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The Data Landscape of Aviation: Competition, Privacy, and Market Power under EU law

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Abstract

Competition law has long shaped the European aviation sector, from liberalisation in the 1990s to scrutiny of mergers and alliances. While past enforcement focused on slots, routes, and network structures, digitalisation has shifted competitive dynamics toward control over passenger data. Airlines and intermediaries now rely on vast datasets, raising novel issues under Article 102 TFEU. Data-driven practices, such as loyalty schemes, personalised pricing, and mandatory data sharing, can both entrench market power and undermine transparency, fairness, and privacy. Recent case law confirms that data protection concerns, particularly under the GDPR, may be relevant in competition assessments when dominant firms exploit consumers through unfair terms. In aviation, where choice is often limited and regulatory obligations complex, the intersection of competition, consumer, and privacy law is especially acute.

This article examines exploitative and exclusionary abuses linked to data, arguing that data has become aviation's "new jet fuel" and requires regulatory vigilance.

Keywords

EU competition law; data exploitation; aviation sector; abuse of dominance; consumer privacy

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1. Introduction

Competition law has always played an important role in shaping the European aviation sector. From the liberalisation of airline markets in the 1990s to the scrutiny of major mergers and airline alliances, the European Commission has sought to ensure that consumers benefit from lower fares, greater choice, and fair conditions of access.¹ Traditionally, the focus of EU competition law in aviation has been on slot allocation at congested airports, route monopolies, and the structure of airline networks.² However, the rapid digitalisation of the industry means that competitive advantage is increasingly tied not only to physical assets such as fleets and airport slots, but also to control over data.³

Airlines and intermediaries such as booking platforms now process vast amounts of personal information, from frequent flyer records to biometric identifiers used at airport gates.⁴ These data-driven practices raise important questions under Article 102 TFEU, which prohibits the abuse of a dominant position. In particular, the way passenger data is collected, combined, and used can both shape competition and affect passengers' fundamental rights to privacy. For instance, loyalty programmes can lock passengers into particular airline

¹ Pablo González Casín 'Airline cooperation and competition law: a transatlantic perspective. An analysis of case law and unrealized scenarios' (2025) 16(3) *Journal of European Competition Law & Practice* 151.

² Council Regulation (EEC) No 95/93 of 18 January 1993 on common rules for the allocation of slots at Community airports [1993] OJ L 14/1. Case C-127/21 P *American Airlines Inc v European Commission* ECLI:EU:C:2023:209. Case C-95/04 P *British Airways plc v Commission of the European Communities* ECLI:EU:C:2007:166 (*British Airways*). Case T-398/21 *Ryanair DAC and Ryanair Sun SA v European Commission* ECLI:EU:T:2025:222.

³ Xiangsheng Dou 'Big Data and Smart Aviation Information Management System' (2020) 7(1) *Cogent Business & Management* 1766736.

⁴ Haiyue Yuan, Matthew Boakes, Xiao Ma, Dongmei Cao and Shujun L 'Visualising Personal Data Flows: Insights from a Case Study of booking.com' (2023) arXiv <<https://arxiv.org/abs/2304.09603>> accessed 26 August 2025. Athina Ioannou, Iis Tussyadiah and Yang Lu 'Privacy concerns and disclosure of biometric and behavioral data for travel' (2020) *International Journal of Information Management* 102122. Caitlin Chandler 'Inside the Black Box of Predictive Travel Surveillance' (*Wired* 13 January 2025) <<https://www.wired.com/story/inside-the-black-box-of-predictive-travel-surveillance/>> accessed 25 August 2025.

groups, while personalised pricing based on behavioural profiling risks undermining transparency and fairness in ticket sales.⁵ In each of these situations, the exercise of market power may overlap with concerns about excessive or intrusive data processing.

Recent developments in EU law highlight why this overlap matters. The Court of Justice has recognised that data protection rules, especially the General Data Protection Regulation (GDPR)⁶, may be relevant in competition cases when a dominant company uses its position to impose unfair terms on consumers.⁷ Although this principle emerged in the context of digital platforms, it has clear implications for aviation, where passengers often face limited choice and where airlines or intermediaries can make data-sharing a condition for accessing essential services. At the same time, aviation is subject to its own complex regulatory framework, including pricing transparency rules, safety requirements, and security-related data transfers, all of which interact with both competition law and privacy law.⁸

This article provides an overview of how Article 102 TFEU might apply to the use of data in aviation markets. It considers how exploitative practices, such as unfair data terms or discriminatory pricing, and exclusionary practices, such as the foreclosure of rivals through control of passenger data, could fall within

⁵ Philip Georgiadis and Rachel Rees 'The lucrative business of airline loyalty schemes' (*Financial Times* 29 January 2025) <<https://www.ft.com/content/85ddff1e-9552-4ff9-ae59-b688e2984d20>> accessed 26 August 2025. Marco Alderighi, Consuelo R. Nava, Matteo Calabrese, Jean-Marc Christille and Chiara B. Salvemini 'Consumer perception of price fairness and dynamic pricing: Evidence from booking.com' (2022) 148 *Journal of Business Research* 769. Case C-252/21 *Meta Platforms Inc and Others v Bundeskartellamt* ECLI:EU:C:2023:537 (*Meta Platforms*).

⁶ Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation) [2016] OJ L 119/1.

⁷ *Meta Platforms* (n 5).

⁸ Francesco Sciaudone, *The Impact of Unfair Commercial Practices on Competition in the EU Passenger Transport Sector* (European Parliament 2020) <[https://www.europarl.europa.eu/RegData/etudes/STUD/2020/642381/IPOL_STU\(2020\)642381_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/STUD/2020/642381/IPOL_STU(2020)642381_EN.pdf)> accessed 10 March 2026.

the scope of abuse of dominance. It also situates these issues within the broader EU regulatory environment, where competition, consumer protection, and privacy are increasingly intertwined. In doing so, the article highlights how data has become aviation's "new jet fuel" and why regulators may need to treat it as a central factor in maintaining both fair competition and passenger rights.

2. Dominance in Aviation Markets

In aviation markets, the concept of dominance has traditionally been grounded in control over infrastructure and route access.⁹ Airlines with privileged access to congested airports, such as London Heathrow or Frankfurt, benefit from slot allocation systems that protect incumbents under so-called "grandfather rights."¹⁰ These systems, entrenched in European law through Council Regulation (EEC) No 95/93, give dominant carriers a structural advantage by allowing them to retain slots year after year based on prior use.¹¹ Such arrangements, combined with strong network effects and economies of scale, have historically made it difficult for new entrants to compete on equal terms. This pattern is evident in merger cases such as *Ryanair/Aer Lingus*, where the European Commission intervened to block repeated acquisition attempts due to concerns over effective competition on Irish and UK routes.¹² In contrast, IAG's acquisition of Aer Lingus was cleared only after the company offered substantial remedies, including slot divestitures and access commitments.¹³ These examples

⁹ *British Airways* (n 2). *EasyJet/GB Airways (Merger)* (Commission Decision, Case COMP/M.4439, 18 January 2008). *Case T-411/07 Aer Lingus Group plc v European Commission* ECLI:EU:T:2010:281.

¹⁰ Council Regulation (EEC) No 95/93 (n 2) art 8(2).

¹¹ *Ibid.*

¹² *Ryanair Holdings plc/Aer Lingus Group plc* (Commission Decision, Case COMP/M.6663, 27 February 2013).

¹³ *International Consolidated Airlines Group SA/Aer Lingus Group plc* (Commission Decision, Case COMP/M.7541, 14 July 2015). European Commission 'Mergers: Commission Approves Acquisition of Aer Lingus by IAG, Subject to Conditions' (Press Release IP/15/5371, 14 July

reflect a longstanding regulatory focus on structural indicators of dominance, market shares, route overlaps, and physical access to airports.

However, this view of dominance is increasingly being challenged by the digital transformation of the aviation sector. Airlines today operate not only as transport providers but also as data platforms.¹⁴ Through frequent flyer programs (FFPs), digital booking systems, mobile apps, and even biometric boarding technologies, they accumulate vast volumes of passenger data.¹⁵ This data is used to optimise pricing, segment customers, and personalise offers, creating a deeper form of engagement that can significantly raise the cost of switching carriers.¹⁶ Studies show that passengers approaching elite status in FFPs are more likely to remain loyal, even at the cost of higher fares.¹⁷ Van Ommeren et al. estimated that these switching costs can amount to as much as 41% of the average ticket price for top-tier members.¹⁸ Similarly, Orhun et al. found that proximity to loyalty milestones significantly increases consumer

2015) <https://ec.europa.eu/commission/presscorner/detail/en/IP_15_5371> accessed 17 June 2025.

¹⁴ Ivan Verkalets 'Airline Industry Digital Transformation: Digital Aviation' (Coaxsoft, 19 December 2024) <<https://coaxsoft.com/blog/airline-industry-digital-transformation>> accessed 20 August 2025. Lucy Budd and Tim Vorley 'Airlines, Apps, and Business Travel: A Critical Examination' (2013) 9 *Research in Transportation Business & Management* 41. Eisquare 'Industry 4.0 Takes Flight: How Big Data, Artificial Intelligence, And The Internet Of Things Are Revolutionising The Aviation Industry' (20 September 2024) <<https://www.eisquare.co.uk/blogs/how-bigdata-ai-and-iot-are-revolutionising-the-aviation-industry>> accessed 26 July 2025.

¹⁵ OAG 'Redefining Loyalty: The Next Frontier in Traveller Relationship' (20 May 2024) <<https://www.oag.com/blog/redefining-loyalty-next-frontier-traveler-relationships>> accessed 25 August 2025.

¹⁶ Arkadiusz Tomczyk, Dimitrios Buhalis, Daisy XF Fan and Nigel L Williams 'Price-personalization: Customer Typology Based on Hospitality Business' (2022) 147 *Journal of Business Research* 462.

¹⁷ Hande Şahin, Ali Osman Kuşakçı and Baboucarr Mbowe 'The Effects of Frequent Flyer Programs in the Airline Industry on Customer Loyalty' (2021) 3(2) *Heritage and Sustainable Development* 130.

¹⁸ Jos van Ommeren, Christiaan Behrens and Gerben de Jong, *From Silver to Platinum: The Effect of Frequent Flier Tier Levels on Airline Demand* (Tinbergen Institute Discussion Paper No 21-077/VIII, Tinbergen Institute 2021).

stickiness, as travellers modify their choices to preserve or attain elite status.¹⁹ These forms of behavioural lock-in bear a strong resemblance to the strategies employed by dominant tech platforms.

What makes these developments particularly relevant is that they mirror the shift in how competition law understands dominance more broadly. In the landmark *Intel* case, the Court of Justice clarified that even non-transparent, loyalty-based rebates could amount to abuse under Article 102 TFEU if they had the potential to exclude equally efficient competitors.²⁰ The focus was not on the price itself, but on how behaviour was being shaped through conditional incentives. A similar logic was applied in *Google Shopping*, where the Commission found that Google had abused its dominance by systematically favouring its own comparison-shopping service in search results.²¹ This was not a matter of pricing, but of visibility, data control, and self-preferencing, tools that shaped user behaviour and distorted the competitive process.

These cases are highly instructive when thinking about the aviation sector today. As airlines gain ever more control over the digital travel journey, from search and booking through to in-flight and post-flight interaction, they are increasingly able to guide consumer choices, not through price or availability, but through loyalty incentives, personalised content, and data-driven offers. Marra noted that slot reform efforts are often undermined by these downstream dynamics, as airlines' data advantages allow them to monetise each slot far more effectively than potential rivals.²² Similarly, Gal and Rubinfeld argued a point in the context of digital markets that in data-driven environments, dominance arises

¹⁹ A Yeşim Orhun, Tong Guo and Andreas Hagemann, 'Reaching for Gold: Frequent-Flyer Status Incentives and Moral Hazard' (SSRN, 22 November 2018) https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3289321 accessed 15 June 2025.

²⁰ Case C-413/14 P *Intel Corp Inc v European Commission* ECLI:EU:C:2017:632.

²¹ Case T-612/17 *Google LLC and Alphabet Inc v European Commission (Google Shopping)* ECLI:EU:T:2021:763. (*Google Shopping*).

²² Marleen Marra 'A Market for Airport Slots' (SSRN, 9 October 2024) https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4948006 accessed 26 August 2025.

not only from scale but from the ability to predict and shape consumer preferences.²³ In fact, such stance could indicate that a dominance in aviation is no longer just about who controls the runway, it is also about who controls the relationship with the passenger. As airlines deepen their reliance on data and digital interfaces, traditional competition tools that focus solely on physical infrastructure may overlook the ways in which dominance is being sustained and extended through more subtle, non-price mechanisms. If competition authorities are to keep pace, they will need to consider how informational advantages and behavioural strategies can entrench market power, much like in the digital platform economy.

3. Data and Passenger Loyalty as Market Power

Frequent flyer programs represent one of the most pervasive sources of consumer lock-in.²⁴ Structurally, they are designed to incentivise continued patronage through tiered status rewards, mileage accrual, and access to benefits which increase in value as a passenger's engagement deepens.²⁵ Economically, this creates high switching costs: consumers who approach tier upgrades or accumulated benefits are less likely to consider alternative airlines, even when faced with lower fares or more convenient schedules.²⁶ When embedded within global alliances such as Star Alliance or Oneworld, the exclusionary potential of FFPs is amplified. Smaller, unaffiliated competitors are often unable to match the extended benefits that alliance members offer across routes, lounges, and status recognition. This creates a form of "ecosystemic dominance," wherein the

²³ Michal S Gal and Daniel L Rubinfeld, *Algorithms, AI and Mergers* (NYU Law and Economics Research Paper No 23-36, New York University School of Law 2023).

²⁴ Christiaan Behrens, Gerben de Jong and Jos van Ommeren 'From Silver to Platinum: The Impact of Frequent Flier Tier Levels on Air Travellers' Behaviour' (2024) 172 *Transportation Research Part B: Methodological* 102986.

²⁵ *Ibid.* pp. 2-3.

²⁶ *Ibid.*

competitive playing field is tilted not by price or frequency but by the cumulative reach of integrated loyalty networks.

Further concerns arise regarding data protection and privacy. Participation in loyalty programs typically involves the collection and processing of sensitive personal information, ranging from travel itineraries and purchase behaviours to location data and biometric identifiers.²⁷ However, consent to such data use is often bundled with general participation in the program, raising concerns under the GDPR. Article 4(11) GDPR requires that consent be freely given, specific, informed, and unambiguous; yet the structure of most airline loyalty schemes provides consumers with limited real control over how their data is used. This bundling effect undermines meaningful choice and may convert data-sharing into a de facto condition for access to competitive pricing or basic service features.²⁸

Data advantages extend beyond loyalty systems into increasingly sophisticated pricing mechanisms. Airlines now deploy dynamic pricing models that adjust fares not only based on supply and demand, but also on personalised data such as user location, device type, browser history, and past search behaviour.²⁹ These practices, while often justified on grounds of revenue management efficiency, raise concerns under Article 102(a) TFEU, which

²⁷ European Parliament, Data Subjects, Digital Surveillance, AI and the Future of Work (European Parliament Research Service 2020) <[https://www.europarl.europa.eu/RegData/etudes/STUD/2020/656305/EPRS_STU\(2020\)656305_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/STUD/2020/656305/EPRS_STU(2020)656305_EN.pdf)> accessed 20 April 2025.

²⁸ Haggai Porat 'Behavior-Based Price Discrimination and Data Protection in the Age of Algorithms' (2026) 55(1) *The Journal of Legal Studies* 129. OECD, *Dark Commercial Patterns* (OECD Digital Economy Paper No 336, OECD Publishing 2022) <https://www.oecd.org/en/publications/dark-commercial-patterns_44f5e846-en.html> accessed 26 August 2025.

²⁹ OAG, 'Airline Pricing in 2025: How Shopping Data Unlocks Truly Dynamic Offers' (7 April 2025) <<https://www.oag.com/airline-pricing-shopping-data>> accessed 26 August 2025. Kat George 'When I Booked Flights Online I Noticed the Prices Kept Changing. Is It Legal in Australia? Can I Avoid It?' (*The Guardian*, 21 May 2025) <<https://www.theguardian.com/lifeandstyle/2025/may/21/booking-flights-online-dynamic-pricing-ticket-is-it-legal-australia>> accessed 20 August 2025.

prohibits the imposition of unfair prices by dominant undertakings. While the legal threshold for establishing exploitative pricing remains high, the opacity of algorithmic pricing systems complicates enforcement, especially where price discrimination is not transparent to consumers. Azzolina et al., in a study of airline e-commerce practices, underscored the difficulty regulators face in identifying systematic discrimination, even where pricing variation is real.³⁰ Similarly, as Aryal et al., claimed by assessing airline pricing, these data-driven systems allow firms to segment consumers across time and product offerings in ways that systematically extract surplus, particularly from those less able to optimise search or booking behaviour.³¹ While such models may enhance short-term efficiency, they can erode long-term consumer welfare and reinforce dominance through informational asymmetries and behavioural conditioning.

4. Privacy as a Competition Parameter

The CJEU's recognition in *Meta Platforms v Bundeskartellamt* that privacy can constitute a dimension of "quality" in EU competition law highlights how exploitative conduct may extend beyond price manipulation or product features. By framing privacy protections as an essential aspect of service quality, the judgment provides a lens for assessing abusive practices in both digital and non-digital markets where consumers' personal data or other qualitative interests are leveraged by dominant firms.³² In the consideration of the CJEU, privacy in the broader scope could be captured by the anticompetitive rules. In this article, the author would rely on the consideration of the "privacy-as-quality" to discuss competition law and privacy angle.

³⁰ Stefano Azzolina, Manuel Razza, Kevin Sartiano and Emanuel Weitschek 'Price Discrimination in the Online Airline Market: An Empirical Study' (2021) 16(6) *Journal of Theoretical and Applied Electronic Commerce Research* 2282.

³¹ Gaurab Aryal, Charles Murry and Jonathan W Williams 'Price Discrimination in International Airline Markets' (2024) 91(2) *The Review of Economic Studies* 641.

³² *Meta Platforms* (n 5) paras 48-51.

The theory of “privacy-as-quality” highlights that consumer welfare is not solely measured in terms of price, but also encompasses innovation, choice and quality, with privacy emerging as an increasingly salient component of quality in data-driven markets.³³ This theoretical approach acknowledges that in zero-priced services, personal data functions as a form of counter-performance, and excessive data extraction above a competitive level can reduce consumer welfare in a manner equivalent to charging supra-competitive prices.³⁴ The Bundeskartellamt case exemplifies this reasoning, as the Court recognised that the imposition of excessive data collection as a condition for access to a platform could distort the competitive process and harm consumers by degrading privacy protections.³⁵

When transposed into the aviation sector, this reasoning exposes potential risks of exploitative abuse under Article 102 TFEU where dominant airlines or booking platforms leverage their market position to impose intrusive data practices on passengers. Air travel is increasingly digitised, with personal data collection embedded not only in online booking processes but also in ancillary revenue strategies, profiling-based marketing, and biometric boarding systems.³⁶ If access to essential air transport services is made conditional on consumers accepting excessive data processing, for example, compulsory enrolment in biometric identification systems or the tying of ticket purchases to profiling-

³³ Maurice E Stucke and Ariel Ezrachi ‘When Competition Fails to Optimise Quality: A Look at Search Engines’ (2016) 18 *Yale Journal of Law and Technology* 70. *Anticipated Acquisition by Facebook Inc of Instagram Inc* (Office of Fair Trading, Case ME/5525/12, 14 August 2012).

³⁴ Eleonora Ocello, Cristina Sjödin and Anatoly Subočs ‘What’s Up with Merger Control in the Digital Sector? Lessons from the Facebook/WhatsApp EU Merger Case’ (2015) 1 *European Commission Competition Merger Brief* 6. Mauro Luis Gotsch and Marcus Schögel ‘Addressing the Privacy Paradox on the Organizational Level: Review and Future Directions’ (2023) 73(2) *Management Review Quarterly* 263.

³⁵ *Meta Platforms* (n 5) paras 48-53, 68, 147-150.

³⁶ Alexander Grous, *Capitalising on Changing Passenger Behaviour in a Connected World* (London School of Economics and Political Science 2019) <<https://www.lse.ac.uk/business/consulting/assets/documents/sky-high-economics-chapter-three.pdf>> accessed 26 August 2025.

based ancillary services, passengers are effectively deprived of meaningful choice. In such circumstances, the airline extracts disproportionate value from consumers in the form of their data, thereby degrading the quality of the service offered. This can be characterised as exploitative conduct akin to imposing unfair trading conditions, since the consumer's privacy is diminished not as the result of competition on the merits, but because of the airline's market power.

The concept of "privacy-as-quality" is particularly useful here because it frames the reduction of privacy not as a "standalone" data protection issue, but as a degradation of a recognised parameter of product quality under competition law. The Commission has previously acknowledged in merger control, for instance in *Facebook/WhatsApp* and *Microsoft/LinkedIn*, that privacy protections can constitute an important dimension of competition between undertakings, with stronger privacy protections being seen as an indicator of higher product quality.³⁷ If this reasoning is extended to exploitative abuse cases, then reductions in privacy standards imposed unilaterally by dominant firms may be treated as a form of harm to consumer welfare.³⁸ In aviation markets, the imposition of mandatory profiling or biometric boarding systems could be understood in precisely this way: not only does it reduce passengers' ability to exercise control over their data, but it also effectively reduces the quality of the flight service by embedding an intrusive trade-off into an otherwise essential service.

However, significant methodological challenges remain. Competition law analysis has historically been anchored in price-centric tools such as the SSNIP (Small but Significant and Non-Transitory Increase in Price) test, and their direct transposition into zero-priced or hybrid markets such as aviation is problematic.

³⁷ *Facebook Inc/WhatsApp Inc* (Commission Decision, Case M.7217, 3 October 2014). *Microsoft Corp/LinkedIn Corp* (Commission Decision, Case M.8124, C(2016) 8404 final, 6 December 2016).

³⁸ Arletta Gorecka, *The Interface between Competition Law and Data Privacy Law: Violation of Privacy as an Exploitative Theory of Harm under Article 102 TFEU* (Springer Nature Switzerland AG 2024).

While some commentators propose the SSNDQ (Small but Significant Non-Transitory Decrease in Quality) test as a more appropriate tool, it has not yet been operationalised in case law, and its application to subjective parameters such as privacy is fraught with difficulties, given the heterogeneity of consumer preferences and the presence of information asymmetries.³⁹ In the aviation context, consumers may accept intrusive data practices not because they do not value privacy, but because air travel is an essential service with limited substitutes, leaving them locked in to privacy-invasive conditions. This structural lack of choice amplifies the exploitative character of excessive data collection and aligns with the rationale in *Meta Platforms*, where the Court underscored that coercive consent mechanisms linked to market power could be anticompetitive.⁴⁰

Accordingly, while EU competition law has not yet explicitly confronted privacy intrusions in the aviation sector, the logic of “privacy-as-quality” provides a coherent framework for doing so. Where dominant airlines or booking platforms compel consumers to trade their data for access to core services, the practice could be framed as a reduction in quality that undermines consumer welfare and thus constitutes an exploitative abuse under Article 102 TFEU. Although the integration of privacy into competition analysis raises both conceptual and practical challenges, the broader trend in EU law recognises that quality-based harms, including privacy degradation, can and should be captured within the competition law framework, particularly in sectors where digitalisation has rendered privacy a central dimension of consumer experience.

³⁹ Aleksandra Gebicka and Andreas Heinemann ‘Social Media & Competition Law’ (2014) 37(2) *World Competition* 149.

⁴⁰ *Meta Platforms* (n 5) paras 147-150.

5. Potential Abuses Under Article 102 TFEU in Aviation

The increasing datafication of the airline industry has created novel avenues for abusive conduct under Article 102 TFEU, shifting the focus of enforcement from traditional capacity- or slot-based dominance towards informational control and behavioural lock-in. In line with the reasoning endorsed by the Court of Justice in *Meta Platforms* which confirmed that excessive data collection imposed as a condition of access can amount to an exploitative abuse, privacy must now be recognised as a parameter of quality in the aviation sector.⁴¹ Airlines are no longer merely transport providers: they operate as data platforms, monetising passenger information through dynamic pricing, biometric processing, and loyalty-driven behavioural conditioning. In such an environment, the abuse of dominance may manifest less through overt price hikes or route foreclosure and more through subtle degradations in privacy and quality that nonetheless impair consumer welfare and distort market structure.

Exploitative abuse under Article 102(a) TFEU arises where a dominant airline imposes unfair trading conditions on passengers. Analogous to the *Meta Platforms* precedent, exploitative practices may include forcing passengers to consent to extensive data harvesting, covering travel history, payment details, geolocation, and biometric identifiers, as a precondition for booking tickets or enrolling in frequent flyer schemes.⁴² Such bundled consent, unlikely to satisfy the GDPR's requirement of being "freely given, specific and informed" (Article 4(11) GDPR), acquires competition law relevance once tied to market power. Where personal data is used to fuel algorithmic fare differentiation or priority boarding allocation, consumers risk being subjected to unfair discrimination. Dynamic pricing strategies based on willingness-to-pay proxies, such as device used, browsing behaviour, or past purchasing patterns, may systematically

⁴¹ *Meta Platforms* (n 5) paras 48-53, 68.

⁴² *Ibid.*

disadvantage infrequent travellers, low-income passengers, or those less technologically literate. While airlines have long relied on yield management, the move towards opaque, data-driven personalisation blurs the line between commercial innovation and the imposition of unfair conditions, raising the possibility of Article 102(a) TFEU intervention in the same vein as *United Brands v Commission*, where unfair pricing and trading terms were central to the finding of abuse.⁴³

Exclusionary abuse under Articles 102(b)–(d) TFEU is equally salient in this data-driven aviation ecosystem. Dominant airlines may refuse to share essential passenger data with rivals, such as loyalty histories, ancillary purchase profiles, or biometric verification data, thereby foreclosing effective competition in ticket distribution and ancillary services. The logic here resonates with *Bronner*⁴⁴ and *Microsoft*⁴⁵ where access to an input is indispensable for competitors to remain viable, denial without objective justification can amount to abuse. In aviation, the refusal to interoperate booking systems or biometric boarding infrastructure may prevent independent online travel agencies or smaller carriers from offering competitive alternatives, raising rivals' costs and entrenching the incumbent's advantage. This is not hypothetical, the Commission has historically scrutinised exclusionary airline practices, as in *Virgin/BA*⁴⁶ concerning travel agent incentive schemes, and in *Ryanair/Aer Lingus*⁴⁷ regarding foreclosure effects in minority shareholdings. Extending this logic to the data economy of aviation suggests that informational foreclosure can be as distortive as slot hoarding or predatory pricing.

⁴³ Case 27/76 *United Brands Company and United Brands Continentaal BV v Commission of the European Communities* ECLI:EU:C:1978:22.

⁴⁴ Case C-7/97 *Oscar Bronner GmbH & Co KG v Mediaprint Zeitungs- und Zeitschriftenverlag GmbH & Co KG and Others* ECLI:EU:C:1998:569.

⁴⁵ Case T-201/04 *Microsoft Corp v Commission of the European Communities* ECLI:EU:T:2007:289.

⁴⁶ *Virgin/British Airways* (Commission Decision 1999/480/EC, Case IV/D-2/34.780, [2000] OJ L 30/1).

⁴⁷ Case T-342/07 *Ryanair Holdings plc v European Commission* ECLI:EU:T:2010:280.

A further form of exclusionary abuse lies in the tying of FFPs to alliance ecosystems, effectively constructing “walled gardens” of loyalty.⁴⁸ Consumers who accrue points within Star Alliance or Oneworld face prohibitively high switching costs if they wish to fly with unaffiliated carriers. This phenomenon, previously addressed in the Commission’s prohibition of SAS’s EuroBonus program in Sweden and Norway,⁴⁹ is now compounded by the integration of personal data into loyalty systems. By leveraging dominance in one market segment (air transport on hub routes) to condition consumer behaviour in another (loyalty-driven retention), airlines risk infringing Article 102(d) TFEU, consistent with the principles articulated in *Tetra Pak II*.⁵⁰ The abusive effect does not derive from overt contractual exclusivity but from the behavioural lock-in generated by cumulative data and benefits, a subtle but powerful barrier to market entry for smaller rivals.

The interplay between exploitative and exclusionary abuses becomes particularly acute in data-driven aviation. Airlines with market power can simultaneously extract value from consumers through intrusive profiling and foreclose competitors by controlling the informational ecosystems necessary for effective rivalry. The strategic combination of personalised fare adjustments, loyalty-induced switching costs, and restricted data interoperability creates a competitive environment where incumbency is protected not by physical assets alone but by informational asymmetries. This dual abuse resembles the Commission’s findings in *Google Shopping*⁵¹ where leveraging a dominant platform position distorted competition both vertically and horizontally, albeit

⁴⁸ Kan Jie Marcus Ho ‘The Faux Pas in Modern Competition Law – Walled Gardens, Data Sharing and Algorithmic Decision Making’ (SSRN, 9 February 2021) <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3785141> accessed 26 August 2025.

⁴⁹ *GFU – Norwegian Gas Negotiation Committee* (European Commission, Case COMP/36.072, closed by commitments, 17 July 2002).

⁵⁰ Case T-83/91 *Tetra Pak International SA v Commission* [1994] ECR II-755.

⁵¹ *Google Shopping* (n 21).

in a non-price dimension. The aviation sector demonstrates how the same logic can migrate from digital platforms into traditional industries.

These dynamics demonstrate that the application of Article 102 TFEU in aviation cannot remain tethered to outdated metrics such as capacity control or slot allocation. Just as the Court in *Meta Platforms* recognised privacy as an element of quality, enforcement in aviation must adapt to account for the non-price parameters of competition increasingly central to consumer welfare. Tools such as a SSNDQ test, though still more conceptual than operational,⁵² may offer a framework for analysing whether reductions in privacy protection constitute competitive harm. National authorities have already laid the groundwork: the Bundeskartellamt's willingness to treat privacy as a competition parameter, combined with the Commission's past scrutiny of FFPs and travel agency restrictions, suggests a legal and institutional readiness to extend Article 102 TFEU analysis to privacy-related abuses in aviation. The challenge going forward will be translating this recognition into robust enforcement methodologies capable of quantifying and remedying privacy degradation without collapsing competition law into data protection law. Properly calibrated, such an approach would preserve the integrity of consumer welfare analysis while ensuring that dominance in aviation is not exercised through opaque, exploitative, and exclusionary data practices.

6. Conclusion

Article 102 TFEU provides a powerful framework for addressing emerging forms of dominance in aviation markets driven by data. The EU's evolving jurisprudence demonstrates that privacy is no longer separate from competition:

⁵² Jacques Crémer, Yves-Alexandre de Montjoye and Heike Schweitzer, *Competition Policy for the Digital Era* (European Commission 2019) 30
<https://ec.europa.eu/competition/publications/reports/kd0419345enn.pdf> accessed 10 December 2019

excessive data collection and exploitative digital practices can constitute abuses of dominance. In the context of EU aviation, the key challenge is to ensure open, competitive skies while safeguarding passengers' fundamental rights. Recognising privacy as a dimension of service quality underscores that protecting passenger data is not only a legal obligation but also a competitive factor that airlines must integrate into their business practices to maintain fair and effective competition.