OUTSIDE THE BOX

by Tom Field, University of Nebraska-Lincoln

Lessons from Apollo

"All you need is the plan, the road map and the courage to press on to your destination." — Earl Nightingale

Individuals, enterprises and societies have pursued exploration, discovery and wayfinding throughout the course of human history. These pursuits are framed by three necessary elements — vision, knowledge and navigation.

Remember the last time you lost your bearings or experienced a wave of dread when you realized your organization had entered unfamiliar territory? These experiences render us vulnerable, uncertain and fearful. Biographer David McCullough reminds us, "History is a guide to navigation in perilous times. History is who we are and why we are the way we are."

Gene Kranz is the retired NASA Flight Director from the Gemini and Apollo programs, and is best known for his role in directing the successful Mission Control team efforts to save the crew of Apollo 13. He also led his team's recovery from the disaster of Apollo 1 when a flash fire claimed the lives of three astronauts during a training exercise.

In the aftermath of the failure of Apollo 1, Kranz issued this challenge

to his team, "From this day forward, Flight Control will be known by two words: 'tough' and 'competent.' Tough means we are forever accountable for what we do or what we fail to do. We will never again compromise our responsibilities. Every time we walk into Mission Control, we will know what we stand for. Competent means we will never take anything for granted. We will never be found short in our knowledge and in our skills."

NASA went back to work to develop better systems, gain deeper

Data Driven — Decisions based solely on the data.		Data Informed — Data is one of several inputs in decision-making.	
Pros	Cons	Pros	Cons
Removes personal bias	Absolutely dependent on the quality and depth of data	More effective means to gauge the landscape	Loudest voice or highest seniority may have too much influence
Clarity of process	Very difficult to implement in environments susceptible to variability	Utilizes creativity and facilitates unconventional solutions in dynamic conditions	Personal bias may lead to selective use of the data to support preconceived idea
Identify trends to enable preventative action over the long term	Lose sight of the big picture	Anticipate trends when hard data is scarce	Paralysis by overthinking and too many voices
Facilitates faster decisions (when the data is available)	Dynamic systems are very difficult to quantify	Brings the full scope of experience, insight and capacity of the team to the problem	Difficult to implement in an environment of low trust and dysfunctional communication
Best used when the choice is an either/or situation with clear but limited metrics of success		Best used with the situation is complex with multifaceted measures of success	

Table 1: Data-driven v. data-informed decisions.

knowledge and establish better control critical variables to enable them to reach the vision — manned flight to the moon. Their experience is a great model to be adapted to our own times.

Technology has birthed the age of big data — a capacity to collect variables at unprecedented scale. But not all data has equal value. Nonactionable data is equivalent to the piles of junk in a hoarder's basement. Even in the analysis of good data, we must be careful to not confuse correlation with causation or to become so focused on one variable we miss the signals to change course or take preventative action arising from a deeper systems evaluation.

The great fallacy is we must turn to data-driven management decisions where the numbers drive every single decision in a void of virtue and common sense. Data-driven approaches are not flawless and, thus, require us to consider data-informed decision-making processes where not only the data but our team's creativity, insight, experience and unique perspectives are utilized in making choices. These two concepts are outlined in the table.

Successful organizations are able to effectively and intentionally integrate both approaches. In each approach the data matters, but Gene Kranz reminds us of a deeper and more powerful tool required for lasting success, "We had risen to probably one of the greatest challenges in history, put a man on the moon in a decade. We'd created incredible technologies. But what was most important, we'd created the teams, what I call the human factor. People who were energized by a mission."

Editor's note: Tom Field is a rancher from Parlin, Colo., and the director of the Engler Agribusiness Entrepreneurship Program at the University of Nebraska–Lincoln.

