

# Movie recommendation - Culture Crash - The case against Boeing



## A WORST-CASE EXAMPLE OF DEFENSIVE CULTURE PERFORMANCE

On October 29, 2018, Lion Air Flight 610 crashed into the Java Sea shortly after departing from Jakarta, killing all 189 passengers aboard the Boeing 737 Max. Boeing to this point had long been associated with safety making the hypothesis presented by Boeing company officials, that the pilots and the airline were to blame for the catastrophe, initially plausible. Insufficient training and experience were among the most popular justifications, which proved especially damaging to Lion Air's reputation and hurtful to the victims' families. Although the black box revealed a technical error, Dennis Muilenburg, the Chairman of the Board in 2018, continued to claim that the Boeing 737 Max was safe and there was no need to ground the aircraft. Only five months later another 737 Max crashed in Ethiopia, killing all 157 passengers. At this time investigations were stepped up to shed more light on the matter. When addressing the second crash, Boeing again placed blame on the pilots for failing to following instructions, even though once again a technical flaw leading to the crashes had been identified.

The crashes were caused by the flawed design of a newly installed anti-stall system known as MCAS (Manoeuvring Characteristics Augmentation System). The reasons for this mistake might seem technical at first, but the true root cause for not only the flaw but it's inclusion and continued use in Boeing 737 aircraft can be found deep within the organizational structures, culture, and priorities of the stakeholders. The documentary "Downfall – the Case against Boe-ing" (streaming on Netflix) describes in detail how the company's culture played a major role in these two tragedies.

Organizational culture is described as being the shared values, norms and expectations that govern the way people approach their work and interact with each other. It is the "key to deliv-ering sustainable results" (Kuppler, 2015) because culture represents the methods by which organizational members work to achieve those results. Consequently, it is of great importance to continuously develop and promote Constructive cultural norms which are positively correlat-ed to safety, high performance (including financial performance), quality, teamwork, external adaptability, motivation and reduced stress levels. There are many factors, including leader-ship, which have an important impact on business culture. One such factor is company mer-gers, which can be crucial for a company's culture, as we see in the case of Boeing.

The origin of the changes in Boeing's culture goes back to a classic Merger & Acquisition (M&A) situation in 1997 (Van Etten & Stout, 2020). Before the acquisition of McDonnell Doug-las in 1997, Boeing engineers, who were among the founders of the company, were proud of their work characterised by safety-consciousness. They had a voice in the company and used it to keep their quality standards high in order to produce the world's best and safest airplanes. It was a typical Constructive culture defined by enthusiasm, appreciation and diligence among its members. In the course of the merger, however, two fundamentally different cultures collid-ed and clashed which caused stress to soar and morale to slump. The new executives focused on financial engineering and cost reduction, rather than on high-quality manufacturing.

Consequently, profit took precedent in leadership values over safety leading to a redesign of Boeing's previous organizational structure and the culture. Accordingly, dissatisfaction with upward communication was constantly increasing over the years: engineers felt robbed of their voice as leaders no longer payed attention to their expertise or listened to their concerns. The number of safety officers was reduced from fifteen to just one per shift which caused defects to be overlooked – intentionally or unintentionally. Human Synergistics would consider this organization to be suffering from a "Culture bypass" the process by which motivations for (in this case) profit begin to replace the original values (for quality and safety) of the organization.

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As a main consequence of the M&A, Boeing started to switch priorities from quality to quantity as its main goal was to increase the company's stock value - at any cost. For example, in the years following the merger, more fuel-efficient, larger engines were fitted to the 737 Max air-crafts to further reduce costs. A change that gave the plane a tendency to push its nose up-wards. To counter that tendency, Boeing added the MCAS system in order to pull the nose of the airplane back down to avoid a stall. An error in this new system, however, could result in fatal consequences. In both crashes the MCAS system failed causing the nose to be lowered to a degree that was unrecoverable. Investigations not only revealed how the flawed system caused the crashes, but also how the flawed system was a result of Boeings new Defensive culture.

As leadership values changed, a much lower emphasis was placed on quality. This change in values is indirectly communicated to employees via factors known as organizational climate. In this case "goal setting" and "goal emphasis" were at play. Goals were changed, focusing more on financial performance and cost cutting, rather than focusing on goals associated with quality and safety. It is these climate factors which send messages to employees about how they should best approach their work. Therefore, climate influences and impacts culture. Another example of climate impacting culture in this case relates to communication. As the priorities at the leadership level became increasingly focused on profit and cost savings, so too does communication reflect this change in values. Top-down communication reflected less of an emphasis on quality, provided fewer and fewer useful pieces of information regarding quality in the organization and emphasizing quality standards. Additionally, upward communication also began to experience change. With quality becoming a lesser value, leadership and management became less open to employee feedback regarding existing flaws, risks, or consequences. This type of communication sends a very powerful message to employees concerning how they should approach their work (culture) leading people away from speaking up, voicing safety concerns, focusing on quality goals. Defensive behavioural norms begin to take hold within the culture as members start to believe that they must withhold their concerns, cover up mistakes, and shift/avoid responsibility as Constructive behaviour is not valued and positively recognized anymore.

During the trial against Boeing the biggest revelations came from within the company, through internal messages, emails and documents showing that Boeing officials knew about the potential for a catastrophe well before the two crashes occurred. As we know today, pilots from the airlines were never informed about this new MCAS function although Boeing knew that pilots would require training on its use. The publication of the internal communication even revealed that it was an objective of Boeing to avoid additional trainings - although considered necessary - as pilots would have required more than 2 days of training which was deemed "unacceptable" for the company from a financial perspective. Hence, Boeing promised to their clients that no additional simulator training would be necessary to fly the new 737 Max. They decided to systematically conceal the new function from the FAA (Federal Aviation Administration), as the agency would have insisted on additional training for pilots had they known the extent of the system changes. For years Boeing got away with it selling more than 5.000 737 Max in the following years causing the stock value to explode.

The pilots of Lion Air Flight 610 did not know about the MCAS system or how it worked. Shortly after taking off the system sounded an alarm (due to an error) and MCAS took over the plane, unstopably dropping its nose creating an unrecoverable dive. It was later revealed that the pilots had a maximum of 10 seconds after the alarm started to save the aircraft from crashing. According to experts 10 seconds is an insanely low reaction period even if pilots knew of the MCAS. As part of its investigation the FAA assessed the risk involved in flying the 737 Max with shocking results, every two years a plane would crash.

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Boeing was previously aware of this number but chose to continue with the model. The company decided to rely on luck hoping that the problem would not occur again, to secure profits rather than focus on quality and safety and working to find a long-term solution. Competitive and economical thinking rather than Achievement thinking lead to the second catastrophe which could have been prevented.

The leaked communication further revealed that three years before the first crash, Boeing engineers had issued a warning that the aircraft was vulnerable to sensor failures with the MCAS system installed and that pilots would only have approximately four seconds to recognise an MCAS malfunction and ten seconds to correct it. Even after the second crash, Boeing decided to continue to place blame on the pilots for failure to following instructions (a very Defensive approach enabled by the new culture), just to keep a clean slate and to avoid losing the trust of shareholders. In the second plane crash, the pilots knew about the system but failed to deactivate it despite following the instructions provided by Boeing. They were not told about the ten seconds they would have time to complete the protocol. Subsequently, countries all around the world subsequently banned the 737 Max.

According to the engineers who gave warnings about MCAS in 2015, no one ever replied to them (climate communication) causing them to question their role and position in the company. The culture was so Defensive that it was impossible for anyone to say “No” to the demands of Senior Leadership and were, on the contrary, encouraged to just “do as told”. The interests of the board members and shareholders were placed above the work-force, the products, pilots and passengers. This fact showed in other messages sent internally between the members of the company. Especially the tone and language of these messages would be considered in a Constructive culture to be inappropriate and highly disrespectful, even when important topics like the safety of the planes were discussed. Thus, we learn that the culture became so Defensive and members views and opinions of each other became so negative that they described the 737 Max as being “designed by clowns” and “...supervised by monkeys”. While many within Boeing knew of the dangers, the culture became one in which little could be done to resolve the core problems leading to statements like “Would you put your family on a Max simulator trained aircraft? I wouldn’t,” or “This airplane is ridiculous”, exchanged among Boeing engineers in the years before the first crash (Internal Boeing Communications, 2020). The following chat message sums up the struggle Boeing employees went through with its culture of blaming, avoiding and ignoring: “I’m fed up with the meetings that include countless managers who have no understanding of the state of the simulator or the problems that will arise. Everybody is investing more time in blaming others rather than actually fixing the problem.” (Internal Boeing Communications, 2020). After the crash Lion Air was named “idiots” by Boeing stating that it happened “because of their own stupidity” (c.f. Internal Boeing Communications, 2020). Usually, when a discrepancy exists between the current culture and the ideal values of a company, working with the senior leaders is necessary to start bringing about change and shifting the culture towards more Constructive norms.

Due to their influence and their responsibilities leaders have a significant impact on the organizational culture through their decisions, actions and the strategies that they and the organization employ. A leader who demonstrates Aggressive/Defensive behaviour, may tend to dominate and control others, create a high level of conflict; and communication in the organization which can be characterised by negativism, cynicism, sarcasm and criticism. In addition, long-term goal orientation and the focus on business sustainability tend to become poor. Leaders often also communicating and behaving in these Defensive ways, encourage those they lead to adopt this behaviour as well (role modelling), or to behave in more Passive/Defensive ways as indicated above characterized by withholding concerns/ideas, maintaining the status quo and not speaking up when quality issues are known.

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In the case of Boeing, working with the leadership team to assess the impact of the merger in terms of shared values and leadership mindset, as well as defining their desired impact, could have prevented the shift in values from safety to profit, which creates a shift in climate (communication & goal setting) encouraging the development of Defensive culture which leads to unfortunate and dangerous outcomes for quality and safety.

In the end, the 737 Max was grounded for 20 months and returned to market with a revised MCAS system. In order to settle the criminal charges of conspiracy and fraud brought by the FAA, Boeing had to pay more than \$2.5 billion. Additionally, they have faced costs of more than \$20 billion since the first crash until now. This is often the true result of putting profit before values and allowing Defensive culture norms to flourish. Having that said, providing the simulator trainings for all pilots would have cost around \$5 billion and saved billions in the long-term - and 346 human lives. Mr. Muilenburg, the former chief executive left with more than \$62 million in stock and pension awards after he was dismissed.

### What are we learning from Boeing?

The documentary that is currently streaming on Netflix reveals what a toxic corporate culture can lead to. The culture at Boeing changed drastically after the merger with McDonnell Douglas and after the management from McDonnell Douglas took over in 1997. Since then, Boeing suffered from a “culture bypass” linked to their values. For a time thereafter, despite an increasingly Defensive culture and thanks to the presence external factors (demands, resources, etc.), the organization was (or at least seemed) “successful” in financial terms. Since then the effectiveness and product quality suffered due to a culture characterised by Defensive tendencies and highly Oppositional behaviour. Furthermore, placing an emphasis on profit and „the more the better” -thinking rather than on quality, safety and employee satisfaction can often backfire and result in even higher costs in the long-term. A drastic wake-up call in form of people losing their lives is of course not the norm, however, we learn that Defensive behaviours can never lead to a sustainable and healthy environment. The use of OCI together with OEI would have helped Boeing to understand and see the big picture of the current situation by determining the impact of specific factors – in terms of systems, leadership, communication, job design, etc. – on the quality of the products delivered, effectiveness, employee well-being, satisfaction, motivation and level of stress. To address those issues, helping leaders in defining the culture they desire to create and to act as role models is a very powerful message. Human Synergistics’ Leadership/Impact® can be used to provide leaders with a precise understanding of their impact on the behaviour of their people and the culture of the organization. The first step in any change initiative, however, is to accept the necessity for a Constructive change. A few years before the first crash, an employee said: “Sometimes you have to let big things fail so that everyone can identify a problem” (Internal Boeing Communications, 2020).

### Sources

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