The **Hard Truth** About Soft Skills

Discovering the Common Denominator in High-Stakes Environments

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On Dec. 29, 1972, Eastern Airlines Flight 401 crashed into the Florida Everglades, killing 99 of the 163 crew members and passengers on board. The aircraft, a 4-month-old Lockheed Tristar L-1011, had taken off from John F. Kennedy Airport in New York and was en route to Miami International.

Just prior to landing in Miami, the flight crew asked for permission to hold and deal with a malfunctioning landing gear position light. The aircraft initially was 2,000 feet above the ground. During the next few minutes, the crew—distracted by the light malfunction—allowed the aircraft to descend and crash into the Everglades.

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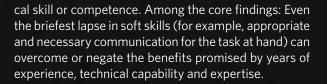
This type of incident, although tragic, is not unique or new to aviation. Many similar such accidents still occur, especially in areas requiring a high level and degree of team or crew coordination and communication.

Overall, the safety record of U.S. air carriers is outstanding, due to factors such as improved and more reliable aircraft, navigation systems and more accurate weather forecasting. According to National Transportation Safety Board aviation accident statistics, there has been only one crash of a U.S. air carrier with fatalities in the period 2007 to the present.

However, avoidable crashes attributed to pilot error continue to happen. Of particular concern is the breakdown of communication and crew coordination in multicrew aircraft such as commercial airliners and large military aircraft. NASA was among the first agencies to address this ongoing concern in the 1970s. NASA's work revealed that the problem was driven, largely, by a lack of effective and appropriate "soft skills" versus a shortfall in technical skill or competence. Among the core findings: Even the briefest lapse in soft skills (for example, appropriate and necessary communication for the task at hand) can overcome or negate the benefits promised by years of experience, technical capability and expertise.

How can this be? To expand on a phrase from the movie "Cool Hand Luke," how can a simple "failure to communicate" result in such tremendous tragedy and loss of life? To paraphrase former Disney executive Lee Cockrell, the soft skills are the hard skills. That is to say, there are the "hard" (objective) technical skills, and then there is the ability to coordinate and implement those skills—and the latter requires soft skills. The implementation of these soft skills in aviation can be referred to as Crew Resource Management (CRM).

During the 1980s, the commercial airlines and military invested heavily in CRM training, aiming to increase crew coordination and improve cockpit management. These CRM training programs focused on human factors training—also called man-machine interfaces—with specific concentration on leadership and decision making.

CRM has evolved over the years with emphasis now placed on the acquisition of timely, appropriate information; and interpersonal activities including leadership, effective team formation and maintenance, problem solving, decision making, and maintaining situational awareness. One of the primary tenets of CRM is making it OK for anyone to say anything in a tactful and

productive manner. All crew members should feel empowered to speak up and be part of the decision-making process.

CRM also is applied in other areas where effective interpersonal communication and coordination are of paramount importance. The medical community has endorsed "CRM-like" training for settings such as intensive care units, emergency departments and surgical units where teamwork issues may affect outcomes. More recently, the oil and gas industry has initiated steps to introduce training in cognitive, human-factor skills. Similar to CRM, these skills involve conscious mental activities such as thinking, understanding, learning and remembering. Such skills may affect situational awareness and decision making.

The adoption of this CRM-type of training by the oil and gas industry resulted from accidents such as the BP Deepwater Horizon oil spill in the Gulf of Mexico in 2010. For example, Maersk Training offers customized CRM training for oil and gas exploration and well operations. Through classroom instruction and simulation, Maersk focuses on team communication during all operations. Similarly, in 2014, Scotland's University of Aberdeen developed a Well Operations CRM training syllabus for use with well-operations teams.

The use of CRM in high-risk areas such as aviation, medicine and the oil and gas industry comes as no surprise. However, the concept and practice of CRM can be applied in any area where the risks of poor performance are of significant consequence—such as an acquisition program office. The skills CRM focuses on are "soft skills" and all consistently are highlighted among the most important attributes for leaders in acquisition.

As far back as 2004, Dr. Owen Gadeken of the Defense Acquisition University (DAU) collected actual data from senior acquisition leaders during executive-level courses. Participants were asked to think of one or more leaders who influenced their leadership style, either positively or negatively. Out of 326 groups, with a combined total of 1,966 people, (http://www.dau.mil/publications/DefenseATL/DATLArchivecompletepdf/may-june04.pdf), good communication, clear vision and the ability to delegate or empower when appropriate were listed as the top three attributes by 224, 203 and 151 groups,

respectively. In two of the top three, the common thread of soft skills emerges. Still today, data from more recent and ongoing consulting efforts continue to support these findings. For example, during the DAU Mid-Atlantic Region's Mission Assistance efforts and team-effectiveness surveys, we consistently observe and report that effective communication, the need for a clear organizational vision and the lack of empowerment and trust are among the top areas requiring attention or significant improvement. This list entails both soft skills and desired end states resulting from the effective implementation of soft skills. Likewise, CRM is a means to an end—it is a tool that embodies and promotes the use of relevant soft skills.

So how might a program office implement a technique like CRM? For our purposes, let's refer to CRM as "Program Team" Resource Management. First, program leadership must commit to abide by the premises of CRM (e.g., open communication, situational awareness and empowerment to speak freely and candidly, all of which contribute to a clear vision).

One program manager (PM) recently shared with his acquisition team how, before every flight when he was a military aircraft commander, he would cross his arms over his chest and put his hands on his shoulders to cover his rank insignia. He assured the team members that if at any time any one of them became aware of an issue he or she perceived as having even the slightest possibility of impacting personnel safety or the success of the mission in any way, rank was not to be a consideration. Every crew member was completely free—and even had an obligation—to bring up any topic that person perceived to be of any potential consequence. The PM's point in sharing the story with his program team was just as clear: In order for an acquisition team to be effective, a vision must be established on common values. This empowers and motivates team members to speak up any time they perceive even the slightest threat to program success. Once this kind of commitment and trust is established within a team, more formalized training to improve the teams' soft skills and the subsequent implementation of the same may be appropriate.

So what type of formalized tools are available to help program offices implement "Program Team" Resource Management?

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They are numerous! At DAU, we often combine many of the more reputable and commercially available products with DAU Mission Assistance and consulting efforts (e.g., The Center for Applications of Psychological Type "Myers Briggs Type Indicator)"; Vital Smarts "Crucial Conversations", "Crucial Accountability" and "Influencer"; and Covey's "Seven Habits … " and "…Speed of Trust", to name a few). Additionally, Internet sites such as MindTools (https://www.mindtools.com), and CultureSync (http://www.culturesync.net) provide open-source resources. All of these tend to start with a focus on self-awareness to help us first recognize how each of us tends to contribute to the problems and issues affecting us, instead of starting by projecting our own faults onto others. Other tools focus on changing behaviors to obtain better results, manage conflict, promote critical thinking and instill trust. And this is only a partial list. Search the Internet or refer to the *DAU iCatalog* for a more detailed and complete listing of potential resources (http://icatalog.dau.mil/onlinecatalog/targeted_training.aspx).

As described, these training programs focus on different aspects of the soft skills such as self-awareness, effective communication, leading change and instilling trust. When properly presented and implemented, these tools can equip program teams to prevent programs from stalling or experiencing the programmatic equivalent of "controlled flight into terrain."

The following is an anecdotal example of how the need for soft skills frequently come into play and how their proper use can pay great dividends. At an Acquisition Program Transition Workshop (APTW), a program had just received Milestone B approval, made a subsequent contract award, and was pressing hard toward an Integrated Baseline Review. APTWs are an Under Secretary of Defense for Acquisition, Technology, and Logistics (USD[AT&L])/industry partnership initiative to facilitate an effective Milestone transition, typically in conjunction with a contract award. In this case, most of the attendees did not want to be there, but the USD(AT&L) had "highly encouraged" programs to consider holding APTWs. So there we were … . The PM also did not really see the need for an APTW and tried to pass it off to the deputy PM. Utilizing Crucial Conversations skills to establish "mutual purpose" and "mutual respect," the PM reviewed with the DAU Mid-Atlantic team what he really wanted to achieve as part of the APTW outcomes.

As a result, the teams that previously indicated they had "real work to do" and felt they didn't have time for such "soft-skill hokum," followed the PM's lead and saw fit to participate in our "waste-of-time" soft-skill drills. The next morning, after an afternoon of work accomplished from the previous day, the integrated product teams (IPTs) briefed out their answers to three simple questions intended to promote reflection and introspection. To their amazement, meaningful conversations emerged. Most, if not all, participants came to realize they were all, at least to some degree, fixated on issues that were "urgent" for their IPT but not so "important" to the program's overall success. The crucial moment came when each IPT had presented the importance of software (SW) to their team's success. And yet when the PM pointed out the individual responsible for overall integration of SW for the program, none of the other team members even knew the person existed; he or she hadn't been invited to meetings and there was virtually no coordination or correlation between the different IPTs. This event drove home just how important communication and the many other soft skills are to help programs succeed. DAU has experienced similar results in numerous deep dive, workshop and training events with teams.

In this scenario, a breakdown in safeguards and programmatic mitigation efforts aligned to create potential negative cost, schedule and performance impacts to the program. Knowledge and implementation of soft skills will not guarantee program success. Just as with CRM, effective "Program Team" Resource Management can keep leadership apprised of program challenges and issues and head off potential crises through timely communication and situational awareness. Additionally, the program team needs to be cognizant of some of the indirect ways programs can fail through any one or a combination of soft-skill voids.

Conclusion

As discussed previously, despite years of improvements in aircraft, aviation technology and weather forecasting, preventable aircraft accidents still occur. Certainly CRM has evolved and is used extensively across all facets of aviation and beyond. However, there is still room for improvement.

Even so, the tenets of CRM—or "Program Team" Resource Management, as we have coined it—can be applied to the complex management of today's acquisition programs. One of the fundamental aspects of the approach is the application of soft skills. Although there is no guarantee for success, mastery of the requisite soft skills associated with "Program Team" Resource Management can improve decision making through more effective communication, empowered teams and heightened situational awareness. It all starts with program leadership fostering an atmosphere of trust and openness to candid discussions without fear of retribution. As a result, the probability of a success-oriented culture is vastly improved.

When baseball legend Cal Ripken was asked about his amazing accomplishment of being in the starting lineup for 2,632 consecutive professional baseball games over more than 16 years, he indicated he didn't count on luck but gave himself a chance to be lucky by addressing all the risks that were within his span of control. This same mentality, including maximizing the effective use of "soft skills," is essential for an acquisition program to improve performance and enhance chances for a successful program.