

Helping Managers Make Better Decisions

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10/06/2020 Dr. Tanja Becker, an entrepreneur and airline pilot, applies aviation methods to business—to enhance safety and decision-making.

Dr. Becker, you are a long-range pilot and senior first officer on Airbus A340 jets, you've co-founded a business in Hamburg, and you have a four-year-old son and two-year-old daughter. Has the coronavirus pandemic hit you in three different ways—as an employee, a business owner, and a mother?

Dr. Tanja Becker: Indeed it has. I've had to face three different difficulties right from the start. For one thing, of course, there's looking after my children twenty-four hours a day. Then there's the sobering image of planes parked at so many airports in Germany alone. And finally, there's the vulnerability of a start-up that had begun to show very positive incoming orders and now has to deal with new challenges

resulting from the virus.

What are those challenges exactly? The company you founded works with lighting conditions in cabins to lessen the effects of jet lag from long-haul flights.

Becker: Similar to many self-employed people or restaurateurs, start-ups of course have not accumulated the liquidity to counter the very rapid effects of a sudden drop in sales. As you noted, we began by focusing on airlines and other companies in the travel industry. This sector was the first to be hit by the virus, and will be the last to recover. That means we had to pivot and focus on other clients and markets. The signs are slowly suggesting that we've taken quite a successful tack. One of the key factors for success as a start-up is the ability to rethink product development and strategy.

The pandemic is a global crisis. A crisis by definition is the most extreme point of a very dangerous situation. But it can also be the turning point—and a chance to find solutions. If the situation cannot be dealt with, the crisis can turn into a catastrophe. An example in aviation would be if a plane's engines fail and it starts going down over a densely populated area. How are pilots trained to prevent that type of outcome?

Becker: Training is crucial for handling that type of predicament. It prepares us in targeted ways for concrete situations, but it also helps us internalize approaches and procedures. You might have heard of the "aviate, navigate, communicate" principle, for example. In simple terms, the first thing to do is to keep the plane in the air. Then you want to work on its location and direction. Only then do we communicate with flight safety personnel or our colleagues in the cabin. Training not only polishes your skills but also raises your level of experience. This helps build up a pilot's ability to take action and make decisions intuitively in actual practice. That in turn frees up capacities to deal with additional problems. To put it simply: faced with an emergency situation, I as a pilot should have sufficient reserves to concentrate on the essentials and not become hectic in the process.

You've talked about the FORDEC method. "FOR" stands for the facts, options, and risks and benefits needed for analysis. "DEC" stands for the subsequent actions: decision, execution, and check. This method helps pilots make the right decisions when faced with stressful situations like emergency landings. Is the method only useful in cockpits, or could it also help medical directors at hospitals and board members at major corporations chart a course out of the danger zone in the midst of the coronavirus pandemic?

Becker: It might be slightly presumptuous to say the method can guide someone completely out of a danger zone. However, very complex situations can arise on a plane, which are definitely comparable to the pandemic and its effects on the operations of a hospital or large company. Decision-makers often find themselves faced with the typical dilemma of more than one option. And the FORDEC method helps select the option with the lowest impact …

… to avoid negative consequences or at least minimize them as much as possible?

Becker: That's the idea, yes. The FORDEC method uses a decision-making process based on operations research. The underlying scientific principles apply not only to the decision-making processes in aviation but also to other areas, including everyday life or wherever humans are involved. We often make our decisions on an ad hoc basis, or are influenced by our preferences and assumptions. We tend to use heuristic practices like trial and error. But precisely that type of practice is often subject to cognitive bias. That's because people are rarely able to objectively and comprehensively compile all the facts relevant to a given situation. FORDEC enables us to achieve this goal relatively quickly—without using complex decisional matrices like probabilities or the mathematical operators needed in prescriptive decision-making.

What role do a pilot's skill and experience play in this method?

Becker: FORDEC combines a streamlined prescriptive decision-making process with both experience and the proverbial gut feeling. That's important in aviation, but surely also in medicine and business. A descriptive approach will obviously make use of human experience. Pilots have to be aware of heuristic elements and cognitive biases. That's why training is so important for them. They have to school their powers of discernment, and be ready to use them immediately if called upon.

Let's take a more detailed look at FORDEC.

Becker: The "F" stands for "facts," and a key part of the method consists of analyzing the facts of a situation. This is based on comprehensive situational awareness. Which in turn is an essential part of a pilot's everyday work—including the ability to draw on past and present information as well as making a prognosis for the future. The available "options" in aviation might be various alternative airports or unscheduled landings. In other sectors, these might include investment decisions, treatment methods, or different processes or technical systems. The "risks and benefits" include evaluating the relevant options by means of defined criteria such as safety or operations. So the option of landing at an airport from which you couldn't take off again would not make much sense if you only had a minor technical problem. Moving on to the "decision" stage, this is where the choice is made by taking major considerations like safety into account. Decisions in periods of crisis should ensure that the core operations, or central processor, of an enterprise still function in order to ramp them up faster again when the time comes. After "executing" the requisite actions—here we're at the "E" in FORDEC—you then move on to the "check," which is a point that is often neglected. But it can be very important to evaluate your decisions, also with respect to any changes in the underlying conditions.

When pilots apply to training programs, psychological screening is part of the selection process. Do you think similar evaluations would be a good idea for top managers in business and industry?

Becker:I would definitely support that idea. That's the reason why many companies have their own comprehensive selection procedures and development tracks for top managers, or use the services of specialized providers. The qualities to be evaluated are open to discussion, however, and would depend not least of all on the company's philosophy or on general cultural conditions. But the actual selection of leadership personnel is just one side of the coin. As experience in aviation shows, further development

of leadership skills with the help of workshops, training programs, and also testing is an area that could be pursued more consistently. Studies in the aviation sector have shown that isolated seminars are not adequate because the knowledge gained at such events will dissipate if not applied.

How do managers on the ground differ from pilots?

Becker: Top managers have a high level of responsibility for people and their companies, but not necessarily directly for human lives, with the exception of the healthcare sector. The main difference between pilots and managers, including doctors, is that we as pilots are also always directly affected by the decisions we make. Specifically, our lives are also at play. A department head at a maternity hospital here in Hamburg hit the nail on the head in describing the difference between doctors and pilots. If medical decisions always directly affected the decision-makers as well, the need for regular further training in human factors would be obvious. There would also surely be a different approach to dealing with error. This insight can be similarly applied to many other parts of the economy.

Does that mean that top managers should assume more responsibility for their decisions and be more open to constructive criticism or the services of good consultants?

Becker: To my mind, the ability to reflect on one's own decisions and performance is crucial for modern leadership personnel. But that's not what we currently see in either business or politics, especially following poor decisions. People can ruin their careers if they openly address their mistakes. This is a flaw in the system at large. We need to bring about a fundamental change here, although that will take some time. However, a good first step for leadership personnel would consist of an ongoing series of training and education, also in the form of coaching. One shouldn't forget the fact that a CEO is often alone with his or her decisions.

In addition to your career as an airline pilot, you have also studied the behavioral patterns of leadership personnel very closely with a focus on the human factors in their work. What would you improve in that area, and what means and methods would you use?

Becker: The role of leadership personnel is changing not only because of the greater complexity arising from globalization, digitalization, and artificial intelligence, but also due to new challenges posed by employees' changing needs and desires. Leaders have to be able to inspire. Their job description extends beyond simply managing a system. They need to develop authentic leadership qualities, to be aware of their status as role models, and to motivate their employees in keeping with the aims of their company. People are not necessarily born leaders, but they do continuously develop their qualities over the course of their professional and personal lives. A key part of leadership success consists not only of technical expertise but also of interpersonal skills.

What does that look like in their everyday work?

Becker: Leaders can only be successful over the long term if they recognize the importance of psychological well-being for those in their sphere of influence, and how they affect that state of being.

They must be able to instill trust, communicate honestly, and value those around them. They should bring a number of important qualities to their job in the first place. But some types of interpersonal skills can be taught, including both communication and decision-making. And for leaders to apply the principles they learn in practice, their companies need to have suitable basic conditions with respect to things like feedback, meeting rules, and hierarchies. This is why I use not only training and consulting but also the holistic approach of accompaniment. The first step consists of examining various human factors in the form of audits. We then formulate certain measures and put them into practice together with the employees. But the process is not yet finished, because it's important to continue accompanying them to measure success, similar to the "check" step at the end of the FORDEC method. Above and beyond that, I'm convinced of the relevance of continuous development for leadership personnel. Individual coaching or sparring partners over the long term are some of the elements of my approach.

Outside the Box

Porsche Consulting was founded in 1994 in the wake of Porsche's successful response to an economic crisis. The sports-car maker achieved its turnaround at the time with the help of lean processes. Today the management consultancy helps companies from a wide range of industries boost their innovative power and master transformations and crises. The consultants apply proven methods from the automotive and other sectors to the challenges faced by their clients. They have an eye for good examples, such as the crisis training that airline pilots undergo and the associated culture of openly addressing mistakes. Both practices can help companies remain on course in difficult situations.

The FORDEC principle

... helps pilots make the right decisions under stressful conditions for safe emergency landings. It consists of the following steps:

F – Facts:analyze the facts

O – Options:identify the options

R – Risks and benefits:weigh risks and benefits

D – Decision:make the decision

E – Execution: act

C – Check:check the results

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Path: Helping Managers Make Better Decisions/Images/img_1.jpg
Title: Dr. Tanja Becker, entrepreneur and airline pilot, 2002, Porsche Consulting GmbH
Subline: As a pilot, Tanja Becker is trained to master crises. As a coach, she passes on this knowledge to managers.

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