Effective Navigation Among the Lines:

Factors Influencing the Qualities of Airlines’ Sustainability Disclosure

by

# Like Yang

An honors thesis submitted in partial fulfillment

of the requirements for the degree of

Bachelor of Science

Business and Economics Honors Program

NYU Shanghai

May 2021

Professor Marti G. Subrahmanyam Professor Rodrigo Zeidan

Professor Christina Wang

Professor Wendy Jin

Faculty Advisers Thesis Adviser

# Abstract

Nowadays, an increasing number of investors embrace the concept of ESG investing, which leads to the rise of various ranking agencies. However, since the rankings’ production heavily relies on firsthand data published by the firms, the inconsistency of companies’ sustainability disclosure often harms the usefulness of the ESG rankings. It is crucial to review the current ESG disclosure methods to cater to the growing demand of investors who are interested in driving various social missions. Taking the airline industry as an example, this thesis aims to figure out the key elements that influence airlines’ sustainability disclosure qualities. Through both a content analysis and a regression analysis, the result shows that the quality of airlines’ sustainability reports is related to the word count, the negative emotion expressed, airlines’ headquarter location, ownership structure, and size. The outcome of this paper is meaningful for investors because they could have a more rational understanding of the reasons leading to airlines’ sustainability reporting. Regulators may also take advantage of this paper’s results for possible policymaking. It may serve as a template for further industry-specific studies on the topic of ESG disclosure.

*Keywords: ESG, Airlines, Disclosure, CSR, Content analysis, Regression analysis*

# Acknowledgement

I would like to first thank my adviser Professor Rodrigo Zeidan for giving me valuable suggestions throughout the research process. The most precious lesson comes not only from your advice on the research design but also on the growth path that turns me into a real scientist. Without your guidance, I would not be able to finish this project in the researcher’s way and derive meaningful outcomes. I really appreciate the time you spent with me.

Meanwhile, I am very grateful to Professor David Yu for shepherding me through the initial stage of idea generation. It is my first time working on an independent research project in the business field, and you offered me great help to locate my interest while tailoring a specific topic to my expertise. This research project would not have been possible without your instruction.

Last but not least, I would like to express my gratitude to Professor Marti Subrahmanyam, Professor Christina Wang, and Professor Wendy Jin for providing such a wonderful opportunity that allows us to exploit our research capabilities and complete an individual thesis for our undergraduate business study. I also appreciate our teaching assistant Xinyi Yang for organizing the wonderful lectures as well as individual meetings. It is also very nice to have all the talented peers in the Business and Economics Honors Seminar for the entire year. The experience of learning from each other is the highlight of my business study at NYU Shanghai.

## Introduction

The advancement of electronic trading systems has dramatically increased financial markets’ efficiency around the world. Nowadays, even the tiniest pricing difference on an asset can be identified and offset in milliseconds. To earn excessive profits from investments, investors need to have a solid understanding of the business itself. Besides traditional financial indicators such as Return on Equity (ROE) and Earnings per Share (EPS), Environmental, Social, and Corporate Governance (ESG) factors have been gaining more popularity among market investors. They measure companies’ fulfillment of social responsibilities from three key aspects and include indicators such as carbon dioxide emission, charity programs, and employee welfare. Firms’ disclosure on ESG is helpful because it allows investors to evaluate their qualities from another aspect. As institutions like S&P Global and MSCI expand their portfolio of ESG indexes, the idea of investing in companies that outperform others in terms of ESG has been accepted by many more market participants in the past decade. Equity analysts and other professionals take a holistic approach to integrate ESG criteria into their investment philosophies.

Despite the boom of ESG investing, the current framework evaluating companies’ ESG performance is sometimes confusing and misguiding. More than 30 institutions provide inconsistent ESG ratings due to a myriad of criteria they adopt, and many of them use a universal method for ESG evaluation regardless of the specific industry of the company. These issues with the current ESG rating framework show that the existing infrastructure for ESG investments is insufficient to meet the investors’ demands. It is crucial for us to revise the rating strategies and identify the aspects that we can improve on. The improvement of the current framework requires input from multiple parties, namely the companies, the rating agencies, and governments. Due to the all-encompassing nature, we may not expect a general solution to settle all the deficiencies with ESG rating soon. However, it might be beneficial to begin with the sustainability reports published by companies because they are the only primary source that ESG rating agencies refer to. The information firms provide on social responsibility is directly related to rating agencies’ capability to assess their performance, and thus influencing ESG investors’ decisions.

This research project aims to figure out the factors affecting the qualities of airlines’ ESG reports. The reason for me to pick the airline industry is because ESG’s three components – environmental, social, and corporate governance – are all quite relevant to air transportation. Compared with other transportation methods, air travel’s impact on the environment is much larger. Niko Kommenda’s article pointed out that the carbon emission of a long-haul flight is comparable to the amount some countries’ citizens produce in a year (Kommenda 2019). With the electrification of automobiles, the airline industry is facing more pressure to show its eco-friendliness. Meanwhile, airlines inevitably need to operate international or even intercontinental routes as they expand their business, and their focus on customer welfare is an essential tool to navigate through various cultural backgrounds to fulfill their social responsibilities. The concern on corporate governance is the most crucial one because it is directly related to the safety of air travel. A healthy management structure and employment relation would prevent safety glitches from developing into catastrophes.

Through a two-stage analysis, we have identified a few factors that are relevant to airlines’ sustainability reporting quality. The content analysis using LIWC 2015 software shows that word count and tones vary for airlines with different CSR reports. Industry-leading disclosure is typically longer and involves more negative emotion. The regression analysis in Stata also points out that airlines based in Africa significantly lag in terms of reporting qualities, and those airlines in which governments and private companies share ownership tend to produce better sustainability reports. Meanwhile, larger airlines do not necessarily do better jobs than smaller airlines in reporting.

## Literature Review

Although the topic of corporate social responsibility is relatively new especially for emerging markets, existing scholarly literature has extensively reviewed CSR’s value not only to the airline industry but also to the entire business world. Researchers have used methods such as content analysis and case studies to show that sustainability matters in the contemporary narrative of investments. For this section, I would like to first talk about the rise of ESG investments and the concurrent demand for more accurate ESG information, which is followed by a review of the global airline industry in the context of the COVID-19 pandemic. After discussing the importance of CSR to the airline industry, I will walk through a few previous studies on CSR that inspired my research methods.

### 2.1 ESG Investments

ESG stands for environmental, social, and governance, and ESG investments refer to market participants’ decisions made based on non-financial factors. The earliest practices of ESG investing retrospect to 2004 when the former UN Secretary General invited more than 50 major financial institutions to join the initiative under UN Global Impact (Kell 2018). Nowadays, many investors integrate environmental, social, and governance factors to identify potential investment opportunities. The total asset under management (AUM) of ESG investing has already surpassed $20 trillion, making up about 25% of all the world’s professionally managed assets (Kell 2018). And the trend of growth is expected to continue in the following years, as many researchers find that the market has stronger interests in non-financial information.

According to Robert Eccles et al., an increasing number of investors care about companies’ non-financial disclosures because the information has become a key part of their investment decisions (Eccles et al. 2011, 117). The interest is prevalent both in the secondary market and among private equity investors (Eccles et al. 2011, 117). Olga Hawn et al.’s work also identified that companies’ ESG activities may affect their financial performance, albeit the genuine extent of influence needs further study (Hawn et al. 2018, 950). In response to investors’ demands, the number of companies publishing their ESG performance has significantly increased. By 2010, there were already about 5,400 corporate responsibility reports published in 168 countries (Eccles et al. 2011, 116). And the proportion of S&P 500 companies publishing sustainability reports has reached 86% in 2018 (Robinson et al. 2020, 2). Recently, the promotion of ESG disclosure has gone beyond the firm themselves and become a joint effort involving stakeholders like stock exchanges, customers, and employees (Robinson et al. 2020, 3).

Despite the blooming focus on companies’ ESG performance, the barrier of acquiring accurate and relevant ESG disclosure remains high. Unlike financial reports, which are mandatory and follow a set of established reporting standards, the disclosure of ESG performance is completely voluntary. Firms may either choose to publish the information as a standalone sustainability report or as a part of their annual report (CFA Institute). The lack of a consistent reporting methodology often leads to disclosures that are difficult to compare and interpret. Since many ESG rating agencies consult firms’ publications to decide their rankings, sometimes the results they produce vary even for the same company. There are reports on the firm being evaluated themselves having a hard time understanding the results they receive (Poh 2019). The inconsistency posed a great challenge for investors and regulators who rely on the information to evaluate the firm’s social responsibility and make investment decisions.

The current ESG disclosure system is far from perfect, but scholars have shown that non-financial information indeed helps investors screen companies with superior performance. Witold Henisz et al., after looking into 14 ESG-related scandals and carrying out a regression analysis, believes that poor ESG records may attract creditors’ attention because of the “substantial unforeseen costs in the form of legal or regulatory liabilities or lost revenue in the form of customer defection” (Henisz et al. 2019, 109). George Ionescu et al. further narrowed down their focus to the travel and tourism industry and claims that there is a correlation between firms’ ESG performance and their market values. However, the link identified in this research is weak, meaning that ESG factors’ market values are not yet fully recognized by market participants (Ionescu et al. 2019, 841). In fact, the benefit of better ESG disclosure is still in controversy, as Hawn et al.’s research reveal that investors tend to punish those companies who join or remain a component of the Dow Jones Sustainability Index (Hawn et al. 2018, 970).

To formalize the process of sustainability reports’ publication and increase the comparability among different companies’ disclosures, organizations around the world have launched several frameworks for more systematic reporting. Among them the most widely recognized standards are developed by the Sustainability Accounting Standards Board (SASB), the Global Reporting Initiative (GRI), and the Task Force on Climate-related Financial Disclosures (TCFD) (CFA Institute). These standards each have their different emphasis, with GRI’s G3 Standards being more general, SASB Standards more industry-specific, and TCFD more topic-specific (Kell 2018). Unlike mandatory accounting standards such as IFRS and GAAP, companies have the discretion to make decisions on compliance with social responsibility disclosure frameworks. Nonetheless, the emergence of these standards still helps to improve the qualities of ESG disclosure across industries. Nowadays, more than 80% of the largest corporations in the world follow GRI standards (Kell 2018). It is also adopted in most airlines’ CSR reports (Yang et al. 2020, 6).

### 2.2 Global Airline Industry

Serving as the only worldwide transportation network, airlines are crucial to every country’s economic development. According to the data from IBISWorld, the global airline industry’s market size has surpassed $800 billion in 2019 (IBISWorld 2020). Typically, airlines deliver 40% of the exported goods from different regions to their destinations, behind which an even larger group of passengers who support international trade gain their mobility through air travel (Air Transport Action Group 2005). The airline industry also plays an important role in job creation. The International Air Transport Association found that the global air transport sector supports 65.5 million jobs and $2.7 trillion economic activity (IATA 2018). From the figures above, we can see that the aviation industry helps with a country’s economic growth from various channels. Besides these economic benefits, the aviation sector also fulfills social responsibilities such as connecting remote areas and offering timely humanitarian aid (Air Transport Action Group 2005). Therefore, the scheme of corporate social responsibility is quite relevant for airlines.

The ongoing Covid-19 pandemic has brought huge disruptions to all walks of life, but the travel and transportation industry is among the worst hurt sectors. The post Covid-19 revenue from passenger air transportation is less than one-third of the figure in 2019 (IATA 2020). Although the cargo segment may recover soon due to the reliance on the global supply chain, the passenger segment will need several more years for its operation to return to the 2019 level. Under such circumstances, governments around the world have been providing generous financial aid packages to airlines. Despite that the total aid provided as of September 2020 has reached $161.9 billion dollars, many airlines, including Flybe and Cathay Dragon, still ceased their operations amid the pandemic.

The pandemic has indeed posed a challenge to the survival of airlines, but it offered an opportunity for them to revise their business model as well. As customers care more about aircrafts’ cleaning procedures, airlines may have bigger incentives to disclose how they implement policies to fulfill their social responsibility of keeping passengers healthy and safe. In other words, airlines may take advantage of the operational shrinkage to improve the quality of their sustainability disclosures. In Ivan Stevenson and Kristina Marintseva’s article, they recommended several tools, such as PESTEL analysis and GRI Standards, for airlines to self-assess their CSR performance before participating in formal rankings (Stevenson and Marintseva 2019, 97). Yang et al. further stressed the importance of airlines’ engagement with CSR by contending that “CSR performance have positive impacts on airlines’ reputation and customers’ loyalty” (Yang et al. 2020, 3). Tim Coles et al. also reviewed the multinational nature of airlines and says that “aviation sector alone is best able to respond to global challenges such as climate change” (Coles et al. 2013, 70). Nonetheless, the implementation of sustainable procedures among low-cost airlines in Europe faces an “importance-performance” gap, where managements’ awareness of social responsibility may not eventually turn into actions (Coles et al. 2013, 69).

### 2.3 CSR Disclosure and Sustainability Reports

The concept of corporate social responsibility first appeared in the 1950s, and most early research focuses on the fulfillment of companies’ social responsibilities instead of the disclosure. At the very beginning, companies predominantly fulfill their social responsibilities by donating to philanthropies. William C. Frederick’s summary may be one of the most representative to reflect the society’s impression on CSR back then. He believes that CSR was organized around three core ideas: “the idea of corporate managers as trustees, the idea of balancing competing claims as corporate resources, and the acceptance of philanthropy as a manifestation of business support of good courses” (Frederick 2006). In the 1970s, Edward Bowman and Mason Haire carried out one of the earliest researches on CSR disclosure by looking for lines relevant to the topic of social responsibility in annual reports. They suggest that firms should take on more formal arrangements in terms of social responsibility (Bowman and Haire 1975, 58). Later in the 1990s, the academic study on CSR disclosures further evolved as researchers began to compare a company’s financial reporting with CSR reporting. The history of financial reporting is more than 100 years, but social responsibility reporting is still in its infancy (Tschopp and Huefner 2014, 565). The development of financial reporting standards in the past century has led to their final stages of consolidation, where IFRS and US GAAP each have different appropriate scenarios, but there were still concerns regarding when to use different sustainability reporting standards (Tschopp and Huefner 2014, 574).

There is a wealth of scholarly literature on the quality of companies’ social responsibility disclosures. Some of them analyze the general trend within the business world while others have distinctive industry or regional focuses. Zabihollah Rezaee and Ling Tuo identified that sustainability disclosure quantity is positively correlated with earnings quality because it can boost the company’s trustworthiness (Rezaee and Tuo 2019, 763). Nikolina Vukic et al. looked at the relationship between stakeholders and CSR reports. They found that stakeholder orientations, especially the participation of employees and shareholders, have a positive effect on companies’ CSR reports (Vukic et al. 2018, 283). Matteo Corciolani et al., after analyzing 135 sustainability reports published in developed countries, contends that the linguistic features and grammatical styles are quite different from each other (Corciolani et al. 2019, 677). Moreover, the difference may come from firms’ unconscious settlement of corporate irresponsibility (Corciolani et al. 2019, 678). Muslu et al.’s work resonates with Corciolani et al. as they expanded the sample size to over 4,200 firms and added other factors like the reports’ readability and length to construct a CSR disclosure score. (Muslu et al. 2017, 1123). Similarly, Andreas Andrikopoulos et al. used a regression model that includes size, leverage, profitability, and market-to-book ratio to determine the quality of CSR reporting for financial institutions listed on Euronext (Andrikopoulos et al. 2014, 33).

Although the number of literature for the airline industry is smaller, these researches nevertheless provided us with valuable insights on airlines’ involvement in CSR disclosure. Yang et al. contend that airlines focus more on the economic aspect in their social responsibility reports with GRI 201 “Economic Performance” receiving the most attention (Yang et al. 2020, 14). There are also regional differences between airlines based in the European Union (EU) and Asian Pacific (APAC) in terms of CSR communication, but APAC airlines have been catching up quickly (Yang et al. 2020, 14). Fevzi Okumus’s work only includes a case study on Turkish Airlines’ CSR reporting, and he finds that environment is the most emphasized area in relation to Turkish Airlines’ CSR efforts (Okumus 2019, 394). However, Kate Ringham and Samantha Miles came up with completely different arguments, saying that “the overall CSR disclosure within the airline sector is weak, especially with regards to economic and environmental indicators” (Ringham and Miles 2018, 1058).

## Methodologies

### 3.1 Sampling and Data Collection

The ideal sample of airlines that can meet this research project’s demand is one that best represents the genuine dynamic of the global airline industry today. Therefore, the construction of the sample begins from those biggest airlines that have joined one of the three major airline alliances. Airline alliances appeared in the 1990s as an evolution of code-share agreements where one airline could sell tickets on routes operated by other airlines. Although none of the three major global airline alliances covers the entire world’s air transport network, they still vastly extended their members’ global reach (Lordan et al. 2015,594). There are other benefits that lead to the rise of airline alliances such as improved load factors and strengthened bargaining power to suppliers (Kleymann and Seristo 2001, 305). Most of the world’s leading carriers have joined an airline alliance, but some major players, including the Emirates and China Southern Airlines, are not a part of them due to a variety of reasons. Thus, the author also made some adjustments accordingly to achieve a balance between different regions.

To the best of the author’s knowledge, there are no existing datasets on airlines’ social responsibility disclosures that can support the analysis supposed in this research project. Due to the limitation of time and tools, the author visited the official websites of the world’s 56 major airlines and manually collected information on their CSR disclosure *(Figure 1)*. The dataset includes the airlines’ basic information (size, headquarter location, etc.), CSR disclosure characteristics (disclosure on websites, publication of dedicated sustainability reports, etc.), and financial standings (net income, total asset, total liabilities, etc.). CSR disclosure characteristics are used to build airlines’ disclosure rankings and assist the content analysis, while basic information and financial data constitute the independent variables in the regression analysis. To ensure data reliability and consistency, all the data is directly quoted from the airlines’ official reports, and they require further processing before being used in the regression model.

### 3.2 Dependent Variables: The Ranking System

The dependent variable I plan to study is the quality of each airlines’ social responsibility disclosure. The most widely used criteria to analyze companies’ sustainability reports is the GRI Standards. According to Vukic and Aleksic, GRI has defined standards for CSR reporting including balance, comparability, accuracy, timeliness, clarity, and reliability (Vukic and Aleksic 2018, 278). Rezaee and Tuo’s research on the correlation between sustainability disclosures and earnings quality also used the compliance of GRI standards as an indicator of reporting quality (Rezaee and Tuo 2017,770). Based on the results from these two articles, I also chose to adopt the GRI standards to rank airlines’ disclosures.

Nevertheless, using GRI standards only is not sufficient to divide airlines into different categories because some of them do not publish standalone sustainability reports, and others do not disclose sustainability performance at all. Meanwhile, in this research, we take a holistic approach to assess airlines’ sustainability reporting, which means we would look at other factors beyond the reports. Therefore, the way airlines present their social commitment becomes a part of the ranking. We take into consideration the information density on social responsibility airlines present on their websites, the timeliness of information provided, and the easiness to locate their responsibility disclosures. The outcome is a ranking system with eight score grades ranging from 100 to 60, with companies getting a 100 producing the most comprehensive, dedicated sustainability reports with detailed disclosure on their websites and companies getting a 60 disclosing nothing on social responsibility at all *(Figure 2)*.

### 3.3 Content Analysis

The first step to unravel key factors that influence airlines’ CSR disclosure would be a content analysis. Content analysis quantifies key features of companies’ reports including the length, tone, readability, numerical content, and horizontal content (Muslu et al. 2019, 1125). Many researchers use content analysis to evaluate the quality of social responsibility reports, especially when the sample size is small. For example, Okumus et al. set different themes and searched for relevant disclosures in Turkish Airlines’ publications for an analysis (Okumus et al. 2019, 393). Similarly, Ringham and Miles’ work applied content analysis to a sample of 35 social responsibility reports and put them into three boundary definitions (Ringham and Miles 2018,1044). Content analysis is important for CSR research because of the potential information asymmetry about CSR activities (Muslu et al. 2019, 1122). Better CSR disclosure may mitigate such asymmetry and provide more useful information to investors as well as regulators (Muslu et al. 2019, 1123).

In this project, I used the Linguistic Inquiry and Word Count (LIWC) 2015 software to assist with my content analysis. LIWC automatically analyzes the content of inputs and produces important metrics used frequently in psychology, marketing, and language research (Corciolani et al. 2019, 674). It can measure a dozen variables using different dictionaries and divides the number of appearances with the total word counts. LIWC is a popular method for word processing since its usage is solidly grounded in theory and can handle a very large number of documents within a short time frame (Pitt et al. 2020, 5). It may also “reveal linguistic meanings constructing the concept of sustainability as well as those upon which sustainability has been based” (Eckert and Kovalevska 2020, 11). All the airlines’ sustainability disclosures are imported into LIWC 2015 without any modification to ensure the consistency of outputs.

### 3.4 Regression Models

Content analysis provides us with a useful tool to figure out the intrinsic characteristics of firms’ sustainability reports, but it is not sufficient if we would like to investigate other factors’ effects on the quality of these disclosures. To study the influence of financial standings, company size, and other elements on companies’ CSR reporting, it is necessary to carry out an ordinary least-squares (OLS) regression. Similar to content analysis, regression analysis is also widely used in CSR disclosure research. In Rezaee and Tuo’s article, they first used content analysis to construct an index of sustainability disclosure quality, after which they regressed data on companies’ earnings quality on other variables including the sustainability disclosures. Through their regression analysis, they find that “firms issue sustainability reports that are positively associated with innate earnings quality and negatively associated with discretionary earnings quality” (Rezaee and Tuo 2019, 772). Muslu et al. also rely on the disclosure quality scores derived from content analysis as the key independent variable when they build their regression model testing the correlation between analyst forecasting accuracy and firms’ CSR disclosure scores (Muslu et al. 2019, 1127).

The regression model for my project is built using Stata, one of the most popular computer software used in econometrics. The dependent variables, as I have mentioned previously, are the airlines’ social responsibility disclosure rankings. Based on my literature review, I also chose the airlines’ location, size (revenue passenger kilometers), profitability (return on asset), ownership, and liquidity standings (current ratio) as my independent variables. Revenue passenger kilometers is a popular measurement of size in the airline industry. It measures the number of kilometers traveled by paying passengers and is the most direct way to measure each airlines’ traffic. The regression model aims to find the potential relations between these variables and airlines’ CSR disclosure qualities.

## Results and Discussion

The outcome from LIWC 2015 software shows that most of the 50 indicators it analyzed have little correlation with the qualities of airlines’ sustainability disclosure. However, two indicators – word count and negative emotion – stand out as they are correlated with airlines’ sustainability disclosure qualities *(Figure 3&4)*. Those airlines which receive higher disclosure rankings often publish longer sustainability reports. For example, the shortest total disclosure of those airlines getting the highest grade on social responsibility is close to 20,000 words, but the disclosures are often as short as a few hundred words for those in the lowest ranking category. Similarly, industry-leading airlines are also more willing to include words expressing negative emotion when discussing their performance in terms of sustainability. Those firms with an A+ or A grade use more than 0.6% of words with negative emotion on average while those getting less than B only include around 0.5% of these words in their disclosure. The results of content analysis are consistent with our empirical assumptions. Longer disclosure on social responsibility allows airlines to review their performance more thoroughly, and those willing to discuss the issues with their sustainability responsibilities often lead to the publication of higher quality reports.

Based on the results from content analysis, we can comfortably move to the regression analysis and explore other factors potentially influencing these disclosures *(Figure 5)*. The regression analysis reveals that if an airline is based in Africa, it may perform much poorly than airlines in other regions. The coefficient is not only significant but also quite large compared with other regional dummy variables. Typically, if an airline is based in Africa, it is likely to have a disclosure score 20 points lower than its peers from other continents. African countries are less developed compared to other continents. Thus, many companies based in Africa do not have a strong sense of CSR because they simply do not know its importance. However, many foreign companies including airlines choose Africa as a destination to demonstrate their social responsibilities. They establish all kinds of charity initiatives focusing on powerty, medical care, or education. Under such circumstances, few people could notice the need for African companies’ compliance with international sustainability disclosure standards. Therefore, it is important to bring the issue of the lack of resources to help African companies themselves with the compliance of social responsibility reporting under the spotlight. Furthermore, an ownership structure involving both the government and shareholders from the private sector may increase the scores airlines get for their sustainability reporting. A mixed ownership typically help the airlines become a third of a letter grade better at CSR reporting than their peers. There are two reasons that help to explain this phenomenon. First, fully private airlines hesitant to provide detailed information on social responsibility because of the cost and effort involved in the process, while fully government-owned airlines may not have a strong incentive to improve their disclosure because they do not face such strong pressure on performance. It is also possible that because of the covid-19 pandemic, many flagship airlines require government bailouts, which turned their ownership structure into a hybrid one. Finally, airlines’ size has a negative correlation with CSR reporting qualities, albeit the coefficient is small. Larger airlines are not necessarily producing high-quality CSR disclosures because they may have too many segments to cover. For them to provide reports of similar qualities, they may need to invest more than their competitors. But overall, the effect of size on airlines’ sustainability reporting would not be as significant as the other two factors.

## Conclusion

The increasing popularity of ESG investing among investors highlights the issues with the existing ESG ranking system. The firms’ disclosures on social responsibility are a centerpiece to solve this issue because they are the primary source for different parties to get firsthand information on ESG performance. This research project aims to find out the factors influencing the qualities of companies’ sustainability disclosures in the airline industry. Through content analysis and regression analysis, the author finds that word count, tone, size, region, and ownership structure all have an influence on whether an airline could produce high quality sustainability reports.

Due to the restraint on time and tools, this research only includes 56 airlines in its sample, which may bring a significant limitation to its results. Some of the correlations between variables require large samples to become evident. However, the outcome is still meaningful for ESG investors as they have a better reference on how to interpret the differences among different airlines’ CSR reporting. Governments could also use the outcome in this research as a reference for future policymaking. For example, since the quality of airlines’ sustainability disclosure is correlated with size, the government may set different standards for regional and intercontinental airlines so the compliance with the disclosure requirements would not pose too much burden on airlines’ daily operation. The research topic is especially relevant to the Chinese market in the context of the state-owned enterprise (SOE) ownership reform. It shows that besides adding more efficiency to those SOE’s business, the mixed ownership reform may also help them perform better in terms of the transparency with their social responsibilities. Last but not least, this thesis also provides a template for industry-specific research on CSR if further study would be carried out on other industries.

## Reference

Andrikopoulos, Andreas, Aristeidis Samitas, and Michalis Bekiaris. “Corporate Social Responsibility Reporting in Financial Institutions: Evidence From Euronext.” *Research in International Business and Finance* 32 (March 5, 2014): 27–35. https://doi.org/10.1016/j.ribaf.2014.02.001.

Auer, Benjamin R., and Frank Schuhmacher. “Do Socially (Ir)Responsible Investments Pay? New Evidence From International ESG Data.” *The Quarterly Review of Economics and Finance* 59 (July 29, 2015): 51–62. https://doi.org/10.1016/j.qref.2015.07.002.

Bondi, Marina, and Danni Yu. “Textual Voices in Corporate Reporting: A Cross-Cultural Analysis of Chinese, Italian, and American CSR Reports.” *International Journal of Business Communication* 56, no. 2 (2019): 173–97. https://doi.org/10.1177/2329488418784690.

Bowman, Edward H., and Mason Haire. “A Strategic Posture Toward Corporate Social Responsibility.” *California Management Review* 18, no. 2 (1975): 49–58. https://doi.org/10.2307/41164638.

Carroll, Archie. “The Oxford Handbook of Corporate Social Responsibility.” *Oxford Handbooks Online*, February 2009. https://doi.org/10.1093/oxfordhb/9780199211593.001.0001.

Coles, Tim, Emily Fenclova, and Claire Dinan. “Corporate Social Responsibility Reporting Among European Low-Fares Airlines: Challenges For The Examination And Development of Sustainable Mobilities.” *Journal of Sustainable Tourism* 22, no. 1 (May 7, 2013): 69–88. https://doi.org/10.1080/09669582.2013.790391.

Corciolani, Matteo, Federica Nieri, and Annamaria Tuan. “Does Involvement in Corporate Social Irresponsibility Affect the Linguistic Features of Corporate Social Responsibility Reports?” *Corporate Social Responsibility and Environmental Management* 27, no. 2 (July 12, 2019): 670–80. https://doi.org/10.1002/csr.1832.

Dodd, Haldane, ed. “Air Transport Supports 65.5 Million Jobs And $2.7 Trillion in Economic Activity.” IATA, October 2, 2018. https://www.iata.org/en/pressroom/pr/2018-10-02-01/.

Eccles, Robert G., George Serafeim, and Michael P. Krzus. “Market Interest in Nonfinancial Information.” *Journal of Applied Corporate Finance* 23, no. 4 (2011): 113–27. https://doi.org/10.1111/j.1745-6622.2011.00357.x.

Eckert, Eva, and Oleksandra Kovalevska. “Sustainability in the European Union: Analyzing the Discourse of the European Green Deal.” *Journal of Risk and Financial Management* 14, no. 2 (February 17, 2021): 80–102. https://doi.org/10.3390/jrfm14020080.

The Economic & Social Benefits of Air Transport. Air Transport Action Group, 2004. https://www.icao.int/Meetings/wrdss2011/Documents/JointWorkshop2005/ATAG\_SocialBenefitsAirTransport.pdf.

“ESG Investing and Analysis.” CFA Institute. CFA Institute, 2020. https://www.cfainstitute.org/en/research/esg-investing.

Hawn, Olga, Aaron K. Chatterji, and Will Mitchell. “Do Investors Actually Value Sustainability? New Evidence From Investor Reactions to the Dow Jones Sustainability Index (DJSI).” *Strategic Management Journal* 39, no. 4 (February 1, 2018): 949–76. https://doi.org/10.1002/smj.2752.

Henisz, Witold J., and James McGlinch. “ESG, Material Credit Events, and Credit Risk.” *Journal of Applied Corporate Finance* 31, no. 2 (2019): 105–17. https://doi.org/10.1111/jacf.12352.

Huber, Betty Moy, and Michael Comstock. “ESG Reports and Ratings: What They Are, Why They Matter.” The Harvard Law School Forum on Corporate Governance, July 27, 2017. https://corpgov.law.harvard.edu/2017/07/27/esg-reports-and-ratings-what-they-are-why-they-matter/.

IATA Economics. “Economic Performance of the Airline Industry.” IATA Survey. International Association of Transport Aviation, November 24, 2020. https://www.iata.org/en/iata-repository/publications/economic-reports/airline-industry-economic-performance---december-2019---report/.

“Industry Statistics Fact Sheet,” November 2020. https://www.iata.org/en/iata-repository/publications/economic-reports/airline-industry-economic-performance-june-2020-data-tables/.

Ionescu, George H., Daniela Firoiu, Ramona Pirvu, and Ruxandra Dana Vilag. “The Impact of ESG Factors Ons Market Value of Companies From Travel And Tourism Industry.” *Technological and Economic Development of Economy* 25, no. 5 (February 28, 2019): 820–49. https://doi.org/10.3846/tede.2019.10294.

Kell, George. “The Remarkable Rise Of ESG.” Forbes. Forbes Magazine, January 11, 2021. https://www.forbes.com/sites/georgkell/2018/07/11/the-remarkable-rise-of-esg/?sh=414292271695.

Kleymann, Birgit, and Hannu Seristö. “Levels of Airline Alliance Membership: Balancing Risks And Benefits.” *Journal of Air Transport Management* 7, no. 5 (2001): 303–10. https://doi.org/10.1016/s0969-6997(01)00025-4.

Kommenda, Niko. “How Your Flight Emits As Much CO2 As Many People Do in a Year.” The Guardian. Guardian News and Media, July 19, 2019. http://www.theguardian.com/environment/ng-interactive/2019/jul/19/carbon-calculator-how-taking-one-flight-emits-as-much-as-many-people-do-in-a-year.

Li, Feng. “Annual Report Readability, Current Earnings, and Earnings Persistence.” *Journal of Accounting and Economics* 45, no. 2-3 (March 4, 2008): 221–47. https://doi.org/10.1016/j.jacceco.2008.02.003.

Lordan, Oriol, Jose M. Sallan, Pep Simo, and David Gonzalez-Prieto. “Robustness of Airline Alliance Route Networks.” *Communications in Nonlinear Science and Numerical Simulation* 22, no. 1-3 (August 12, 2014): 587–95. https://doi.org/10.1016/j.cnsns.2014.07.019.

Markota Vukic, Nikolina, Mislav Ante Omazic, and Ana Aleksic. “Exploring the Link between Corporate Stakeholder Orientation and Quality of Corporate Social Responsibility Reporting.” *Interdisciplinary Description of Complex Systems* 16, no. 2 (April 15, 2018): 275–88. https://doi.org/10.7906/indecs.16.2.7.

Mazareanu, E. “Factors Impacting Flight Purchase Preferences of Travelers Post-Coronavirus 2020.” Statista, October 14, 2020. https://www.statista.com/statistics/1179406/factors-flight-purchase-post-coronavirus/.

Muslu, Volkan, Sunay Mutlu, Suresh Radhakrishnan, and Albert Tsang. “Corporate Social Responsibility Report Narratives and Analyst Forecast Accuracy.” *Journal of Business Ethics* 154, no. 4 (January 3, 2017): 1119–42. https://doi.org/10.1007/s10551-016-3429-7.

Nazari, Jamal A., Karel Hrazdil, and Fereshteh Mahmoudian. “Assessing Social And Environmental Performance Through Narrative Complexity in CSR Reports.” *Journal of Contemporary Accounting & Economics* 13, no. 2 (May 26, 2017): 166–78. https://doi.org/10.1016/j.jcae.2017.05.002.

Okumus, Fevzi, Ferhan Kuyucak Sengur, Mehmet Ali Koseoglu, and Yusuf Sengur. “What Do Companies Report For Their Corporate Social Responsibility Practices on Their Corporate Websites? Evidence From a Global Airline Company.” *Journal of Hospitality and Tourism Technology* 11, no. 3 (January 12, 2020): 385–405. https://doi.org/10.1108/jhtt-01-2019-0007.

Pitt, Christine, Pierre Berthon, and Jan Kietzmann. “From the 2019 ANZMAC Conference: The Language of 10-K Reports, From The Analytical to The Post-Emotional.” *Journal of Strategic Marketing*, July 7, 2020, 1–13. https://doi.org/10.1080/0965254x.2020.1786848.

Poh, Jacqueline. “Conflicting ESG Ratings Are Confusing Sustainable Investors.” Bloomberg.com. Bloomberg, December 11, 2019. https://www.bloomberg.com/news/articles/2019-12-11/conflicting-esg-ratings-are-confusing-sustainable-investors.

Rezaee, Zabihollah, and Ling Tuo. “Are the Quantity and Quality of Sustainability Disclosures Associated with the Innate and Discretionary Earnings Quality?” *Journal of Business Ethics* 155, no. 3 (April 21, 2017): 763–86. https://doi.org/10.1007/s10551-017-3546-y.

Ringham, Kate, and Samantha Miles. “The Boundary of Corporate Social Responsibility Reporting: The Case of the Airline Industry.” *Journal of Sustainable Tourism* 26, no. 7 (February 1, 2018): 1043–62. https://doi.org/10.4324/9780429027383-2.

Robinson Kristen Sullivan Partner | Audit & Assurance ksullivan@deloitte.com +1 203 , Christine, Inna Vodovoz, Kristen Suvllivan, and Jennifer Burns. “Sustainability Disclosure Goes Mainstream.” Deloitte United States, December 9, 2020. https://www2.deloitte.com/us/en/pages/audit/articles/hu-sustainability-disclosure-goes-mainstream.html.

Stevenson, Ivan, and Kristina Marintseva. “A Review of Corporate Social Responsibility Assessment and Reporting Techniques in the Aviation Industry.” *Transportation Research Procedia* 43 (2019): 93–103. https://doi.org/10.1016/j.trpro.2019.12.023.

Tschopp, Daniel, and Ronald J. Huefner. “Comparing the Evolution of CSR Reporting to That of Financial Reporting.” *Journal of Business Ethics* 127, no. 3 (January 29, 2014): 565–77. https://doi.org/10.1007/s10551-014-2054-6.

Yang, Lu, Cindy S. Ngai, and Wenze Lu. “Changing Trends of Corporate Social Responsibility Reporting in the World-Leading Airlines.” *PLOS ONE* 15, no. 6 (June 8, 2020). https://doi.org/10.1371/journal.pone.0234258.

———. “Government Aid to Airlines Worldwide COVID-19.” Statista, October 9, 2020. https://www.statista.com/statistics/1170560/government-aid-airlines-worldwide-covid19/.

———. “Worldwide Revenue with Passengers in Air Traffic 2005-2021.” Statista. IATA, December 2, 2020. https://www.statista.com/statistics/263042/worldwide-revenue-with-passengers-in-air-traffic/.

## Appendix

*Fig 1: List of Airlines Sampled in This Research*

|  |  |  |
| --- | --- | --- |
| Continent | Country (Region) | Airline Names |
| Asia**(24)** | China | Air China, China Eastern Airlines, China Southern Airlines, Hainan Airlines, Xiamen Airlines |
| Japan | All Nippon Airways, Japan Airlines |
| South Korea | Korean Air, Asiana Airlines |
| Indonesia | Garuda Indonesia |
| Vietnam | Vietnam Airlines |
| Thailand | Thai Airways International |
| Malaysia | Malaysia Airlines |
| Singapore | Singapore Airlines |
| Taiwan | EVA Air, China Airlines |
| Hong Kong | Cathay Pacific |
| United Arab Emirates | Emirates |
| Qatar | Qatar Airways |
| India | Air India |
| Jordan | Royal Jordanian Airlines |
| Sri Lanka | Sri Lankan Airlines |
| Lebanon | Middle East Airlines |
| Saudi Arabia | Saudia |
| Turkey | Turkish Airlines |
| Europe**(16)** | Russia | Aeroflot, S7 Airlines |
| France/Netherlands | Air France-KLM |
| UK/Spain | International Airlines Group (IAG) |
| Spain | Air Europa |
| Germany | Lufthansa |
| Finland | Finnair |
| Norway/Sweden/Denmark | Scandinavian Air Systems (SAS) |
| Croatia | Croatia Airlines |
| Greece | Aegean Airlines |
| Czech Republic | Czech Airlines |
| Portugal | TAP Air Portugal |
| Italy | Alitalia |
| Poland | LOT Polish Airlines |
| Romania | TAROM |
| Africa**(5)** | Morocco | Royal Air Maroc |
| Kenya | Kenya Airways |
| Egypt | Egypt Air |
| South Africa | South African Airways |
| Ethiopia | Ethiopian Airlines |
| North America**(4)** | United States | American Airlines, Delta Airlines, United Airlines |
| Canada | Air Canada |
| Latin America(5) | Colombia | Avianca |
| Mexico | Aeromexico |
| Brazil/Chile | LATAM |
| Argentina | Aerolineas Argentinas |
| Oceania**(2)** | Australia | Qantas |
| New Zealand | Air New Zealand |

*Fig 2: Interpretation of the Ranking System for Airlines*

|  |  |  |
| --- | --- | --- |
| **Grade** | **Score** | **Implication** |
| A+ | 100 | Airlines getting this grade produces perfect sustainability reports with detailed information on the website |
| A | 95 | Airlines getting this grade produces perfect sustainability reports, but did not provide friendly interfaces on the website |
| A- | 90 | Airlines getting this grade produces quality sustainability reports but did not clarify the compliance with the GRI standard |
| B+ | 85 | Airlines getting this grade produces comprehensive dedicated reports on CSR but the information is either old or difficult to read |
| B | 80 | Airlines getting this grade produces dedicated reports on CSR but the disclosure is incomplete or provides less information than the industry leaders |
| B- | 75 | Airlines getting this grade provides information of CSR in its annual report but the quality of disclosure is unsatisfactory. They usually include much irrelevant information |
| C | 70 | Airlines getting this grade only provides very limited information on company's official website. No production of any dedicated report or disclosure in annual reports |
| D | 60 | Airlines getting this grade produces no information on CSR at all |

*Fig 3: Correlation Between Word Count and Airline’s Sustainability Disclosure Scores*

*Fig 4: Correlation Between Negative Emotion and Airline’s Sustainability Disclosure Scores*

*Fig 5: Outcome of Regression Analysis*

