EXPERTISE AND COMPLIANCE

Work is increasingly prescribed in regulations, policy, procedures, and technology. The idea is that compliance equals safety. But over-compliance has emerged as problem, with implications for system resilience and just culture. Can we find the right balance between expertise and compliance? **Antonio Chialastri** explores the issues.

KEY POINTS

1. **Pervasive control over pilots' decisions risks turning pilots into simple executors or system operators, with implications for decision making and just culture.**
2. **Pilots use their expertise and experience to create safe boundaries around their decision making, sometimes despite pressure to the contrary.**
3. **Over-compliance is an increasing risk to system resilience, and perhaps a symptom of a lack of trust.**

Thirty years ago I was a young pilot who started with a lot of passion, a strong determination and great expectations. Obviously, I lacked expertise. An airline took me as a novice pilot, trained me extensively, checked me thoroughly and after many years and much flight time, it appointed me as a Captain. This was the normal career of a pilot: novice, expert, Captain. After that, the company implicitly was telling me: "Now, you're the Captain. I trust you. Act on my behalf".

From Master after God to system operator

"Master after God" was a phrase used during the XVII century to define the Captain. The meaning behind this phrase didn't come from an idea of divinity of the Captaincy. The reason was that the Captain had no one above him, except God. The ship-owner had no ways to communicate his intentions to the Captain apart from sailing to far destinations; the delegation was absolute. The Captain knew how to act in the interest of the ship-owner.

Expertise is hard to define. Knowledge interacts with expertise in a subtle way. Sometimes we don't know that we know. 'Gut feeling' arises from past experiences; a kind of lesson learnt without awareness. However, expertise is essential in the decision-making process. It helps to anticipate events and allows the pilot mentally to be five minutes ahead of the airplane, deviating from procedures if it is necessary.

With the evolution of automation, the enhancement of meteorological predictions and the continuous updating of flight data, pilots are often seen as simple executors or system operators.

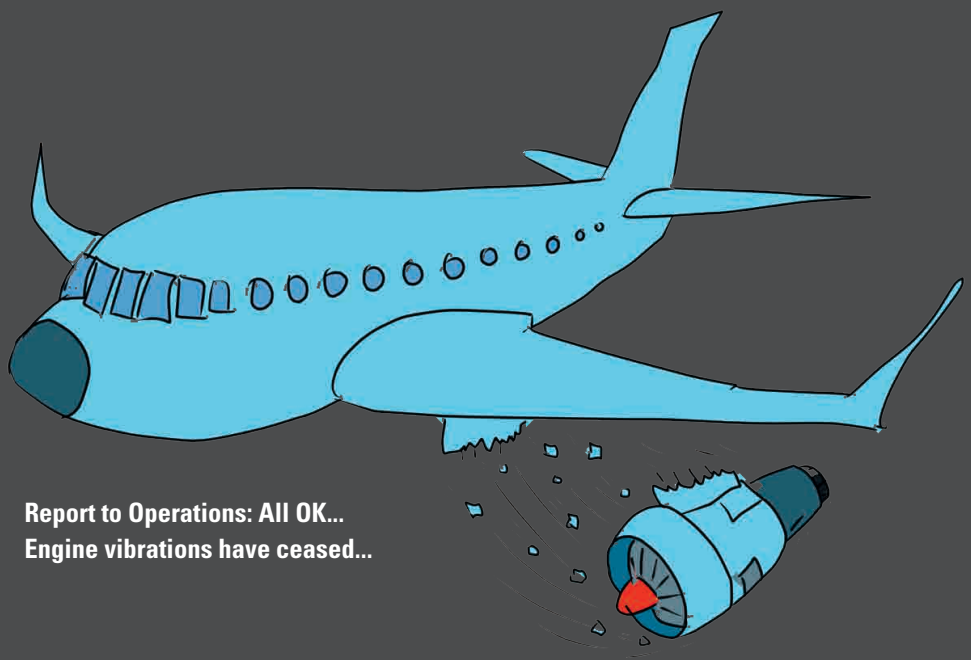
What I see today is a pervasive control over pilots' decisions – an over-emphasis on compliance with the standard operating procedures, the reduction of Captain's autonomy, with implications for decision making and just culture. There are several examples of the erosion of the Captain's authority, including fuel policy and the compliance monitoring programme.

Fuel policy

The fuel carried on-board depends on many variables. First of all, the fuel uplift is a kind of bet: pilots determine in advance how much fuel is required for their trip. They decide the correct quantity of fuel getting weather forecasts but, as Mark Twain has said: "Never make predictions, especially about the future".

Today, the actual fuel reserves available on a plane are really lean. Here we need to uplift extra fuel to cope with foreseeable changes in the flight time or with contingencies that may arise once airborne. How much fuel is needed is not a clear cut decision-making process. It comes from experience, from knowledge and from all the available technical, operational and weather data. You know how much fuel is (really) needed only once you have landed… safely.

It is the eternal 'production versus protection' conflict. The pilot's job as imagined is full of flights carrying minimum fuel. The pilot's job as really done is made of Captains uplifting extra fuel; a decision made based on their



Report to Operations: All OK...
Engine vibrations have ceased...

experiences. To fill the gap between work-as-imagined and work-as-done, crews are put under pressure, asking them to justify why they don't fly with the minimum fuel. Companies' policies are enforced with no written recommendations but with the pervasive pressure of the organisational climate. The pilots who comply with these policies go ahead in their careers. The others, who object that this is a dangerous practice, are openly or tacitly kept at bay, realising sooner or later that they came to a stop in their career progression.

Compliance monitoring

Another form of company pressure comes from compliance monitoring. A network of data recorded in real time keeps the company's eye watching carefully from behind the crews' shoulders.

In the last twenty years, thanks to the introduction of newly conceived aircraft (fly-by-wire, dark panel, automation, etc.) pilots are somehow 'constrained' to respect procedures and standards if they want to interact with their airplane. The 'rogue pilot' described by Major Tony Kern some decades ago – a reckless guy that disregards flight discipline – is hardly observable today.

Psychological assessment during the selection process, standardised training, social control, automation and even traffic congestion, leave few chances to deviate or to personalise flight management.

Moreover, the coexistence of many nationalities in a single airline requires strict control of standard operating procedures. A common language is a good means to obtain safety.

But pilots cannot do everything by the book. A margin of discretion is useful to fill the gap between work-as-imagined and work-as-done. Flexibility during operations in a real scenario is one of the main sources of resilience. You can't ask someone to ride the wave on a surfboard while standing rigid. Flight, as well, requires an intelligent use of knowledge, experience and trust. Updating one's own course of action is a sign of good airmanship.

Take the example of stabilised approach, one of the most effective tools to avoid undesired outcomes. An experienced pilot should know when to abort the landing, focusing on the real conditions and not only on numbers. Most of the time, if an approach is not stabilised, it's a wise decision to go around. But it's even wiser to leave the final decision to the Captain, whether it is better to perform a landing or abandon the approach. When the autonomy of a well-trained, expert and reliable crew is limited by fixed numbers and inhibited by the fear of reprimands, the system's resilience is inevitably affected.

Do you trust me?

After thirty years since my beginnings as a pilot, I've noticed that the training pendulum is swinging back. The normal curriculum that started with the novice, proceeding to the expert and eventually to Captain is running backwards. Expert professionals are hired by the airlines, but are told: "I don't trust you, so you must fly as a novice".

This approach is not for free, and accidents can happen because of over-compliance, associated with fear of blame, disciplinary actions or even loss of job.

In this context, the 'big brother syndrome' makes decision-making puzzling. This is the feeling of being remotely controlled by someone, ready to punish or to demote from Captaincy. In doubt, should we act in order to obtain the safest and best result, or simply apply rules regardless of the outcome?

The B-777 accident in Dubai occurred at a big airline with strict emphasis on standard operating procedures compliance. Reading the brief description of the accident, the touchdown was achieved at around 1000 metres down the runway. There was enough runway ahead to stop with adequate safety margins. He opted to go around, a decision that (along with a skill-based error) led to a stall and eventually a crash. Sure, with hindsight everybody is able to determine which is the safest course of action.

I tried to imagine how he felt during the split-second decision that led to a go-around. This made me think that perhaps something resounded in the Captain's head: "What if I don't go around?" "Are they going to call me soon after we have completed the parking check list?" "How can I justify a landing, notwithstanding an aural warning: Long flare?".

Maybe, the Chief Pilot, using sound judgement, would have understood the Captain's decision to land, disregarding the aural warning. Might the emphasis on compliance be eroding the pilot's self-confidence? Is compliance monitoring becoming a kind of sword of Damocles? There are many cases of football players that, feeling the distrust of their team manager, perform badly. The same applies for most of us, pilots included.

Pilots, and especially Captains, cannot be half-heartedly trusted.

Train them, coach them, trust them. Everyone will benefit.

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