATIONS FOR RESEARCH AND PRACTICE

This study provides a model of the specific actions and strategies that can improve teamwork in 21st century teams that are global, cross-functional, and focused on meeting deliverables. Our findings provide a road map for coaches and team leaders to follow as they work with teams to improve their synergy and performance.

Although our study was conducted with a very specific type of teams, these findings are likely generalizable to cross-functional teams in other contexts. Future research should examine this question. It should also take a closer look at the influence of senior managers on team performance. Our study suggests that relationships between a team and senior management matter a great deal to performance. Delineating exactly how such a relationship develops and how it can be better developed would likely provide even greater insight into the development of top performing teams.

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Table 1:
Exploratory Factor Analysis with Items Significantly Related to Performance

Item	Factor Loading		
	1	2	3
1. All members of this team understand and support our team goals.	0.44		0.33
2. We seek input, when appropriate, from those who will be involved in implementing a decision before finalizing the decision.	0.43		0.25
3. We act decisively to address challenges.	0.48		0.45
4. When we can't resolve a conflict, our team elevates it to the appropriate level in the organization.	0.46		
5. We let team members know if their actions are considered unacceptable.	0.53		
6. There is a high level of trust among team members.	0.88		
7. It is safe to take a risk on our team.	0.76		
8. Team members cooperate with each other.	0.92		
9. We have a great deal of confidence in our team.	0.66		0.27
10. There is a strong sense of pride about being part of this team.	0.59		0.21
11. We make an effort to understand one another's attitudes and views.	0.90		
12. Team members communicate openly and honestly.	0.92		
13. When we encounter an obstacle we quickly move past the non-productive discussion to finding ways of overcoming it.	0.61		
14. In our team, we are optimistic about our ability to deal with challenges.	0.59		
15. We understand the concerns and needs of decision makers outside our team.	0.21	0.37	0.20
16. Our team has clear direction from our sponsors.	-0.21	0.69	0.31
17. Management (defined as senior or group managers outside the team) is involved with our team in a supportive way.		0.83	
18. Decisions made outside our team that affect our project are made in a timely and effective manner.		0.75	
19. Management (defined as senior or group managers outside the team) acknowledges our team achievements.		0.82	
20. Management (defined as senior or group managers outside the team) empowers our team to accomplish our goals with minimal controls.	0.21	0.74	
21. Our team effectively balances strategy with operational tasks.			0.70
22. Team goals are aligned with functional and business goals.			0.63
23. We remain productive when faced with ambiguity.	0.27		0.61
24. We take time to clearly define the content/scope of tasks and their timelines.			0.71
25. Our team makes decisions in a timely manner.	0.39		0.47
26. Our team finds new ways to do things better and/or faster.			0.63

Table 2
Correlation of Factors to Performance

Factor	Theme	Example Item	Corr.	Sig. Level
1a	Team EI	We make an effort to understand one another's attitudes and views.	$r = .403$	$p = .006$
1b	Team Social Capital	There is a high level of trust among team members.	$r = .341$	$p = .025$
2	External Support	Management (defined as senior or group managers outside the team) is involved with our team in a supportive way.	$r = .374$	$p = .011$
3	Team Fundamentals	All members of this team understand and support our team goals	$r = .369$	$p = .012$