Table Of Content

1. Introduction.

The aviation industry stands at a crossroads of modern connectivity and environmental impact, contributing significantly to global carbon emissions, noise pollution, and fossil fuel consumption. As the world becomes increasingly interconnected, the demand for air travel continues to grow, exacerbating these sustainability challenges (McManners, 2016). Yet, the importance of sustainability for airlines extends beyond environmental concerns; it encompasses social responsibilities such as ensuring equitable labor practices, contributing positively to local communities, and safeguarding passenger health and safety. Economically, sustainability also involves adapting to volatile fuel prices, investing in green technologies, and meeting regulatory standards, all while maintaining profitability and competitive advantage (Agarwal and Ramesh, 2009). Against this backdrop, Air France-KLM and Wizz Air present intriguing case studies for comparison. Air France-KLM, a legacy carrier, has a broad operational footprint and a diverse fleet, positioning it uniquely in the sustainability discourse. It has historically emphasized a balanced approach to sustainability, incorporating both short-term initiatives and long-term strategic investments (Pimiä, 2023). On the other hand, Wizz Air, a low-cost carrier based in Hungary, represents a different model within the industry. Known for its cost-efficiency and rapid growth, Wizz Air's approach to sustainability offers insights into how newer, budget-focused airlines navigate environmental and social challenges (Tłoczyński, 2018). This essay aims to compare and critically evaluate the sustainability performance and management responses of Air France-KLM and Wizz Air. By examining how these two distinct airlines address the multifaceted sustainability challenges facing the aviation industry today, we can uncover broader insights into the sector's capacity for innovation and adaptation in pursuit of a more sustainable future. Through this analysis, the goal is to illuminate the practices, policies, and strategies that contribute to sustainable development

within the aviation industry, providing a window into the future of air travel in an increasingly eco-conscious world.

2. Sustainability challenges in aviation.

The aviation industry, while essential for global connectivity, grapples with significant sustainability challenges that span environmental, social, and economic dimensions. These challenges not only affect the industry's operational efficiency and profitability but also have broader implications for society and the environment (Pinheiro Melo et al., 2020).

2.1 Environmental Challenges.

At the forefront of environmental concerns is the aviation industry's substantial greenhouse gas (GHG) emissions, contributing to climate change. Aviation is responsible for around 2-3% of global CO2 emissions, a figure that is projected to rise as demand for air travel increases (Terrenoire et al., 2019). The sector's reliance on fossil fuels for aircraft propulsion is a primary source of these emissions, underscoring the urgent need for more sustainable energy sources. Energy consumption in aviation is inherently high due to the technical requirements of powering aircraft over long distances. This dependence on fossil fuels not only exacerbates GHG emissions but also places the industry at the mercy of volatile oil markets, making sustainable energy alternatives both an environmental necessity and an economic opportunity (Lee et al., 2009).

Another pressing environmental issue is noise pollution, which significantly impacts local communities around airports. The constant takeoff and landing of aircraft generate noise levels that can lead to health problems, disturb local wildlife, and decrease property values, posing a challenge to airlines in maintaining good relations with these communities and mitigating the adverse effects (Gössling and Upham, 2009)

2.2 Social Challenges.

The aviation industry's expansion often affects local communities, sometimes leading to displacement and alterations in local economies. While airports and related infrastructure can bring economic opportunities, they can also disrupt traditional ways of life and local businesses, necessitating careful planning and community engagement to ensure equitable development (Dimitriou and Sartzetaki, 2020). Employment practices and labor relations within the sector are also under scrutiny. The industry's competitive nature, especially with the rise of low-cost carriers, has led to concerns over job security, working conditions, and fair wages for airline staff, from pilots to ground crew. Balancing cost-efficiency with fair labor practices is a significant challenge for airlines striving for sustainability (Gittell and Bamber, 2010). Moreover, ensuring passenger health and safety, especially in the wake of global health crises like the COVID-19 pandemic, has become a paramount concern. Airlines must navigate the complex logistics of safe travel, including sanitation protocols and social distancing measures, without compromising the travel experience (Amankwah-Amoah, 2020).

2.3 Economic Challenges.

Fuel price volatility is a perennial concern for airlines, affecting operational costs and fare prices. The unpredictability of oil prices compels airlines to hedge fuel costs or invest in more fuel-efficient technologies, strategies that carry their own risks and costs (Daley and Callum, 2011).

Integrating sustainable technologies and practices presents another economic hurdle. Investments in fuel-efficient aircraft, sustainable aviation fuels (SAF), and other green technologies are essential for reducing the industry's environmental footprint but require substantial upfront costs and long-term commitment. The financial viability of these investments depends on economies of scale, technological advancements, and supportive regulatory frameworks (Nelson and Reddy, 2018). Lastly, the industry faces regulatory

pressures to comply with international sustainability standards and emissions targets. Navigating the complex landscape of global, regional, and local regulations demands significant resources and expertise, with non-compliance risking financial penalties and reputational damage (Grimme, 2023).

In summary, the aviation industry's sustainability challenges are multifaceted and interconnected, requiring comprehensive strategies that address environmental impact, social responsibility, and economic viability. Overcoming these challenges demands innovation, collaboration, and a commitment to sustainable development from all industry stakeholders (Britzke, 2022).

3. Air France-KLM's Sustainability Performance and Management Responses.

Air France-KLM has been at the forefront of integrating sustainability into its core operations, demonstrating a commitment to reducing its environmental impact, enhancing social responsibility, and maintaining economic resilience. The group's multifaceted approach encompasses a wide range of initiatives, from investing in green technologies to engaging with local communities and fostering a sustainable corporate culture (Schramade, 2019).

3.1 Environmental Initiatives.

Air France-KLM has set ambitious goals to reduce its CO2 emissions, aiming for a significant decrease per passenger-km by 2030 compared to 2005 levels. A key strategy in achieving this is enhancing fuel efficiency, which the group has pursued through a modernization program for its fleet (Moriarty and Honnery, 2013). By incorporating newer, more fuel-efficient aircraft, such as the Boeing 787 Dreamliner and Airbus A350, the airline aims to lower fuel

consumption and thus reduce greenhouse gas emissions. As of the latest reports, these modern aircraft are up to 25% more fuel-efficient than their predecessors (Vasigh and Azadian, 2022).

In the realm of sustainable aviation fuels (SAF), Air France-KLM has emerged as a leader,
committing to an incremental increase in SAF usage across its operations. The group has been
part of several pioneering projects, including long-haul flights powered by a blend of conventional and bio-based jet fuel, significantly reducing the carbon footprint of these flights.
The commitment extends to a goal of incorporating 10% SAF in its fuel mix by 2030, a move
expected to substantially cut emissions (Shehab et al., 2023). Moreover, Noise pollution
mitigation is another area where Air France-KLM has made strides, implementing operational
procedures designed to minimize noise impact around airports. This includes optimized flight
paths, reduced engine usage on landing (single-engine taxiing), and community engagement
programs to address concerns and find solutions collaboratively. Environmental stewardship
programs also play a crucial role, with initiatives aimed at biodiversity preservation and waste
reduction efforts within operations (Lugten, 2019).

3.2 Social Initiatives.

On the social front, Air France-KLM places a strong emphasis on employee relations, aiming to create a workplace that fosters diversity, equity, and inclusion. The group has implemented various programs to support employee development, mental health, and well-being (Kumaka, 2022). Moreover, it actively promotes gender equality, with initiatives aimed at increasing the representation of women in pilot and management positions. Recent statistics highlight progress, with women now occupying significant percentages of leadership roles within the company (Smith et al., 2021). Moreover, Community engagement and passenger welfare are

also central to Air France-KLM's social sustainability efforts. The airline supports numerous community projects, particularly those focused on education, culture, and environmental conservation in the regions it serves. For passengers, the group has rolled out enhanced service protocols to ensure safety, comfort, and accessibility, including measures to improve air quality onboard and more transparent communication on flight delays and cancellations (Anttila, and Kretzschmar, 2010).

Health and safety protocols, especially in the wake of the COVID-19 pandemic, have been rigorously enhanced. Air France-KLM was among the first to implement mandatory face coverings, enhanced cabin cleaning, and HEPA filters on all aircraft, significantly reducing the risk of virus transmission onboard (Kang et al., 2021).

3.3 Economic Initiatives.

Economically, Air France-KLM's approach to sustainability encompasses resilience and strategic investment. The group conducts thorough cost-benefit analyses of its sustainability investments, ensuring that initiatives not only contribute to environmental and social goals but also enhance long-term profitability. This includes evaluating the financial viability of incorporating SAF, investing in new aircraft, and implementing efficiency measures across operations. Strategies for sustainable growth focus on innovation and market differentiation (Bouwer et al., 2019). Air France-KLM ha s leveraged its sustainability commitments to enhance its brand, attract environmentally conscious customers, and develop new business models. This includes partnerships with technology firms and startups to explore electric aircraft and other innovations that could revolutionize air travel (Mousavi and Bossink, 2017).

Adaptation to sustainable practices is viewed as a competitive advantage, positioning Air France-KLM as a leader in a sector increasingly influenced by environmental regulations and consumer preferences for green travel options. The group's commitment to reducing its

environmental footprint, enhancing social welfare, and maintaining economic viability illustrates a comprehensive approach to sustainability, setting benchmarks for the aviation industry worldwide (Marques, 2015).

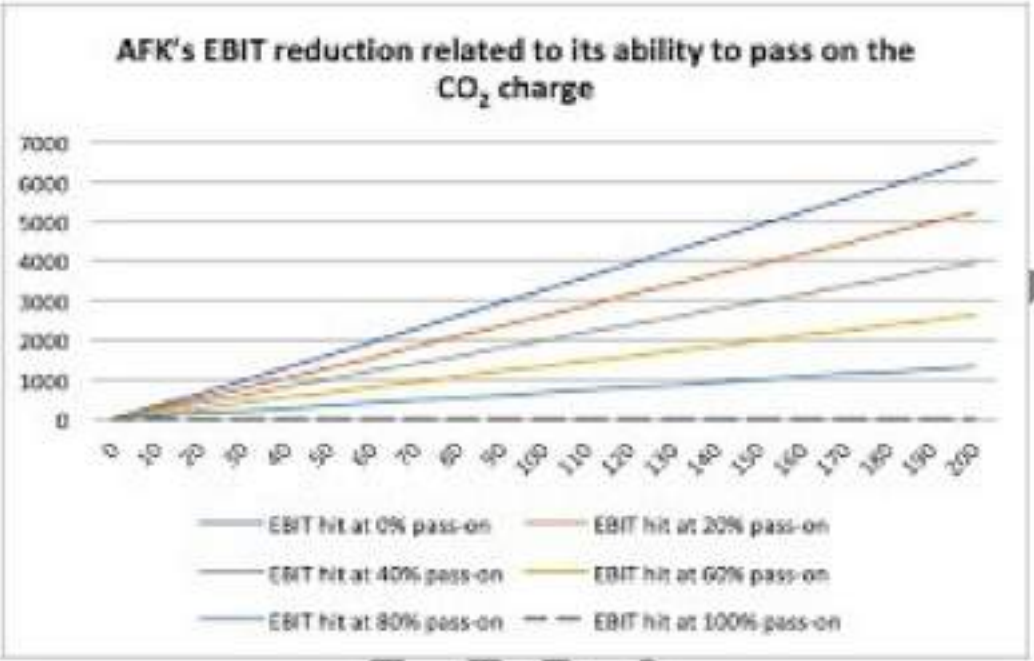

Figure 1 Case study Air France- KLM (Schramade, 2019)

4. Wizz Air's Sustainability Performance and Management Responses.

4.1 Environmental Initiatives

Wizz Air has placed significant emphasis on improving energy efficiency and reducing emissions as part of its environmental sustainability strategy. The airline operates one of the youngest fleets in Europe, with an average age of around 5 years, comprising aircraft that are among the most fuel-efficient in the market, such as the Airbus A320neo and A321neo models (Cheung and Zhu, 2015). These aircraft offer a reduction in fuel consumption and CO2 emissions by up to 20% per seat compared to previous models, showcasing Wizz Air's

commitment to lowering its environmental footprint through technological advancements. The airline's investment in fleet modernization is complemented by efforts to optimize flight operations for energy efficiency. Wizz Air employs advanced flight planning systems and continuous descent approaches to minimize fuel burn and emissions. These operational efficiencies not only contribute to environmental sustainability but also enhance cost- effectiveness, aligning with Wizz Air's low-cost business model (D'Alessandro et al., 2022).

Wizz Air has also implemented several environmental impact mitigation strategies, focusing on reducing noise pollution and enhancing waste management practices. The airline's newer aircraft models are equipped with quieter engines, helping to decrease noise levels in communities near airports. Furthermore, Wizz Air has been working towards reducing single-use plastics onboard its flights and implementing recycling programs to minimize waste (Remenyik et al., 2021).

4.2 Social Initiatives.

In terms of social initiatives, Wizz Air has developed policies aimed at fostering positive employment and labor relations. The airline prioritizes the development and well-being of its employees, offering training and career advancement opportunities to ensure a skilled and motivated workforce. However, it's important to note that Wizz Air has faced criticism from labor unions regarding working conditions and pay scales. In response, the airline has engaged in dialogue with employee representatives to address these concerns and improve labor relations (Neacsu, 2023).

Community involvement and contributions to local economies are key aspects of Wizz Air's social sustainability efforts. The airline supports various community projects and initiatives, particularly those focused on education, health, and the environment. By stimulating tourism and creating job opportunities in the regions it serves, Wizz Air contributes to local economic

development and fosters positive relationships with communities. Enhancing the passenger experience and safety is another critical component of Wizz Air's social initiatives. The airline has invested in technology and infrastructure to streamline the check-in and boarding processes, making air travel more accessible and convenient for passengers. Safety protocols and measures are rigorously implemented to ensure passenger well-being, with continuous updates and improvements based on industry standards and regulations (Kassem et al., 2022).

4.3 Economic Initiatives.

Adapting its business model for sustainability is at the core of Wizz Air's economic initiatives.

The airline's focus on cost efficiency, driven by its low-cost model, aligns with sustainability goals by reducing waste and maximizing resource utilization. Wizz Air's strategic expansion into new markets and development of eco-efficient routes are part of its efforts to balance economic growth with environmental and social responsibilities (Athousaki, 2019).

Wizz Air's financial performance is closely tied to its sustainability efforts. The airline's investments in fuel-efficient aircraft and operational efficiencies have led to reduced operational costs and enhanced competitiveness. These measures not only contribute to environmental sustainability but also improve profitability and shareholder value, demonstrating the economic viability of Wizz Air's sustainability strategy (Yordanov, 2019). Strategic planning for long-term sustainability is fundamental to Wizz Air's approach. The airline continuously evaluates emerging technologies, regulatory changes, and market trends to adapt its operations and maintain its commitment to sustainability. This includes exploring

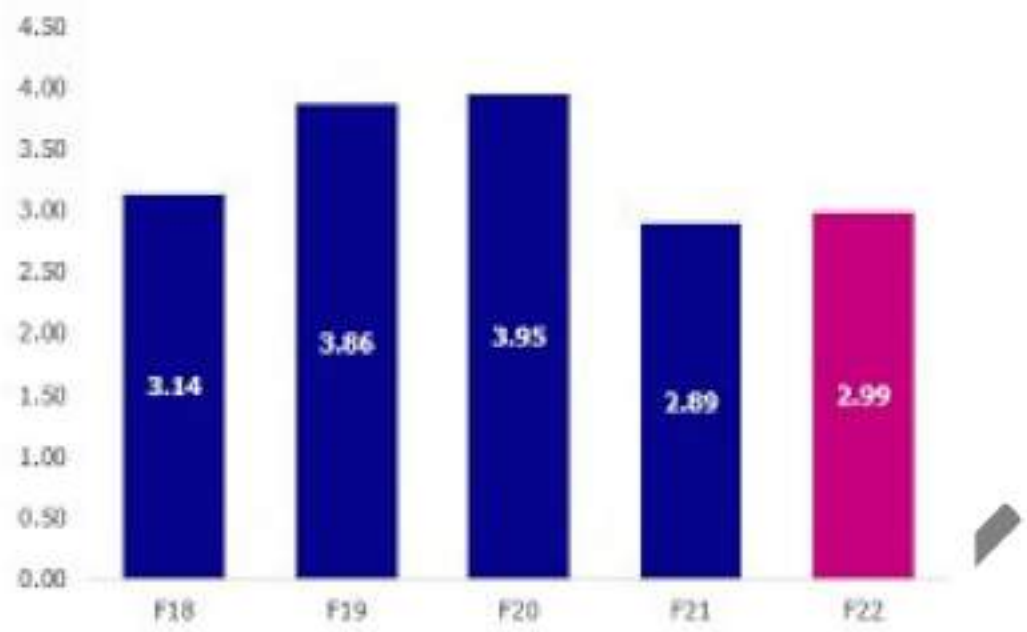

Figure 2 Wizz Air annual report (Wizz Air, 2022).

5. Comparative Analysis.

Air France-KLM and Wizz Air, though operating in the same industry, approach sustainability from divergent vantage points, reflective of their distinct business m

odels, operational scales, and strategic priorities. A critical evaluation of their sustainability strategies reveals both shared ambitions and distinct pathways in addressing environmental, social, and economic challenges.

In terms of environmental initiatives, both airlines have demonstrated a commitment to reducing greenhouse gas emissions, albeit through differing methodologies. Air France-KLM's strategy is deeply integrated with technological innovation and industry collaboration, focusing on advanced biofuel investments and fleet modernization to enhance fuel efficiency. The airline's ambitious target to incorporate sustainable aviation fuels (SAF) into its operations underscores its proactive stance on carbon reduction (Haksevenler et al., 2023). Conversely,

Wizz Air's environmental approach is inherently tied to its business model, relying on a modern, fuel-efficient fleet as a cornerstone of its sustainability efforts. The operational efficiencies gained from Wizz Air's newer aircraft not only support its low-cost structure but also contribute to its environmental goals, albeit with less emphasis on SAF investment compared to Air France-KLM (Fyfe, 2019).

Moreover, the social sustainability front presents another dimension of contrast. Air France-
KLM places a strong emphasis on comprehensive employee relations and community engagement programs, reflecting its broader corporate responsibility ethos. Initiatives aimed at
promoting gender equality within its workforce and supporting local communities through
various projects illustrate the airline's holistic view of social sustainability (COUASME and
GURGEY, 2016). Wizz Air, while also engaging in community initiatives, appears to prioritize
operational efficiency and growth, with its approach to labor relations and employee welfare
occasionally drawing criticism. The airline's efforts to enhance the passenger experience and
safety protocols, however, indicate a growing recognition of the importance of social responsibility to its overall sustainability agenda (Marin-Pantelescu,2021). On the other hand,
Economically, both airlines recognize the importance of sustainability as a driver for long-term
viability. Air France-KLM's detailed cost-benefit analyses of sustainability investments highlight its strategic approach to balancing environmental and social commitments with

Despite these efforts, both airlines face challenges in fully integrating sustainability into their operations. For Air France-KLM, the scale of its ambition necessitates significant investment and stakeholder collaboration, posing risks related to technological feasibility, market acceptance of SAF, and regulatory compliance (Gudmundsson, 2018). Wizz Air's challenges revolve around balancing rapid growth with environmental impact, navigating public scrutiny over labor practices, and expanding its sustainability focus beyond operational efficiency (Czudar et al., 2007).

6. Conclusion:

The comparative analysis of Air France-KLM and Wizz Air reveals distinct sustainability strategies reflective of their operational models and corporate philosophies. Air France-KLM's comprehensive approach, marked by significant investments in sustainable aviation fuels and robust social initiatives, contrasts with Wizz Air's focus on operational efficiency through fleet modernization and market expansion. These case studies illuminate the aviation industry's multifaceted challenge in balancing environmental responsibilities, social equity, and economic viability. The broader implications highlight the necessity for adaptable, innovative strategies tailored to diverse operational contexts. This comparison underscores an urgent call to action for the aviation industry: to collectively prioritize and deepen commitments to sustainable development. The path forward demands collaboration, technological advancement, and a unified industry-wide stance on sustainability, setting a course towards a more responsible and resilient aviation sector.

The successes of both airlines in implementing sustainable practices offer valuable insights into the aviation industry's journey toward sustainability. Air France-KLM's leadership in SAF development and its comprehensive approach to social responsibility serve as benchmarks for

industry-wide sustainability efforts. Wizz Air's success in maintaining one of the most fuel- efficient fleets in Europe demonstrates the potential for alignment between a low-cost business model and environmental sustainability.

Innovation and leadership are pivotal in driving the aviation industry's sustainability transformation. Air France-KLM's investment in cutting-edge technologies and collaborative
projects exemplifies how innovation can facilitate a transition to greener aviation. Similarly,
Wizz Air's strategic deployment of a modern fleet highlights the role of operational innovation
in enhancing environmental performance. Leadership, as demonstrated by both airlines,
involves not only the pursuit of operational excellence and financial resilience but also a
commitment to societal values and environmental stewardship.
In conclusion, while Air France-KLM and Wizz Air adopt distinct approaches to sustainability,
their efforts contribute to the broader narrative of the aviation industry's response to global
sustainability challenges. The comparison underscores the importance of innovation, strategic
investment, and leadership in achieving sustainability goals, with each airline charting its path
based on its unique operational context and strategic priorities. The journey toward sustainability is complex and multifaceted, requiring ongoing adaptation and collaboration to
address the environmental, social, and economic challenges facing the aviation industry today.

REFERENCES

1. Agarwal, Ramesh K. *Sustainable (green) aviation: Challenges and opportunities*. Warrendale, PA, USA: SAE International, 2009.

2. Amankwah-Amoah, J., 2020. Stepping up and stepping out of COVID-19: New challenges for environmental sustainability policies in the global airline industry. *Journal of Cleaner Production*, *271*, p.123000.

3. Anttila, T. and Kretzschmar, A., 2010. Application of CSR programs in the airline industry.

4. Athousaki, R., 2019. AIRLINE SUSTAINABILITY IN THE LIBERALISED ENVIRONMENT: Generating a Conceptual Framework with a Holistic Approach to Airline Sustainability.

5. Bouwer, J., Peeters, P., Bongaerts, R. and Eijgelaar, E., 2019. Case Study: CSR at Air France-KLM. *Corporate Sustainability and Responsibility in Tourism: A Transformative Concept*, pp.181-189.

6. Britzke, S.P., 2022. *The introduction of carbon neutral propulsion systems and sustainable air fuels in aviation* (Doctoral dissertation).

7. Cheung, C.W. and Zhu, Q.M., 2015, December. Modelling flight dynamics for the Airbus A320. In *2015 7th International Conference on Modelling, Identification and Control (ICMIC)* (pp. 1-7). IEEE.

8. COUASME, M. and GURGEY, J., 2016. Airlines experiential marketing: gaining and retaining customers: Case studies of British Airways, SAS, Air France, Easy jet and KLM.

9. Cuccaro, G., 2002. *The struggle for competitive advantage in the airline industry* (Doctoral dissertation, Loughborough University).

10. Czudar, E., Ruck, N. and Ruwinska, K., 2007. The customers' perception of Wizz Air, the largest low–fare low–cost airline in Central Eastern Europe.

11. D'Alessandro, E., Consiglio, A., Warnock-Smith, D. and Georgiou, G., 2022. AN ASSESSMENT OF SCOPE OPPORTUNITIES ASSOCIATED WITH EUROPEAN LOW-COST CARRIER USE OF NEXT GENERATION NARROW BODY AIRCRAFT ACROSS THE ATLANTIC.

12. Daley, B. and Callum, T., 2011. Challenges to growth: Environmental issues and the development of the air transport industry. *Air transport in the 21st century: Key strategic developments*, pp.269-294.

13. Dimitriou, D.J. and Sartzetaki, M.F., 2020. Social dimensions of aviation on sustainable development. *Sustainable Aviation: Greening the Flight Path*, pp.173-191.

14. Fyfe, L.M., 2019. *The financial and competitive sustainability of the transatlantic's most environmentally-sustainable airline: can Norwegian survive and thrive?: an exploratory case study of Norwegian Air Shuttle's ability to cultivate a sustainable competitive advantage* (Master's thesis).

15. Gittell, J.H. and Bamber, G.J., 2010. High-and low-road strategies for competing on costs and their implications for employment relations: International studies in the airline industry. *The International Journal of Human Resource Management*, *21*(2), pp.165-179.

16. Gössling, S. and Upham, P. eds., 2009. Climate change and aviation: Issues, challenges and solutions.

17. Grimme, W., 2023. The Introduction of Sustainable Aviation Fuels—A Discussion of Challenges, Options and Alternatives. *Aerospace*, *10*(3), p.218.

18. Gudmundsson, S.V., 2018. Mergers vs. alliances: the Air France-KLM story. *Alliances: The Air France-KLM Story*.

19. Haksevenler, B.H.G., Temel, N.U. and Topal, Y.E., 2023. Civil Aviation Policies and Practices in Turkey in a Global Context Through Sustainable Aviation. *Global Challenges*, *7*(12), p.2300194.

20. Kang, S.E., Lee, C.K., Moon, Y.J., Park, Y.N. and Suess, C., 2021. Impact of CSR on organizational behavior during a pandemic: Highlighting public health and safety in the airline industry. *Sustainability*, *13*(17), p.9704.

21. Kassem, R., Salama, A. and Ganepola, C.N., 2022. CSR, credibility, employees' rights and legitimacy during a crisis: a critical analysis of British Airways, WizAir and EasyJet cases. *Employee Relations: The International Journal*, *45*(1), pp.1-20.

22. Kofoed, E., El Hamss, K., Valle, M.S., Laizāne, Z. and Thomsen, K.B., CORPORATE SOCIAL RESPONSIBILITY OF KLM VS. THE RESPONSIBILITY OF THE AVIATION CONSUMERS.

23. Kotze, R., 2017. Sustainability analysis of the airline Industry–Low cost carriers and full service carriers. *IIIEE Theses*.

24. Kumaka, F.K., 2022. *Workforce Management Strategies in the International Airline Alliance Ground Staff Operations* (Doctoral dissertation, Walden University).

25. Lee, D.S., Fahey, D.W., Forster, P.M., Newton, P.J., Wit, R.C., Lim, L.L., Owen, B. and Sausen, R., 2009. Aviation and global climate change in the 21st century. *Atmospheric environment*, *43*(22-23), pp.3520-3537.

26. Lugten, M., 2019. *Tranquillity by design-Architectural and landscape interventions to improve the soundscape quality in urban areas exposed to aircraft noise* (Doctoral dissertation).

27. Marin-Pantelescu, A., 2021. CSR in the Tourism Industry. In *CSR and Management Accounting Challenges in a Time of Global Crises* (pp. 103-127). IGI Global.

28. Marques, R., 2015. The Future of Airline Business Models: Which Will Win. *Rome: Libera*

29. McManners, P., 2016. The action research case study approach: A methodology for complex challenges such as sustainability in aviation. *Action Research*, *14*(2), pp.201-216.

30. Moriarty, P. and Honnery, D., 2013. Greening passenger transport: a review. *Journal of Cleaner Production*, *54*, pp.14-22.

31. Mousavi, S. and Bossink, B.A., 2017. Firms' capabilities for sustainable innovation: The case of biofuel for aviation. *Journal of Cleaner Production*, *167*, pp.1263-1275.

32. Neacsu, N.A., 2023. STUDY ON THE QUALITY AND SUSTAINABILITY STRATEGIES IMPLEMENTED ON THE AIR TRANSPORT MARKET IN EUROPE BY LOW-COST COMPANIES. *Journal of Research Administration*, *5*(2), pp.10710-10721.

33. Nelson, E.S. and Reddy, D.R. eds., 2018. *Green aviation: reduction of environmental impact through aircraft technology and alternative fuels*. CRC Press.

34. Pimiä, A., 2023. Airlines fighting climate change: A comprehensive study on sustainable transformation strategies and initiatives in European airlines.

35. Pinheiro Melo, S., Barke, A., Cerdas, F., Thies, C., Mennenga, M., Spengler, T.S. and Herrmann, C., 2020. Sustainability assessment and engineering of emerging aircraft technologies—Challenges, methods and tools. *Sustainability*, *12*(14), p.5663.

36. Remenyik, B., Horváth, D. and Ćorluka, G., 2021. The correlations between the responsible flying and changes in the tourism industry. *Economic Annals-XXI/Ekonomičnij Časopis-XXI*, *190*.

37. Samunderu, E., 2023. Emergence of the Low-Cost Carrier Model in Africa. In *African Air Transport Management: Strategic Analysis of African Aviation Market* (pp. 77-111). Cham: Springer International Publishing.

38. Schramade, W., 2019. Case Study Air France KLM. *Available at SSRN 3425898*.

39. Shehab, M., Moshammer, K., Franke, M. and Zondervan, E., 2023. Analysis of the Potential of Meeting the EU's Sustainable Aviation Fuel Targets in 2030 and 2050. *Sustainability*, *15*(12), p.9266.

40. Smith, W.E., Cohen, S., Kimbu, A.N. and de Jong, A., 2021. Reshaping gender in airline employment. *Annals of Tourism Research*, *89*, p.103221.

41. Terrenoire, E., Hauglustaine, D.A., Gasser, T. and Penanhoat, O., 2019. The contribution of carbon dioxide emissions from the aviation sector to future climate change. *Environmental research letters*, *14*(8), p.084019.

42. Tłoczyński, D., 2018. The competitive position of the low cost carrier Wizz Air on the Polish market of air transport services. *Zeszyty Naukowe Uniwersytetu Gdańskiego. Ekonomika Transportu i Logistyka*, *76*.

43. Vasigh, B. and Azadian, F., 2022. Aircraft Financial and Operational Efficiencies. In *Aircraft Valuation in Volatile Market Conditions: Guiding Toward Profitability and Prosperity* (pp. 113-163). Cham: Springer International Publishing.

44. Wizz Air (2022). *WIZZ AIR HOLDINGS PLC WIZZ AIR AT A GLANCE*. [online] Available at: https://wizzair.com/static/docs/default-source/downloadable-documents/corporate-website-transfer-documents/annual-reports/wizz_air-annual-report-and-accounts-f22_final---pwc-confirmed_061d7bd2.pdf.

45. Yordanov, D., 2019. LOW-COST AIRCARRIERS AS A FACTOR FOR DEVELOPING SUSTAINABLE REGIONAL TOURISM. *Trakia Journal of Sciences*, *17*(1), pp.541-547.