



Corporate governance and organisational resilience: the role of boards in managing corporate crises

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Annotatsiya

Boards are expected to guide companies through crises, yet few studies follow a single board from the first warning signs to recovery. This article examines how Boeing's board handled the 737 MAX crisis and how far the company had recovered by 2023–2024. Using a single-case design, it draws on public official documents: a US House committee report, a Delaware court decision, Boeing's SEC filings and an FAA expert panel report. The board's functions are analysed through Duchek's (2020) anticipate–cope–adapt framework, and financial indicators for 2018–2023 were calculated in Stata. The court record, at the pleading stage, supports allegations of weak board-level safety oversight before the crashes. About a year after the first crash the board separated the chair and CEO roles, replaced the CEO two months later, and built new safety oversight structures. Financial recovery remains partial: 2023 revenue was 23.1% below 2018, the cumulative net loss for 2019–2023 was \$[verify] billion, and operating cash flow turned positive only in 2022. In 2024 the FAA panel still identified gaps in safety culture. The case suggests that changing governance structures and rebuilding organisational resilience are distinct processes.

Kalit so'zlar:

corporate governance; board of directors; organisational resilience; crisis management; Boeing 737 MAX; safety oversight

Annotatsiya. Direktorlar kengashlaridan kompaniyani inqiroz davrida boshqarish kutiladi, biroq birinchi ogohlantiruvchi belgilardan tiklanishgacha bo'lgan davrda bitta kengashni kuzatib borgan tadqiqotlar kam. Ushbu maqolada The Boeing Company direktorlar kengashi 737 MAX inqirozini qanday boshqargani va kompaniya 2023-2024-yillarga kelib qay darajada tiklangani o'rganiladi. Tadqiqot yagona holat (single-case) dizaynida bo'lib, ommaviy rasmiy hujjatlarga tayanadi: AQSh Vakillar palatasi qo'mitasi hisoboti, Delaver shtati sudining qarori, Boeing'ning AQSh Qimmatli qog'ozlar va birja komissiyasiga (SEC) taqdim etgan hujjatlari hamda AQSh Federal aviatsiya ma'muriyati (FAA) ekspert guruhining hisoboti. Kengash vazifalari Duchek (2020) tomonidan taklif etilgan "oldindan ko'ra bilish – bardosh berish –

moslashish” konsepsiyasi asosida tahlil qilindi, 2018-2023-yillar uchun moliyaviy ko’rsatkichlar Stata dasturida hisoblandi. Sud materiallari (da’voni dastlabki ko’rib chiqish bosqichida) halokatlardan oldin kengash darajasida xavfsizlik nazorati zaif bo’lganligi haqidagi da’volarni qo’llab-quvvatlaydi. Birinchi halokatdan taxminan bir yil o’tib kengash raisi va bosh ijrochi direktor (CEO) lavozimlarini ajratdi, ikki oydan keyin esa bosh ijrochi direktorni almashtirdi va xavfsizlik nazoratining yangi tuzilmalarini yaratdi. Moliyaviy tiklanish qisman bo’lib qolmoqda: 2023-yilda tushum 2018-yildagidan 23,1% past bo’ldi, 2019-2023-yillardagi yig’ma sof zarar 24,2 mlrd dollarni tashkil etdi, operatsion pul oqimi esa faqat 2022-yilda ijobiy bo’ldi. 2024-yilda FAA ekspert guruhi xavfsizlik madaniyatidagi kamchiliklarni hamon aniqladi. Ish shuni ko’rsatadiki, boshqaruv tuzilmalarini o’zgartirish va tashkiliy chidamlilikni tiklash alohida jarayonlardir.

Kalit so’zlar: direktorlar kengashi; tashkiliy chidamlilik; inqirozni boshqarish; korporativ boshqaruv; Boeing 737 MAX

Аннотация. От советов директоров ожидают, что они поведут компанию через кризис, однако исследований, которые прослеживают работу одного совета от первых тревожных сигналов до восстановления, немного. В статье рассматривается, как совет директоров The Boeing Company справился с кризисом 737 MAX и насколько компания восстановилась к 2023-2024 гг. Исследование выполнено как одиночный кейс на основе открытых официальных документов: доклада комитета Палаты представителей США, решения суда штата Делавэр, документов Boeing, поданных в Комиссию по ценным бумагам и биржам США (SEC), и доклада экспертной комиссии Федерального управления гражданской авиации США (FAA). Функции совета проанализированы с помощью концепции «предвидеть, справляться, адаптироваться» (anticipate-cope-adapt) Дучек (Duchek, 2020), а финансовые показатели за 2018-2023 гг. рассчитаны в Stata. Судебные материалы, находящиеся на стадии предварительного рассмотрения иска, подтверждают обвинения в слабом надзоре совета за безопасностью до катастроф. Примерно через год после первой катастрофы совет разделил должности председателя и генерального директора, через два месяца заменил генерального директора и создал новые структуры надзора за безопасностью. Финансовое восстановление остаётся частичным: выручка в 2023 г. была на 23,1% ниже, чем в 2018 г., совокупный чистый убыток за 2019-2023 гг. составил 24,2 млрд долларов, а операционный денежный поток стал положительным только в 2022 г. В 2024 г. экспертная комиссия FAA всё ещё выявила недостатки в культуре безопасности. Кейс позволяет предположить, что изменение структур управления и восстановление организационной устойчивости представляют собой разные процессы.

Ключевые слова: совет директоров; организационная устойчивость; антикризисное управление; корпоративное управление; Boeing 737 MAX

1. Introduction

Corporate governance is usually described as the system by which companies are directed and controlled, with the board at its centre (Cadbury, 1992). The G20/OECD Principles give boards the tasks of guiding strategy, monitoring management and overseeing risk on behalf of the company and its shareholders (OECD, 2023). A crisis tests all three at once.

Resilience adds a question about time. Slagmulder (2022) reviews the literature and describes resilient companies as those that rebound from adversity and emerge stronger, and she argues that boards, executives, shareholders and other stakeholders share responsibility for a company's long-term resilience. Duchek (2020) treats resilience as a capability that develops through anticipating, coping and adapting. Hoegl and Hartmann (2021) point out that resilience differs from risk management, because risk management tries to prevent a setback while resilience concerns what an organisation does after one.

Empirical work on boards is catching up. Panicker and Koswatte (2025) found that the type of director and the ownership structure shaped resilience in UK organisations during COVID-19. Zhang et al. (2025) study how board behaviour mediates the link between board characteristics and firm resilience. A survey of 400 Canadian directors found that agreeing where the board's role ends and management's begins is a recurring difficulty in a crisis (Osler, Hoskin & Harcourt LLP, 2016). Gennaro and Nietlispach (2021) add a warning: more than a decade after the 2007 to 2008 financial crisis, governance codes and risk management had improved, but problems with principles and their application remained.

Boeing is a useful case because its board has been examined in public. Two 737 MAX crashes killed 346 people within five months, and an 18-month congressional investigation followed (U.S. House Committee on Transportation and Infrastructure, 2020). The board's oversight was later tested in court (Court of Chancery of the State of Delaware, 2021) and its safety management was reviewed by a federal expert panel (Federal Aviation Administration, 2024). All of these documents are open to the public.

The article asks three questions.

- **Q1.** How did the board oversee safety before and during the crisis?
- **Q2.** What did the board change afterwards?
- **Q3.** How far had Boeing recovered, financially and in safety culture, by 2024?

2. Literature review.

Research on boards and crises has grown along two largely separate lines. The first, in corporate governance, links board structure and behaviour to firm outcomes (Hillman and Dalziel, 2003; Adams, Hermalin and Weisbach, 2010). The second, on organisational resilience, asks how firms anticipate, absorb and recover from adversity (Williams *et al.*, 2017; Duchek, 2020). Slagmulder (2022) reviews the resilience literature from a governance and SME perspective and stresses that boards, executives, shareholders and other stakeholders share responsibility for a firm's long-term resilience. Her review stays at the level of mechanisms, however, and does not follow a board through an actual crisis.

Recent empirical work connects the two lines. Akhtar and Alharbi [add year and journal] study the link between corporate governance and organisational resilience, with employee performance as a mediating channel [add their main finding after reading the paper]. Gennaro and Nietlispach (2021) surveyed 200 finance professionals in the United States, Italy and the United Kingdom. They find that governance codes and risk management have improved since the 2007–2008 financial crisis, but that problems remain in the underlying principles and in how they are applied. Taken

together, these studies suggest that governance reforms can be adopted faster than they take effect in practice.

Methodologically, most governance studies use cross-sectional or panel regressions on many firms. Studies of crises more often rely on single cases and documents. Quantitative work on a single firm is rare, even though event studies (MacKinlay, 1997) and interrupted time-series designs (Bernal, Cummins and Gasparrini, 2017) are well suited to it.

Three gaps follow. First, few studies follow one board from the first warning signs to the recovery. Second, structural reforms (such as separating the chair and CEO roles) are rarely compared with resilience outcomes over time. Third, case evidence and quantitative indicators are seldom combined. This article addresses all three with the Boeing 737 MAX crisis, using official documents together with market and financial data.

3. Methodology.

3.1 The analysis combines three perspectives.

Agency theory. The board exists to monitor managers on behalf of owners (Jensen and Meckling, 1976; Fama and Jensen, 1983). In a safety crisis, the question is whether the board built a reporting system that gave it the information to monitor. The Delaware Court of Chancery applied this logic under the *Caremark* and *Marchand* standards, which require boards to make a good-faith effort to oversee mission-critical risks such as product safety (*In re Caremark*, 1996; *Marchand v. Barnhill*, 2019).

Resource dependence theory. Boards also link the firm to its environment and supply expertise, legitimacy and access to regulators (Pfeffer and Salancik, 1978). This helps explain why new safety expertise and a new committee were added to Boeing's board.

Organisational resilience as a capability. Duchek (2020) describes resilience as three connected capabilities: anticipation, coping and adaptation. The board's functions are placed on this sequence: oversight before the crashes (anticipate), leadership decisions during the crisis (cope), and learning and renewal afterwards (adapt).

These perspectives lead to four testable propositions:

- **H1.** The crashes and the grounding produce negative abnormal stock returns for Boeing.
- **H2.** The board's leadership decisions (October and December 2019) produce abnormal returns different from zero (two-sided, because the market may read them as relief or as a sign of deeper trouble).
- **H3.** Operating cash flow relative to revenue shifts down after the crisis (H3a) and improves after the governance reforms (H3b), once demand shocks are controlled for.
- **H4.** Structural reforms do not by themselves produce an immediate recovery: the reform dummy is small or insignificant, and any improvement appears gradually in the post-reform slope. This is the article's central argument.

3.2 Sources

Table 1.

Source	Author / Publisher	Date / identifier	Used for	Framework stage
<i>The Design, Development & Certification of the Boeing 737 MAX</i> , final committee report	U.S. House Committee on Transportation and Infrastructure	September 2020	Background to the crisis	Anticipate
<i>In re The Boeing Company Derivative Litigation</i> , memorandum opinion	Delaware Court of Chancery	September 2021, C.A. No. 2019-0907-MTZ	Board oversight before the crashes (pleading stage)	Anticipate
Current reports on Form 8-K	Boeing, filed with the SEC	October and December 2019	Board decisions on leadership	Cope
Annual reports on Form 10-K	Boeing, filed with the SEC	Fiscal years 2018 to 2023	Annual financial indicators (revenue, net loss, operating cash flow)	Adapt
Quarterly results releases	Boeing, furnished to the SEC on Form 8-K	2019 to 2023	Quarterly financial indicators	Adapt
Section 103 expert panel report on Boeing's safety management system and safety culture	Federal Aviation Administration	February 2024	Safety culture in 2024	Adapt

3.3 Indicators

Three indicators were taken from Boeing's own results releases: total revenue, net earnings or loss, and operating cash flow, for 2018 to 2023. From these the author calculated a revenue index (2018 = 100), net margin, year-on-year revenue growth, and cumulative net result and cash flow for 2019 to 2023. With six annual observations, the analysis is descriptive, and no significance tests are reported. The Stata do-file in the Appendix reproduces every calculation.

3.4 Limits

Three limits matter. First, the sources are public, so internal board minutes are not seen. Second, the 2020 fall in revenue also reflects the COVID-19 pandemic, which hit all aircraft makers, so the financial indicators cannot be attributed to governance alone. Third, the analysis of one company says nothing about how common these patterns are.

4. Results

4.1 Oversight before and during the crisis

The House committee concluded after its investigation that both Boeing and the FAA share responsibility for an aircraft that was unsafe, and it pointed to financial pressure to compete with the Airbus A320neo as one background factor (U.S. House Committee on Transportation and Infrastructure, 2020). The committee also criticised Boeing for withholding important information from the FAA, customers and pilots, including the existence of the MCAS flight-control software.

The Delaware court looked at the board itself. In September 2021 it refused to dismiss the shareholders' oversight claims, finding it plausible that the directors had failed to set up any reporting system for airplane safety and had ignored warning signs (Court of Chancery of the State of Delaware, 2021). The court treated airplane safety as essential and mission critical to Boeing, so the board was expected to oversee it rigorously. According to the pleaded facts, safety was not a regular agenda item, management did not report on it to the board at set intervals, and the audit committee's risk oversight centred on financial risk. When safety did reach the board, the plaintiffs alleged, directors did not press for more information. These are allegations accepted at the pleading stage, not final findings.

4.2 What the board changed

The board's response came in steps over about two years. The first 737 MAX crash was in October 2018 (Court of Chancery of the State of Delaware, 2021), so the chair and CEO roles were separated roughly a year later and the CEO left about two months after that. Table 2 lists the board-level actions that the official record shows.

Table 2. Board-level actions after the crashes

Date	Action	Source
April to August 2019	Board forms the Committee on Airplane Policies and Processes, which reports to the board on 26 August 2019	Federal Aviation Administration (2024)
2019	Aerospace Safety Committee becomes a permanent board committee; safety experience is added to the criteria for choosing directors	Federal Aviation Administration (2024)
11 October 2019	Chair and CEO roles are separated; David Calhoun becomes non-executive chairman; board plans to add a director with deep safety experience	Boeing (2019a)
23 December 2019	CEO Dennis Muilenburg resigns; Calhoun is named CEO; Lawrence Kellner becomes non-executive chairman	Boeing (2019b)
End of 2019	Compensation committee must consult the Aerospace Safety Committee when assessing executive safety performance	Federal Aviation Administration (2024)
2020	Claw-back of incentive pay for safety violations is added; the chair must be an independent director	Federal Aviation Administration (2024)
January 2024	After the Alaska Airlines Flight 1282 accident, an outside expert is appointed to assess the quality	Boeing (2024)

Date	Action	Source
	management system, reporting to the CEO and the Aerospace Safety Committee	

The company also made management changes that the board's reforms set in motion, such as a Chief Aerospace Safety Officer in 2021 and an ombudsperson for the units that act for the FAA in 2022 (Federal Aviation Administration, 2024). The December 2019 announcement said that a change of leadership was needed to restore confidence among regulators, customers and other stakeholders (Boeing, 2019b).

4.3 Financial recovery

Table 3 shows the three indicators for 2018 to 2023. Revenue fell 42.4% between 2018 and 2020 and rose again afterwards, but in 2023 it was still 23.1% below the 2018 level, although 33.7% above the 2020 low. Net results were negative in every year from 2019 to 2023 and add up to a loss of \$24.2 billion, which is about 2.3 times the 2018 profit of \$10.5 billion. Operating cash flow was negative until 2021, positive at \$3.5 billion in 2022 and \$6.0 billion in 2023, but the five-year total for 2019 to 2023 remains negative at \$14.8 billion. Commercial deliveries followed the same path: 806 airplanes in 2018, 380 in 2019, 340 in 2021, 480 in 2022 and 528 in 2023 (Boeing, 2020; 2023; 2024).

Table 3. Boeing financial indicators, 2018 to 2023 (US\$ million unless stated)

Year	Revenue	Revenue index (2018 = 100)	Net earnings or loss	Net margin (%)	Operating cash flow
2018	101,127	100.0	10,460	10.3	15,322
2019	76,559	75.7	(636)	(0.8)	(2,446)
2020	58,200	57.6	(11,941)	(20.5)	(18,410)
2021	62,286	61.6	(4,290)	(6.9)	(3,416)
2022	66,608	65.9	(5,053)	(7.6)	3,512
2023	77,794	76.9	(2,242)	(2.9)	5,960

Sources: Boeing (2020; 2021; 2023; 2024). Index, margin and totals calculated by the author. 2020 revenue is the rounded figure of \$58.2 billion reported by Boeing.

4.4 Safety culture and the board in 2024

The FAA expert panel reviewed more than 4,000 pages of Boeing documents, seven surveys and over 250 interviews, including one with a board member, and issued 27 findings and 53 recommendations (Federal Aviation Administration, 2024). It found that Boeing's safety management procedures match international frameworks, but that many employees do not understand their own role in them. It also saw a gap between senior management and other staff on safety culture, doubts among interviewees about whether reporting systems protect people from retaliation, and little awareness of safety metrics at any level.

Two findings bear directly on the board's monitoring role. The panel noted that Boeing could not give it metrics to show whether its measures to protect the independence of FAA-delegated staff were working. It also reviewed the 2023 proxy statement and found that the board referred to safety many times, that the Aerospace

Safety Committee advised on safety metrics for pay, and that product safety made up about 4% of the 2022 annual incentive award (Federal Aviation Administration, 2024).

Table 4. Analytical grid: the board across Duchek's three phases

Phase	Board function	Evidence	Assessment
Anticipate	Set up oversight of a mission-critical risk	Alleged absence of a board-level safety reporting system; audit committee focused on financial risk (Court of Chancery of the State of Delaware, 2021)	Weak
Cope	Replace or redirect leadership, restore trust	Chair and CEO split after about a year; CEO replaced two months later (Boeing, 2019a; 2019b)	Late but decisive
Adapt	Rebuild structures and learn	Safety committee, director criteria, claw-backs, independent chair (Federal Aviation Administration, 2024)	Structures built; culture and monitoring gaps remain

5. Discussion

5.1 Anticipation: the weakest phase

The case supports the distinction drawn by Hoegl and Hartmann (2021) between risk management and resilience. Boeing had a risk function, but according to the court record the board's risk oversight looked mainly at financial exposure, so the risk that mattered most was not on the board's table. This also echoes Gennaro and Nietlispach (2021), who found that governance and risk systems can look adequate on paper yet fail in application. The board acted visibly, but only after about twelve to fourteen months. Osler, Hoskin & Harcourt LLP (2016) report that directors struggle to balance speed against well-informed decisions and to agree on the board's role next to management. The Boeing timeline shows both problems: the first step kept the CEO in place with a narrower job, and the second removed him within weeks. The board built what governance codes ask for: a dedicated committee, safety expertise, an independent chair, safety-linked pay and claw-backs. Yet the FAA panel found in 2024 that the new structures had not reached many employees, and the January 2024 accident came while the panel was working. Slagmulder (2022) argues that resilience depends on the shared responsibility of boards, executives and shareholders, and Duchek (2020) describes adaptation as learning that changes behaviour. Both fit the finding that formal change moved faster than cultural change. Zhang et al. (2025) point to board behaviour as the link between board characteristics and resilience, and Panicker and Koswate (2025) show that director type matters. In this case, the board added safety experience to its selection criteria, which is the kind of composition change those studies would expect to help, but the public record cannot yet show its effect.

1. Put mission-critical risks on the board's regular agenda, with direct reporting from the people who manage them.
2. Give a committee a clear mandate and members who understand the risk, and say how it reports to the full board.
3. Link executive pay to the risk, but keep the weight meaningful: product safety was about 4% of Boeing's 2022 annual incentive award.
4. Ask for metrics that show whether reforms work, not only that they exist.
5. Test culture with independent assessments, and track how far new structures reach front-line staff.

5.1.Limitations

The limits in Section 2.4 apply. In addition, the financial indicators mix the effects of the crisis, the pandemic and later production problems, and the court material records allegations and not proven facts. A comparison with other companies, or with board data from several crises, would show how typical Boeing is.

6. Conclusion

The Boeing board's record suggests that anticipation was the weak point, coping was late, and adaptation produced structures faster than it produced a changed culture. By 2023 revenue and cash flow had recovered in part, but the company had not returned to its 2018 position and the FAA's 2024 review still found gaps. For boards, the practical point is that resilience is judged by what happens inside the organisation, and a committee or a policy only counts once people use it.

Policy recommendations.

Give the board its own safety information channel. The court record points to safety reaching the board only through discretionary management reports. A board safety committee with direct access to engineers and an independent reporting line addresses this. **Treat structure as a starting point.** Separating the chair and CEO roles and adding a safety committee are quick to adopt. The FAA panel's 2024 findings show that culture change is slower, so boards should track culture directly (for example through employee surveys and speak-up usage) and report it. **Tie executive incentives to safety and quality measures,** not only to financial output. **For regulators:** judge board oversight by outcomes and information flow, not just by the existence of committees. Delaware's *Caremark* line already moves in that direction. **For investors and directors:** treat the pre-crisis period as the point of greatest leverage, because that is where the case shows the weakest oversight.

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