

18 When teams fail in organizations: what creates teamwork breakdowns?

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Days before Hurricane Katrina hit the Gulf Coast, the National Hurricane Center issued warnings of the projected devastation of life and property. Ultimately, the warnings did nothing to prevent the ultimate failure to adequately prepare for and respond to the storm by local, state and federal agencies. Hurricane Katrina was not the largest hurricane to strike the USA, nor was it the first time that a hurricane of this magnitude reached the Gulf Coast. Despite this, reports of communication failures, breakdowns in leadership, poor decision making and a lack of situational awareness suggest the response to one of the USA's largest natural disasters was also one of the largest breakdowns of teamwork compounding the devastation of the Gulf Coast (CBS News, 2006; McClatchy Washington Bureau, 2005). The emergency response to Hurricane Katrina is a poignant example of how even expert teams with needed resources and expertise available at the tip of their fingers can fail. The question then arises, what creates teamwork breakdowns? Insights afforded by a century of team theory and empirical research suggest 'chemistry' is undoubtedly a critical building block of successful teams. It is the 'chemistry' that exists between team members, their leaders and their organizational environment that can tip the scales from success to failure.

It has long been understood that when teams gel, they are capable of accomplishments that no individual could hope to achieve. But what does it take to get the 'chemistry' within the team correct? Conversely, what factors can set off a chain reaction that ultimately leads to the derailment of effective team performance? And why are some teams able to rebound from setbacks to ultimately succeed, while other teams cannot? The answers to these important questions can be found in the science of team performance. This chapter uses the science of team performance to identify five broad factors that can derail teams. Team derailment occurs when a highly effective team experiences significant declines in performance (Milanovich et al., 2000). In this chapter, we seek to answer how (1) coordination mechanisms, (2) cooperation mechanisms, (3) communication, (4) team leadership, and (5) organizational characteristics contribute to team derailment. Further, we intend to draw out the critical characteristics of effective teams (see Table 18.1) based on lessons learned from decades of team research to assist practitioners unleash the synergies that teams are capable of. It is argued that failing to proactively manage each of these five elements, stakeholders may inadvertently diminish team performance outcomes, regardless of whether those outcomes are lives saved or organizational profit.

The nature of teams and team performance

Teams are complex entities, comprising two or more individuals, who interact socially, dynamically, episodically and adaptively (e.g. Kozlowski and Bell, 2003; Salas et al., 1992; Salas et al., 2004b). Team members often have distributed roles, share common goals, have

Table 18.1 Characteristics

Components of team effectiveness

Coordination

Cooperation

Communication

Organizational characteristics

Team leadership

complementary competencies regardless of its level, create (Kiggundu, 1983) and motivational behavior, performance teams become more effective tasks and teamwork processes are shaped by the context embedded. Taken together, these variables into team outcomes teamwork.

Teamwork is a set of interrelated coordinated, adaptive behaviors at the team level (e.g. backup behavior, decision making, dynamic coordination) has been proposed over the years (Fleishman and Zaccaro, 1991; 1996; Salas et al., 2005). Research shows that team performance and effectiveness are often disrupted.

Team effectiveness is an outcome of team processes and objectives. Although team processes lead to consistently effective performance on its tasks (e.g. input, process)

Table 18.1 Characteristics of highly effective teams

Components of team effectiveness		Characteristics of highly effective teams
Coordination	<ul style="list-style-type: none"> Self-correct by admitting to and learning from mistakes Develop and maintain shared mental models Adapt to change Manage conflict within the team Develop mutual trust and psychological safety within the team Ensure team members are team-oriented Manage information so there is neither too little nor too much information available to the team Solicit feedback in order to develop and revise team goals and strategies Implement performance management systems that encourage cooperation by discouraging social loafing 	
Communication	<ul style="list-style-type: none"> Have a clear and common purpose Communicate information needed to perform Effectively span boundaries with outside stakeholders Ensure teams possess the right mix of competencies 	
Team leadership	<ul style="list-style-type: none"> Encourage cooperation by discouraging social loafing Have a clear and common purpose Communicate information needed to perform Effectively span boundaries with outside stakeholders Ensure teams possess the right mix of competencies 	
Organizational characteristics	<ul style="list-style-type: none"> Implement performance management systems that encourage cooperation by discouraging social loafing Have a clear and common purpose Communicate information needed to perform Effectively span boundaries with outside stakeholders Ensure teams possess the right mix of competencies 	

complementary competencies, and are highly interdependent. This interdependence, regardless of its level, creates a sense of responsibility for other team members' behaviors (Kiggundu, 1983) and motivates teammates to engage in teamwork behaviors (e.g., compensatory behavior, performance monitoring; McIntyre and Salas, 1995). Over time, teams become more effective as members become proficient in their individual roles, team tasks and teamwork processes (Morgan et al., 1986). In addition, teams and their success are shaped by the organizational/environmental context within which they are embedded. Taken together, the transformation of these various inputs and contextual variables into team outcomes (i.e. team performance, team effectiveness) occurs through teamwork.

Teamwork is a set of interrelated thoughts, actions and attitudes that combine to facilitate coordinated, adaptive performance (Salas et al., 2004a) and can have an individual-level (e.g. backup behavior, peer leadership) or team-level referent (e.g. coordination, decision making, dynamic allocation of resources). A number of teamwork models have been proposed over the years (e.g. Campion et al., 1993; Stevens and Campion, 1994; Fleishman and Zaccaro, 1992; Hackman and Morris, 1975; Marks et al., 2000; Roby, 1968; Salas et al., 2005). Regardless of the teamwork model chosen, teamwork is said to lead to both team performance and effectiveness. Although team performance and effectiveness are often discussed interchangeably, we offer some clarification here.

Team effectiveness is an overall assessment of team success or failure in meeting its objectives. Although team effectiveness is important, it is team performance that often leads to consistently effective teams. Team performance describes how the team executes its tasks (e.g. input, processes). Thus, a high-performing team may encounter setbacks but

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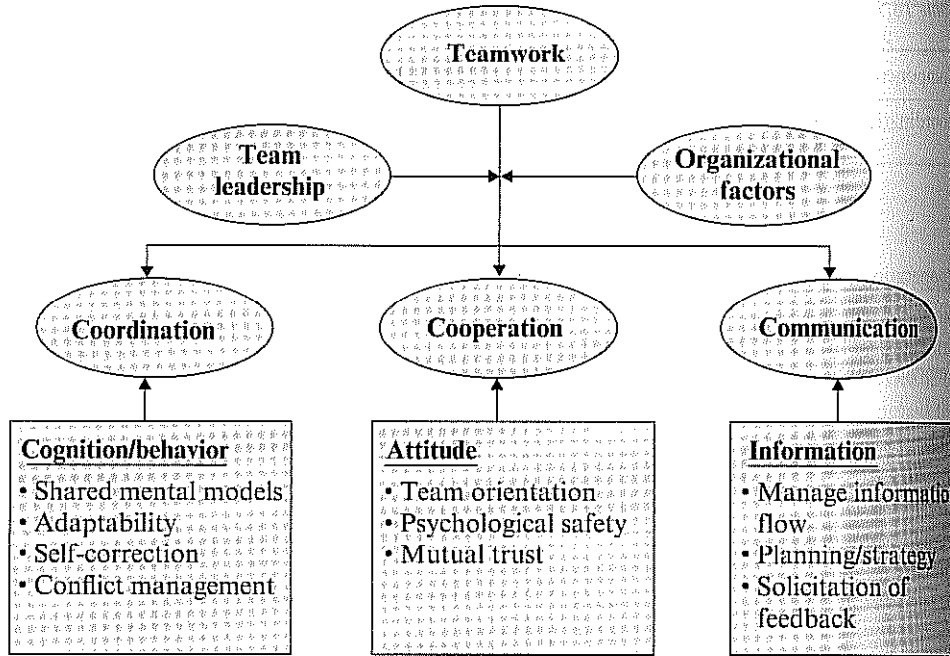


Figure 18.1 Factors influencing teamwork

will typically engage in appropriate attitudes, behaviors and cognitions (i.e. team performance) that will help the team recover from setbacks and reach its goals (i.e. team effectiveness). However, as most team members will report, teamwork is neither easy nor assured. For the sake of practicality and parsimony, the ‘blanket terms’ of cooperation, coordination and communication will be used as an organizing framework for discussing a number of factors that contribute to, comprise, flow from, and impinge upon effective team performance.

In this chapter, we sample variables from each of these three broad categories and discuss how they may lead to team derailment (see Figure 18.1). In addition, organizational characteristics and team leadership are discussed as potential failure points for teams. These factors are important to consider in relation to cooperation, coordination and communication because they have the potential to impact the degree to which teams successfully engage in the team processes and drive the success or failure of teams. For each of these five categories, we provide a brief summary and then advance selected examples of issues that can obstruct team success.

What causes teams to derail?

Over the years, many frameworks, checklists and guidelines have been offered to ensure team success. Despite this, many teams continue to fail. It may be that practitioners are unsure about how to apply team research to real-life teams to address real-life challenges. In the following pages, we use the science of team performance to clarify how managers, executives or practitioners can apply this knowledge to their own workplace.

How can poor coordination lead to team failure? Coordination is the life-blood of team behavioral and cognitive mechanisms. Coordination can also be described in terms of individual KSAs – knowledge, skills and abilities (Gladstein, 1984; Mathieu et al., 1998) that assist them in maintaining and adapting to the changing environment. Teams must coordinate and engage in the necessary coordination processes as well as expected.

As described in the introduction, teams must coordinate and respond to Hurricane Katrina. For instance, many teams were unable to coordinate effort. For instance, many teams were unable to adapt the initial hurricane response systems to coordinate effort. For instance, many teams were unable to adapt the initial hurricane response systems to coordinate effort. For instance, many teams were unable to adapt the initial hurricane response systems to coordinate effort.

... neglect to learn from their previous team task, small errors, despite the fact that, however, between teams that do not learn, they minimize the smaller, unnoted errors (e.g. Perrow, 1984; Weick, 1988). Teams may be able to prevent errors and learn from them (a learning orientation) (West, 1998; Tjosvold et al., 1997).

A learning orientation ‘refers to the organization’s response to changes in the environment’ (West, 1999: 412) when a mismatch between the organization and the environment occurs (Schon, 1978). In the team process, questioning the norms that govern the team’s different approaches to task completion is a key team objective. While criticizing does not just happen (It is often initiated through the attitudes, communication and management).

... are unable to develop and/or maintain a learning orientation when a team of individual team members is operating in a changing environment (e.g. West, 1998). As a result, team members must have a deep understanding of their environment.

How can poor coordination lead to team derailment?

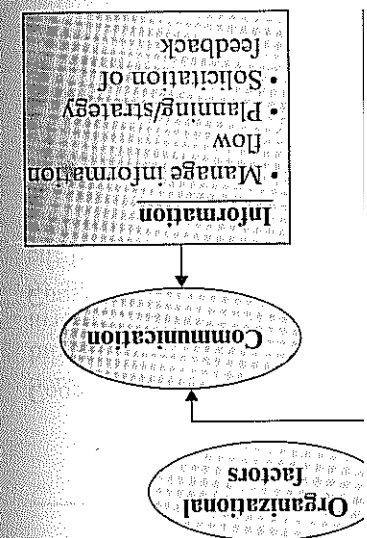
Coordination is the life-blood of effective teams. Coordination is the compilation of behavioral and cognitive mechanisms, including task strategies, needed to perform a task. Coordination can also be described as team processes that transform team resources (e.g., individual KSAs – knowledge, skills and abilities) into outcomes (Brannick et al., 1995; Gladstein, 1984; Mathieu et al., 2000). Teams must be able to engage in team processes that assist them in maintaining shared awareness and adapting to each other's needs and the changing environment. Unfortunately, many teams are unable to effectively interact and engage in the necessary coordination mechanisms, and as a result do not perform as well as expected.

As described in the introduction of this chapter, the local, state and federal agencies responding to Hurricane Katrina appear to have failed largely due to their inability to coordinate. For instance, many of the delays in providing timely assistance and resources were due to the White House not appointing a clear hierarchy of responsibility or reporting systems to coordinate efforts in the affected areas. This further led local officials to be unable to adapt the initial hurricane response plans or secure the needed assistance when levees broke, flooding portions of New Orleans, and when hurricane victims began arriving at the Superdome. Finally, officials were harshly criticized for not learning from the lessons of the terrorist attacks on September 11th (McClatchy Washington Bureau, 2005). Thus teams are mostly likely to fail when they . . .

neglect to learn from their mistakes (i.e. self-correct). In the execution of any plan or team task, small errors, deviations or mistakes are likely to occur. The difference, however, between teams that succeed from those that fail may lie in their ability to minimize the smaller, unnoticed and preventable errors that often lead to larger team failure (e.g. Perrow, 1984; Reason, 1997; Weick and Sutcliffe, 2001). One way that teams may be able to prevent or minimize these smaller errors in the future is to identify and learn from them (as opposed to hiding or covering up the event) (Carter and West, 1998; Tjosvold et al., 2004; West, 1996). This approach to errors aligns with a learning orientation. A learning orientation 'reflects the value a firm places not only on promptly responding to changes in the environment but on constantly challenging the assumptions that frame the organization's relationship with the environment' (Baker and Sinkula, 1999: 412) when a mismatch between expectations and outcomes is observed (Argyris and Schon, 1978). In the team setting, a learning orientation supports members in questioning the norms that exist in the team. In addition, learning-oriented teams try different approaches to task completion to uncover better ways to accomplish the team objectives. While critical to the success of the team, this orientation for learning does not just happen (Baker and Sinkula, 1999). It must be cultivated over time through the attitudes, commitments and processes that are enacted by team members, leaders and management.

are unable to develop and/or maintain a shared mental model (SMM). It can be chaotic when a team of individuals is interdependently engaging in complex tasks in ever-changing environments (e.g. operating rooms, fire rescue teams, SWAT teams). As a result, team members must be able to 'stay on the same page' and have a similar understanding of their environment, team goals, individual team member tasks, and

their own workplace. It may be that practitioners are able to address real-life challenges, but have been offered to ensure success or failure of teams. For impact the degree to which teams can to cooperate, coordination as potential failure points for re 18.1). In addition, organization to changes in the environment but on constantly challenging the assumptions that frame the organization's relationship with the environment' (Baker and Sinkula, 1999: 412) when a mismatch between expectations and outcomes is observed (Argyris and Schon, 1978). In the team setting, a learning orientation supports members in questioning the norms that exist in the team. In addition, learning-oriented teams try different approaches to task completion to uncover better ways to accomplish the team objectives. While critical to the success of the team, this orientation for learning does not just happen (Baker and Sinkula, 1999). It must be cultivated over time through the attitudes, commitments and processes that are enacted by team members, leaders and management.



how the team will coordinate to achieve common goals (Cannon-Bowers et al., 1995). Failure to create these shared understandings (i.e. SMM) is likely to lead to team derailment. Thankfully, when teams encounter situations or environments that limit their ability to overtly communicate to coordinate or develop a shared understanding of their environment (i.e. situational awareness), they are not necessarily condemned to failure. Instead, they must rely on other team processes that allow them to work around these communication difficulties, especially in stressful environments where teams rely on SMMs in order to coordinate and adapt (e.g. Campbell and Kuncel, 2001; Cooke et al., 2000; Hinsz et al., 1997; Orasanu, 1990).

An example of the need for SMMs under adverse conditions may be envisioned in the military setting. While team members are on a reconnaissance mission, communication is limited to the bare minimum. A team member may request his 'binos' and the man behind him will instinctively know that he is expected to retrieve binoculars from the requestor's backpack and tap the requestor's back as if to say 'Ready!' once the binoculars have been retrieved. Meanwhile the requestor will maintain watch for the enemy and protect the two of them (Vesterman, 2006). It is only through these types of common understandings of the environment and performance expectations that teams can overcome the hurdles of reduced communication and an ever-changing environment. It is only through communication and continued interaction that teams may create and update their shared understanding to perform the needed teamwork skills (e.g. back-up behavior, mutual performance monitoring) required for effective team performance (e.g. Salas et al., 2005).

... do not adapt to change. Prior to performing, teams may develop strategies and contingency plans based on prior experiences or expectations to guide the team towards its objectives. However, things do not always go as planned, whether due to the complexity of the task, the environment in which the team is embedded, or the interdependencies which exist between the team members. As a result, the teams must recognize deviations and adjust procedures and predictions as well as individual roles (i.e. one team member's role may become more critical) when new information is presented (Burke et al., 2006; Priest et al., 2002; Smith et al., 1997). In fact, the military teaches its forces to be both leaders and followers in order to adapt to situations as they arise, with the awareness that team success must be put in front of personal egos.

In order to adapt, teams must have a deep understanding of the team, the team task and environment, and what team effectiveness looks like (Salas et al., 2006). If this understanding is lacking, the team may not be able to identify when current strategies are no longer appropriate, develop new strategies, or determine how team mates might need to adjust or the assistance that they might need to perform. Obviously, failing to fully understand the team and its task for the sake of adaptation is a recipe for team failure.

... fail to manage conflict within the team. Conflict within a team is not always bad (De Dreu and Van de Vliert, 1997; Pondy, 1967). Not only does it depend on the type of conflict (e.g. task versus relationship); it matters how the conflict is managed within the team. Relationship conflict involves interpersonal animosities between individuals and produces tensions that destroy cooperation and communication, and distract from team tasks (Hackman and Morris, 1975; Jehn, 1997). Conversely, task conflicts improve team performance by ensuring that all information and alternatives are

considered and reducing group conflict completely could result in team disintegration and communication breakdown (Jehn, 1997). However, because team conflict is inevitable, teams must actively manage it and provide constructive feedback to prevent the ultimate derailment of the team.

How can poor cooperation lead to team failure?

Even when team members have the affective desire or motivation to cooperate, teams that do not have the affective desire or motivation to cooperate may be formally dictated by the organization. Informally developed and members' shared perceptual norms (Anderson and West, 1998) and coordination mechanisms (e.g. protocols) are enacted.

The importance of cooperation is emphasized under adverse conditions. NASA has begun to reinforce teamwork because teams that cooperate too well that cooperation has become a liability (NASA now implements activities that challenge team members) but also situations for which teamwork is required (e.g. NASA Extreme Environment Operations team tasks and events that occur under adverse conditions, teams may derail).

... do not trust each other or lack communication.

(e.g. communication, information sharing, product quality) occur. Team members will perform actions that violate each others' rights and interests if they do not trust each other. In the military, protecting, checking and insuring team members (Sawaf and Sawaf, 1996). In addition, team members are willing to share accurate information if they are likely to make the individual team more effective. When teams are spending time engaging in important team tasks, they are likely to share information, they are likely to share information through the actions of the team members through frequent, honest communication (Jehn, 1997; Sekhar and Anjaiah, 1997). Team behavior (Clutterbuck and I

considered and reducing groupthink (West and Anderson, 1996). Thus suppressing conflict completely could reduce creativity, innovation, performance, quality of decisions and communication between a group's members (De Dreu and Van de Vliert, 1997). However, because there is a tenuous line between productive and destructive conflict, teams must actively manage how team members communicate with each other and provide constructive feedback to ensure disagreement does not lead to the ultimate derailment of the team.

How can poor cooperation lead to team derailment?

Even when team members have the cognitions and strategies needed to perform as a team, teams that do not have the affective desire or motivation to do so are likely to derail. This affective desire or motivation to perform as a team is often placed under the umbrella term 'cooperation'. Cooperation may be generated by climates, norms and expectations that are formally dictated by the organization or informally developed within the team by its members. Informally developed climates are due to frequent team member interactions and members' shared perceptions of both the organizational environment and team norms (Anderson and West, 1998). The climate within a team is likely to impact the team coordination mechanisms (e.g. adaptability, self-correction) that are expected, rewarded and enacted.

The importance of cooperation becomes most clear when teams must perform in adverse conditions. National Aeronautics and Space Administration (NASA), which has begun to reinforce teamwork behaviors and attitudes that support effective teams, knows all too well that cooperation holds a space exploration crew together. For this reason, NASA now implements activities that not only replicate technical skills (e.g. flight simulations) but also situations for which team members must learn affective teamwork skills (e.g. NASA Extreme Environment Mission Operations). Keeping in mind that different team tasks and events that occur during team performance may require varying levels of coordination, teams may derail if they . . .

... do not trust each other or lose trust in each other. To ensure important team processes (e.g. communication, information sharing and cooperation) and outcomes (e.g. cycle times, product quality) occur, team members must have a shared perception that team members will perform actions (i.e. tasks, processes) important to the team and protect each others' rights and interests (Bandow, 2001; Webber, 2002). That is, team members must trust each other. In the absence of trust, team members may spend valuable time protecting, checking and inspecting each other to assess their trustworthiness (Cooper and Sawaf, 1996). In addition, team members that do not trust each other are less willing to share accurate information with each other, especially if the information is likely to make the individual more vulnerable (e.g. admitting to errors or lack of expertise). When teams are spending time on non-task activities, are uncomfortable with engaging in important team processes (e.g. performance monitoring), and unwilling to share information, they are likely to be derailed. Within-team trust can be cultivated through the actions of the team leader. Research suggests that leaders can facilitate trust through frequent, honest communication (e.g. McAllister, 1995; Roberts and O'Reilly, 1974; Sekhar and Anjiah, 1995; Treadway et al., 2004) and fairness/consistency of behavior (Chatterback and Hirst, 2002).

(Cannon-Bowers et al., 1995). SMM) is likely to lead to team situations or environments that limit or develop a shared understanding they are not necessarily condemned processes that allow them to work in stressful environments where adapt (e.g. Campbell and Kuncel, 1990). conditions may be envisioned in reconnaissance mission, communication may request his 'bins' and is expected to retrieve binoculars or's back as if to say 'Ready? once the requestor will maintain watch members. Informally developed climates are due to frequent team member interactions and members' shared perceptions of both the organizational environment and team norms (Anderson and West, 1998). The climate within a team is likely to impact the team coordination mechanisms (e.g. adaptability, self-correction) that are expected, rewarded and enacted. interaction and continued interaction understanding to perform the needed performance monitoring) required for may develop strategies and conditions to guide the team towards planned, whether due to the team is embedded, or the interdependence. As a result, the teams must predictions as well as individual roles (ical) when new information is presented (et al., 1997). In fact, the military in order to adapt to situations as st be put in front of personal ego: understanding of the team, the team looks like (Salas et al., 2006). If be able to identify when current strategies, or determine how team that they might need to perform. its task for the sake of adaptation within a team is not always bad (De only does it depend on the type of how the conflict is managed within mutual animosities between individuals and communication, and distract (n, 1997). Conversely, task conflicts information and alternatives are

- ... *do not have a team orientation.* Not everyone wants to or likes to work in teams. For this reason, team members should be chosen who not only have a preference for working with others (i.e. collective orientation) but also seek out opportunities to coordinate, evaluate and utilize the input from other team members to improve team performance (i.e. team orientation; Driskell and Salas, 1992) and share mutual responsibility for team outcomes (Avery et al., 2001). Team orientation serves to improve both individual task performance (Shamir, 1990; Wagner, 1995) and overall team performance (e.g. better decision making) (Driskell and Salas, 1992). For this reason, practitioners should compose teams with team-oriented individuals. However, because it may be difficult to accurately identify those with a team orientation or unfeasible in existing teams, methods to motivate team members (e.g. reward systems, goal setting, performance appraisals) to engage in team-oriented behaviors should be established.
- ... *do not develop a sense of psychological safety.* In order to be effective, team members must feel secure in sharing information and providing feedback even when that means disagreeing with the group, admitting to personal ineptitude, and overcoming any fear of reprisal (Lee, 1997; Michael, 1976). Without this sense of security (i.e. psychological safety), teams are unlikely to be able to respond to, learn from or prevent errors from occurring until the team has already failed or achieved a less-than-stellar outcome (Edmondson, 1999). Teams with psychological safety also tend to value problem solving, focus on mutual responsibility for error resolution, and have an openness to feedback (Argyris and Schon, 1978, 1996; Baer and Frese, 2003; Edmondson, 1999). These teams are also less likely to fall victim to groupthink, which occurs when team members do not question the actions or decisions of team members for the sake of conformity or avoidance of conflict within the team (Janis, 1972). Groupthink has been credited for such team failures as the Bay of Pigs Invasion, the Challenger disaster, and even the decision to go to war in Iraq. For instance, the US Senate Intelligence Committee's Report indicated that when the Intelligence Community (e.g. analysts, collectors, managers) was presented with ambiguous evidence of Iraq's threat (e.g. existence of weapons of mass destruction programs), groupthink lead them to ignore or minimize evidence to the contrary (Select Committee on Intelligence, United States Senate, 2006). Thus, many well-known world crises may have been avoided if psychological safety had been developed within the team.

How can poor communication lead to team derailment?

As work becomes progressively complex and information-based, breakdowns and/or delays in communication can lead to team derailment. Communication is invaluable in teams not only because it transfers needed information to those who must make decisions and perform team tasks, but also because it facilitates teams in maintaining up-to-date SMMs (Salas et al., 2005). For instance, in the medical community communication has been identified as the cause of more than 15 percent of all medical errors (Andrews et al., 1997). In one case, a lack of effective communication between a doctor, an X-ray technician and an attendant in which a shared understanding of the patient's ailments could have been developed meant that poor decisions were made that may have led to the patient's ultimate demise (Howatt, 2003). As the situations that teams encounter become more stressful and the environments more complex, communication becomes even more vital to

maintain the team's SMM and thus surgical teams frequently handle complexity are a common factor. The

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A number of solutions ha problems (e.g. providing a Lanzetta and Roby, 1956). teams continues to grow ex nication modes, and multi-t to be provided with the res tion that is used by and g effective communication, te

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The three factors previously di (tion) are internal to the team. F dysfunction. In fact, a team th still fail (or be less effective) if team is not provided enough d

maintain the team's SMM and their ability to adapt. Again, in the medical setting in which surgical teams frequently handle trauma patients and other emergencies, stress and complexity are a common factor. Thus, teams are likely to derail when team members . . .

do not manage information effectively. A balance of enough information at the right time provided to the right team member is one of the greatest difficulties of communication within a team (Roby, 1968). It is often hard for team members to predict what information is needed, who needs it and when it should be provided (Lanzetta and Roby, 1956). As has been stated throughout this chapter, teams that lack needed information or are unable to access it are likely to fail because they will be unable to make good decisions or know how best to execute their tasks. Conversely, too much communication may also be a detri-er because it can overwhelm a team member (i.e., cognitive overload) and reduce his/her ability to manage task responsibilities in stressful situations (Johnston and Briggs, 1968). Thus, not only may team performance suffer when teams do not have access to needed information, but teams may also derail if members are unable to effectively manage the information for their own purposes or provide information to others when it is needed.

A number of solutions have been offered over the years to alleviate communication problems (e.g., providing access to all information to all members at all times; Lanzetta and Roby, 1956). However, the amount of information available to most teams continues to grow exponentially with the advent of more technology, communication modes, and multi-team systems. Organizations must realize that teams need to be provided with the resources (e.g., training, equipment) to manage the information that is used by and generated from their team tasks. Without frequent and effective communication, teams are fated to fall short of their objectives.

fail to plan/strategize or solicit feedback, ideas and observations from teammates. A benefit of teams is the access they provide to a wide range of experiences and knowledge. When these are not tapped (i.e., soliciting feedback and ideas), the benefit is lost. These experiences and knowledge can be used to develop more thorough strategies and contingency plans based on the challenges that are likely to occur while performing the team task. Ultimately, strategizing not only leads to better team performance, but also better SMMs and more communication within the team (Stout et al., 1999).

As the team executes its task, team members will observe different aspects of the task execution and may have varying perspectives on how the team performed. Oftentimes, by seeking out this information and soliciting feedback, the team is able to use information about past performance and challenges to strategize for even better performance in the future, thereby potentially inoculating the team from future derailment. The key is that even successful teams hit bumps in the proverbial road; successful teams are those that acknowledged, learned from, and adjusted to the feedback that they received from within (and outside) the team.

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leadership). The importance of these external factors for the ultimate success of a team, and in the case of Motorola, the ultimate turn-around of the entire organization should not be ignored.

In 2003, Motorola had lost its competitive edge in the telephony marketplace. Through the support of organizational leaders, a renegade team with strong leadership and the necessary players was established. This team was given unlimited resources, isolated to minimize distractions, and allowed the freedom to go against organizational norms to design what was thought to be impossible. It is with this organizational support that the Razzr phone emerged to ultimately sell almost as many new phones as Microsoft sold iPods in 2004. In fact, in 2006 Motorola's Razzr phone is expected to outsell Microsoft's iPod. The Razzr team has since been rewarded with stock options, but more importantly has been given public recognition for its hard work and ingenuity (Lashinsky, 2006). In the following section, we discuss factors external to the team. Specifically, we focus on organizational characteristics and team leadership.

How can organizational characteristics lead to team derailment?

Teams are often implemented as an organizational solution without considering whether the organizational culture is supportive of them. To promote teamwork the organization must encourage common objectives, shared values, mutual trust, frequent and honest communication, empowerment and learning (Castka et al., 2001; Salas et al., 2004a). Unfortunately, organizational policies and procedures are often established that do not promote team-based work but rather focus on individual performance. In addition, teams are hailed as an approach for managing uncertain and ambiguous situations. While we agree teams are typically better at adapting to changing environments, not all teams will succeed in these environments. For this reason, the organizational environment must be considered as a potential cause of team failure (e.g. Gladstein, 1984). Teams are likely to fail when the organization . . .

. . . *uses individual rather than team-based reward systems.* One key to team effectiveness is team members' willingness to put aside personal goals to cooperatively work towards team objectives. Although impacted by personal preferences (e.g. team orientation) and cultural differences (see Hofstede, 2004 regarding individualistic/collectivistic), organizations set the tone for cooperative work environments through their performance management and reward systems (e.g. Hackman, 1983; Lawler, 1981; Pritchard et al., 1988; Steiner, 1972). For this reason, performance management systems that promote individual accountability over team accountability should be replaced with measures of performance that assess team outcomes and provide constructive feedback regarding both team processes and individual performance (Zairi, 1994). By doing this, the organization sends a clear message that it expects teamwork and cooperation from its employees and team members will become more concerned with the success of the team. Failure to measure and reward team performance will result in teams that are less motivated to perform team tasks and team performance will be negatively affected.

. . . *does not manage the environmental uncertainty in which the team is embedded.* Many teams experience environmental uncertainty on a regular basis (e.g. urban combat, fire rescue, cardiac surgery). This environmental uncertainty may be caused by

frequent and unexpected changing information needed for the team (i.e. expectations cause of the environment hinder team performance or impaired decision making or engage in other team tasks).

In general, uncertainty rather are inherent in the team task and team process. Teams should provide teams support to better manage the uncertainty, and increase the probability of success by providing information and clarity, thus reducing the uncertainty.

if the team task is too complex. If the team task is too complex, teams are of limited effectiveness. The difficulty of a team task, a characteristic of the team (Gladstein, 1984; O'Brien, 1979; Steiner, 1972). If the task is too complex, the opportunity to identify and ultimately define the task is intertwined or interdependent. The entire team's performance is affected as communication, performance behaviors, error correction, and motivation are increasingly important to team performance. Team specialization cannot always limit team size; however, allow flexibility in team size to allow members to adjust as needed when necessary.

does not discourage social loafing. Social loafing is more than the sum of the parts. In team-based settings act individually-based settings. Social loafing has been referred to as the tendency for social loafing is that less effort will be put forth by team members. Social loafing will compensate for a team's performance. Social loafing continually underperforms, team performance within the team may become less effective. Social loafing contributions (Jackson and Leary, 1985). Social loafing is another factor that affects team performance.

Social loafing is likely to occur within the team output (e.g. team performance).

Frequent and unexpected changes in the environment, the team not regularly receiving information needed for performance, or the lack of clarity in what is expected of the team (i.e. expectations are not set, needed tasks are uncertain). Regardless of the cause of the environmental uncertainty, these environments are stressful and can hinder team performance (e.g. tradeoffs in the speed and accuracy of task performance or impaired decision making) by impairing a team member's ability to coordinate or engage in other teamwork activities (Salas et al., 2004a).

In general, uncertain environments cannot be altered by the organization but rather are inherent in the task that the team performs. In these cases, organizations should provide teams support by ensuring that the individual/team characteristics, team task and team processes are as effective as possible. Teams will thereby be able to better manage the uncertainty in their environment, reduce their chances of derailment, and increase the probability they will be able to recover from any performance setbacks they may encounter. In cases in which the uncertainty is caused by lack of information and clarity, the organization and team leaders should take steps to rectify the uncertainty.

Due to the diversity of KSAs and adaptability that teams offer, teams are often assigned to very complex tasks. The complexity and difficulty of a team task, as well as how the work is structured, can impact the success of the team (Gladsstein, 1984; Goodman, 1986; McGrath, 1984; Kabanoff and O'Brien, 1979; Steiner, 1972). This may be because as the team task becomes increasingly complex, the opportunities for errors are likely to increase, become more intertwined or interdependent, the impact of one member's lapse can disrupt the entire team's performance. In these situations, team coordination mechanisms such as communication, performance monitoring, back-up behaviors (i.e. compensatory behaviors), error correction, and development of shared mental models become increasingly important to catch and adjust when errors occur. Obviously, the organization cannot always limit the complexity of team tasks. The organization can, however, allow flexibility in how the task roles are assigned and encourage team members to adjust as needed and provide assistance (or take over teammates' roles) when necessary.

Another advantage of teams is that they can produce more than the sum of their individual parts. Sometimes, however, individuals working in team-based settings actually expend less (or withhold) effort than they would in an individually-based setting (Chapman and Aronson, 1993; Robbins, 2000). This behavior has been referred to as social loafing or the free-riding effect. One outcome of social loafing is that less overall work may be performed. In some cases, teammates will compensate for a team member who is free-riding (Kerr and Bruun, 1983) such that team performance does not decrease. Not surprisingly, when a team member continually underperforms, thereby requiring others to perform extra tasks, the climate within the team may become toxic as team members become suspicious of each other's contributions (Jackson and Hartins, 1985). This climate within the team due to social loafing is another factor that may lead to team derailment.

Social loafing is likely to occur when individual performance is not identifiable within the team output (e.g. Latane et al., 1979; Karau and Williams, 1993). Although

the ultimate success of a team, if the entire organization should

elephony marketplace. Through strong leadership and the needed resources, isolated to minimize organizational norms to design organizational support that the Razones as Microsoft sold iPods in to outsell Microsoft's iPod. The but more importantly has been (Lashinsky, 2006). In the following, we focus on organiza-

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us. One key to team effectiveness is to cooperate work personal preferences (e.g. team orientation regarding individualistic/collective work environments through (Lawler, 1983; Hackman, 1983). Team performance management should be team accountability should be team outcomes and provide constructive individual performance (Zajonc, 1980) message that it expects teamwork. Members will become more concerned with reward team performance and team tasks and team performance. Many researches have shown that uncertainty may be caused by

we have argued that performance appraisals and reward systems should focus on the team, this does not negate the need to also measure individual performance. Likewise, team members who are personally committed to the team and/or the team task are less likely to free-ride (Ratzburg, 2006). Taken together, the organization must take steps (e.g. implement appropriate performance appraisal systems, select members who are team-oriented, and match employees to tasks and teams that they are personally committed to) to reduce the occurrence of social loafing to provide teams the support needed to succeed.

How can team leadership lead to team derailment?

A significant contributor to the failure of a team is a lack of direction and a clear understanding of purpose and goals (Katzenbach and Smith, 1993; Stewart and Manz, 1995). Team leaders set the tone for team performance by articulating clear and motivating visions, creating supportive climates that promote effective team processes and behaviors (e.g. advanced planning, communication), and engaging in social problem solving that encourages coordination and adaptation (Salas et al., 2004a). Further, team leaders are responsible for ensuring the team has access to the needed resources (e.g. training, equipment) to achieve these goals. In these ways, team leaders impact team performance through many processes (e.g. cognitive, motivational, affective) and may be the most important element in creating a cooperative work environment (Salas et al., 2004a). In some cases leadership is not static but rather shared and transferred to others within the team in order to take advantage of the strengths and expertise of those within it. Regardless of whether team leadership is held by an individual or shared within the team, teams are likely to fail if team leaders . . .

- . . . *fail to communicate expectations for individual and team performance.* All too often, teams are expected to know, understand and execute a plan to meet team objectives without ever being informed of their team objectives, what the constraints/parameters are related to achieving those goals, or the expectations for how or when those goals are to be met (Adair, 1986; Scholtes et al., 1996). Without this direction, the team may not have a shared understanding of the goals. The impact of this is that team members may work incongruently or towards goals that are different from the organization's or leader's expectations. As a result, team leaders are critical in 'setting the tone in the organization and determining the kinds of behaviors that are expected and supported' (Baer and Frese, 2003: 52). Team leaders must clearly and regularly discuss (or facilitate the discussion of) team goals, individual member roles and expectations at the outset of the team task as well as throughout the progression of the task.
- . . . *do not share information that is important to the team and the team's task.* In addition to setting expectations for team performance, team leaders must share and disseminate knowledge throughout the team to promote effective decision making based on the best available information. Often times, the team leader has sole access to information from each of the team members and other sources both within and outside the organization. In this situation, the team leader is responsible not only for pooling the information to develop plans and evaluate the consequences of team decisions, but also for ensuring the information is distributed to team members as needed. This is a problem with some team leaders, who withhold information to increase their

position of power or in organizing communication flow is slow to distribute information may *do not span organizational boundaries* and teams and departments can (Brett and Rognes, 1986; Katz, 1984; Likert, 1967; Mintzberg, 1986). All entities within the organization must be aligned in order to succeed (Kur, 1996; Oakland, 1996). Maintaining this alignment is the 'process by which team leaders act as a gatekeeper of information for the team' (Ancona and Caldwell, 1992). For shared situational awareness to be effective, communication flows up and down the hierarchy.

An example of the need for communication between other teams or departments is when a team cannot complete its tasks if it does not have the necessary resources or information of low quality. Another example is when team members from different teams and departments. In such situations, conflicting priorities may arise. It is clear that when a team is responsible for providing materials), its effectiveness is dependent on the ability of the team leader to coordinate and manage the relationship between the team and other teams. A team leader boundary spanning role involves initiating discussions among team members and ensuring communication flows up and down the hierarchy. *do not provide effective feedback* is a common problem that commonly relates to performance. A team leader's ability to provide team self-correction (i.e. feedback) is critical (Adair and Salas, 1995). Development of a team leader's ability is important to team functioning but is often neglected. A team leader is meeting stated objectives and providing feedback. A team leader's approach to the team task is critical. A team leader's approach that suggests that without feedback, teams will be unsure whether they are meeting the team goals.

Situational updates are critical to team functioning. A team leader boundary spanner has a role in ensuring that how the team strategy may change. Thus, when team leaders fail to provide feedback or regarding changes in the team's strategy, teams are unable to adjust when necessary. A team leader's ability to *select team members that are effective* is critical. Successful teams must have

position of power or in organizations that encourage hierarchical patterns in which communication flow is slow and hindered. This failure to communicate or effectively distribute information may have drastic effects on team performance.

do not span organizational and team boundaries. The relationships that exist between teams and departments can also influence the adaptability and effectiveness of a team (Brett and Rogness, 1986; Katz and Kahn, 1978; Kotter, 1982; Levinson and Rosenthal, 1984; Likert, 1967; Mintzberg, 1973; Zaccaro, 2001). This is because alignment among all entities within the organization is important for effective organizational functioning (Kur, 1996; Oakland, 1993; Imai, 1986; Senge, 1990). The role of a team leader in maintaining this alignment is referred to as boundary spanning. Boundary spanning is the process by which teams manage their interactions with other parts of the organization (Ancona and Caldwell, 1990: 25). Therefore, the team leader acts as a gatekeeper of information for the team (Katz and Tushman, 1983), which serves as a basis for shared situational awareness (Cannon-Bowers et al., 1995).

An example of the need for boundary spanning might be a team that depends on other teams or departments for information or products. This team may be unable to complete its tasks if it does not receive the needed resources or the products are of low quality. Another example might be if collaborative relations do not exist between teams and departments. In this case, resources may not be shared or expectations and conflicting priorities may not be communicated. In all these situations it becomes clear that when a team is not provided the needed resources (e.g. time, information, materials), its effectiveness will decline (Senge et al., 1999). Thus, it is the responsibility of the team leader to ensure collaborative and cooperative relationships exist between the team and other departments. A suggestion for how to facilitate team leader boundary spanning is creating a network of like-minded contacts and facilitating discussions among team members, suppliers and other stakeholders to ensure communication flows up and down stream.

do not provide effective feedback or situational updates. Feedback in the team literature commonly relates to performance monitoring (i.e. advice for avoiding mistakes) or team self-correction (i.e. after-action reviews) (Cannon-Bowers et al., 1995; McIntyre and Salas, 1995). Developmental feedback from team leaders, however, is also important to team functioning because it provides information regarding how well the team is meeting stated objectives. Teams are then able to use this information to adjust their approach to the team task to ensure success. This is related to the goal-setting literature that suggests that without feedback regarding performance, individuals and/or teams will be unsure whether the goals are being met and similarly unable to adjust to meet the team goals.

Situational updates are also important to the team because they provide information regarding the environment in which the team is performing. The team leader as a boundary spanner has greater access to information regarding the environment and how the team strategy may need to adjust in order to maintain high performance. Thus, when team leaders fail to provide teams feedback regarding their performance or regarding changes in the environment, the team is likely to be caught off guard and unable to adjust when needed, thereby leading to team derailment.

select team members that lack task specific and interpersonal KSAs. In order to be successful, teams must have an appropriate mix of task-specific (e.g. using a piece of

rd systems should focus on the individual performance. Likewise, team and/or the team task are ter, the organization must take raisal systems, select members cs and teams that they are per- al loading to provide teams the

of direction and a clear under- (1993; Stewart and Manz, 1995). ticalating clear and motivating /e team processes and behaviors f in social problem solving that (04a). Further, team leaders are d resources (e.g. training, equip- ders impact team performance ffective) and may be the most oment (Salas et al., 2004a). In ransferred to others within the d expertise of those within it, idual or shared within the team,

eam performance. All too often, e a plan to meet team objectives , what the constraints/parameters ons for how or when those goals hout this direction, the team may pact of this is that team members fferent from the organizations or critical in setting the tone in the ; that are expected and supported, ly and regularly discuss (or failli- ber roles and expectations at the ogression of the task.

n and the team's task. In addition leaders must share and dissemi- ffective decision making based on m leader has sole access to info- sources both within and outside s responsible not only for pooling consequences of team decisions, to team members as needed. This old information to increase their

equipment, interpreting reports; statistical skills) (e.g. Gersick, 1988; Morgan et al., 1986; Kozlowski et al., 1996) and interpersonal skills (e.g. Bradley et al., 2003; Druskat and Kayes, 2000; McIntyre and Salas, 1995). However, Colvin (2006) warns that leaders cannot select all-star team members and then sit back and wait for these teams to bring home a win. The members must be the *right* members. Cited in Colvin's article (2006), Mercer Delta's chief, David Nadler, reports that some of the worst teams are those composed entirely of 'potential CEOs'. This seems contrary to conventional wisdom regarding teams but is illustrated not only in the failure of the 2004 US Olympics basketball team composed of NBA stars, but also in the successful design of the first light bulb in 1879 by a machinist, a clockmaker, a glassblower, a mathematician and Thomas Edison (Colvin, 2006).

This potential derailment can be addressed by avoiding skills gaps within a team (e.g. Church, 1993; Katzenback and Smith, 1993; Oakland, 1993). Special attention should be paid when establishing a new team such that each team member should bring a unique set of KSAs and experiences that are needed to meet team objectives. In cases where a team is already formed or membership cannot be changed, it is important to ensure team members are provided training to address the task specific and/or interpersonal skill gaps.

Conclusion

This chapter has reviewed five broad categories of factors (i.e. coordination, cooperation, communication, organizational characteristics and team leadership) that impact the effectiveness and performance of a team. It has been argued in this chapter that by failing to manage any of these five elements, teams may not achieve their proposed levels of performance. For each of the five general factors, we provided some answers as to how they may lead to team derailment and some suggestions that practitioners can use to address these challenges. Further, it is important to emphasize that teams may encounter obstacles that may lead to performance decrements. It is through the proper support of teams within the organization and by their leaders, and engagement in collaboration, cooperation and communication that teams will be able to overcome these challenges and avoid derailment. Although it is not possible to review all of the potential factors that may act as obstacles to team performance, it is hoped that this chapter presents a starting point for practitioners to assess why their teams may not be performing optimally and how to get their teams back on track.

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19 Collective wisdom structures as imp

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Interest in team-level informatic and several theoretical models has a consensus model of team learning treatments of the subject appear individual learning. For example thinking about team learning veridicate their actions with each other affect the team system whether or learning. Similarly, Hinsz et al. (of sharing information, ideas and Christensen (1993) noted that he team is a uniquely group-level pl

Interestingly, in outlining the conceptualizations draw upon similarities and differences between team-level learning is qualitatively suggest that these models are the team level. Rather, a true team cognitive and affective *intrapersonal* social *interpersonal* factors that in their empirical examination of within, but also between the mi

In this chapter, we argue that processing capacity (Hinsz et al. motivation and coordination localized by this type of interpersonal demonstrate, these problems may especially failure experiences – not develop wisdom based on experience of teams is much more difficult fronting teams in learning contexts argue that any organization that issues if the goal is to develop to

A pyramid model of learning

Drawing upon cognitive models whether performed by individual