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Qualitative Study of Stakeholder Influence on Environmental Practices: Evidence from the Malaysian Aviation Industry

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Abstract

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Keywords

environmental agenda, stakeholder's influence, aviation industry, semi-structured qualitative interview

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Qualitative Study of Stakeholder Influence on Environmental Practices: Evidence from the Malaysian Aviation Industry

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In this study, we seek to explore the influence of stakeholders on environmental management practices in Malaysia's aviation industry. The data from this study was derived from interviewing 25 respondents in nine organisations within the aviation sector and was analysed using thematic analysis. We show that internal and external stakeholders significantly influence changes towards better environmental management practices. While internal stakeholders have contributed to better environmental management practices by changing their day-to-day practices within their functional role in the organisation, the external stakeholders have been the key actors that have significantly pushed the organisation to implement a proper environmental management system (EMS), particularly the role played by the regulatory authorities in ensuring compliance with environmental standards. We also highlight that the tension between economic and ecological elements may limit the extent of environmental practices carried out by the aviation sector; nonetheless, continuous engagement and pressure from the community and non-governmental organisations (NGOs) may push the aviation sector to revisit their commitment to environmental practices beyond compliance activities to ecological standards.

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Introduction

Over the years, the aviation industry has prospered the economy (Cremonez et al., 2015; Kushwaha & Sharma, 2014), by creating employment opportunities for the people (Darecki et al., 2011). However, the same industry has caused severe global warming, as well as meteorological and geographical changes to mother nature (Cremonez et al., 2015; Green, 2003; Kushwaha & Sharma, 2014; Ovvidenko et al., 2021). In Europe for instance, with the air traffic increasing to more than double the rate than what it was before, climate change has become a central issue of discussion (Lin, 2016), creating societal distress and severe discomfort (Thirumalai et al., 2017). In Asia, aircraft flying is expected to increase twofold until 2050,ultimately leading to severe traffic congestion (Green, 2003). This has increased government concerns with global warming that is being reflected in higher temperatures in Malaysia and neighboring countries (Thirumalai et al., 2017).

Global climate change demands regulators to prescribe to complex environmental policies (Graham & Guyer, 1999); these policies require substantial alignment with social needs (Khator et al., 1992), as well as international relations (Lin, 2016). However, the development of environmental policies is a long-term effort (Upham et al., 2003), especially if

the intention is to embed these within the education system (Saraswati, 2001) and business strategy (Dentchev et al., 2017). The environmental policies could lead to substantial changes to organisationsal and employee behaviour (Lynes & Dredge, 2006), modify business strategy, as well as work practices (Bui & De Villiers, 2016; Corbett & Cutler, 2000b; Schaltegger & Zvezdov, 2014). However, whilst the role of regulators of this particular industry has been excellent, particularly in terms of compliance to safety requirements, many are calling for them to play a stronger role vis-avis environmental protection (Oldham et al., 2017).

Environmental Agenda in the Aviation Industry

The international environmental agenda has been instrumental in altering the business and financial performance of the aviation industry. For example, the innovation of algae biofuel of aircraft has direct influences on the financial performance of the European aviation industry due to environmental innovations in its business model (Nair & Paulose, 2014). Also, airports in European countries have continually changed their environmental operations to survive, both financially and environmentally (Perez-Valls et al., 2016). Studies in other industrial contexts have demonstrated that the reduction in the production of waste, and consumption of energy, water and materials, can help to improve organisational operations and financial performance (Hofer et al., 2012; Martín-Peña et al., 2014). The international environmental agenda of the aviation industry includes the Carbon Offsetting Scheme for International Aviation (CORSIA), and the Airport Council International (ACI) Scheme, with both being introduced to reduce carbon emission by airline companies and airports, respectively.

In supporting the international environmental agenda, aviation industries across the world have started to develop various measures to reduce their environmental impact; for example, the Brazilian aviation agency has introduced biofuel technology in their operations in order to reduce fossil fuel and carbon dioxide (CO2) emissions into the air (Cremonez et al., 2015). These initiatives, however, are very much at an infancy stage, and it is yet to be made compulsory to the industry players. Whilst many voluntary initiatives have been undertaken, most notable is the Environmental Management System (EMS) as this system has managed to reduce costs as well as increase organisational profit and performance; it also incorporates explicit measures to protect the environment. For instance, countries, like Qatar, New Zealand, Finland, Iceland, and South Africa, have their own EMS, registered under the International Air Transport Association (IATA) as part of the effort to support the international environmental agenda.

Following the practice of other countries where the environmental agenda is directly related to the profit maximisation agenda (Nair & Paulose, 2014; Perez-Valls et al., 2016), the Malaysian aviation industry has taken various initiatives to embed the environmental agenda within its business and operational activities. However, the aviation industry has been criticised as it has been quite slow in terms of responding to the environmental agenda due to the high costs. Whilst the uptake of the environmental agenda in the aviation sector is slow, the role of stakeholders in pushing for the environmental agenda cannot be underemphasised. It is therefore important to evaluate the role played by the respective stakeholder groups in pushing for the adoption of the environmental agenda in the context of the Malaysia aviation sector. Malaysia recognises the importance of environmental sustainability and has been a member state of the International Civil Aviation Organisation (ICAO) and voluntary participant to the CORSIA. Indeed, its voluntary participation in CORSIA reflects its high commitment to environmental pillar of sustainability practices. Thus, in this study we aimed to show how different stakeholder groups influence the Malaysian Aviation Industry's environmental practices.

Stakeholder Involvement in Environmental Management

A stakeholder is defined by Freeman (1984) as, "any group or individual who is affected or can affect the organisation's objectives" (p. 46). A significant body of research has shown the influence of stakeholders on environmental practices in the organisation (Brammer et al., 2012; Rodrigue et al., 2013; Russo & Perrini, 2010; Shubham et al., 2018), particularly in the form of engagement with the organisation (Unerman & Bennett, 2004; Unerman, 2007; Burchell and Cook, 2013; Dal Maso et al., 2018; Kaur & Lodhia, 2018).

Thus far, the aviation industry's environmental impact for an emerging economy has been under-studied. One of the most critical requirements for the aviation industry is to demonstrate the importance of environmental management to its stakeholders (ICAO, 2012). Acknowledging that stakeholders have distinct roles in supporting organisations/industries in managing the environment, it is, therefore, essential to evaluate the role played by the relevant stakeholder groups in promoting the sustainability of the environmental practices of the aviation sector.

Evaluation of the role, influence, and extent to which diverse groups of stakeholders are involved in their organisation's implementation of environmental management involve their distribution of power. Stakeholders can be active or passive actors. In this respect, the extent of their influence and impact must be analysed within a broader political, economic, and cultural context – classified as stakeholder influence strategies (Nguyen et al., 2020). Actively involving stakeholders in practices and activities relating to environmental management has been emphasised by many in various contexts (Aloni et al., 2015); however, not much is known concerning how environmental dimensions are prioritised, as well as how different groups of stakeholders affect the environmental practices within the aviation industry. In this respect, this study aimed to document how other stakeholders influence the environmental practices in the Malaysian Aviation Industry. This study extended the work of Amaeshi and Crane (2006) in developing a further understanding of the role played by key stakeholder groups in promoting sustainable practices in the aviation industry.

Research Method

The researchers of this study have been actively involved in environmental studies in the context of public sector organisations' context. In 2014, Malaysia had experienced two biggest tragedies on two of its commercial aircrafts that are the unknown fate of its MH370 which dissapeared from its radar en route to China and the shooting down of MH17 while flying over Ukraine's air space. These unfortunate events had influenced researchers to explore their research interest on environmental studies in aviation sector. Aimed at creating a "richer understanding and interpretations of social worlds and contexts" (Saunders et al., 2016, p. 140), we adopted an interpretivist philosophy to understand the viewpoints of those involved in a stakeholder engagement process in the aviation industry. Consistent with this, we used the qualitative interviewing method to enable explanations from the interviewees to be evaluated and clarified to answer the research question adequately. In this study, a semi-structured interview method was employed, as it allows interviewees some degree of freedom in explaining their thoughts and experience. Interview was considered necessary to complement shortcomings of document review such as unavailability of documents due to confidentiality as well as documents that may be incomplete (Creswell, 2003).

All interviewees were selected using judgemental (purposive) sampling (Bryman & Bell, 2011). We sought to explore how the interviewees answered and gave further explanations, allowing a rich flow of information about their experiences and feelings (Yin, 2009).

This study focused on the situations and practices emerging in Malaysia's aviation sector and the extent to which stakeholder groups play a specific role in such practices. Our interest in understanding environmental practices in the aviation sector began from our several involvements in prior studies on sustainability practices in the public sector context. Our literature review suggests limited knowledge of environmental practices in the aviation industry, particularly in the context of emerging economies such as Malaysia. Thus, we began contacting stakeholders of the industry, such as representatives of the regulatory bodies of the aviation industry and representatives from several airports in Malaysia (headquarters and domestic and international airport terminals). The interdependencies of the parties were acknowledged in their efforts to implement an EMS. All the interviewees from these organisations were assured of confidentiality, as promised when they agreed to be involved in this study. The interviewees chosen for this research are all deeply involved in their organisations' environmental practices. By using an in-depth semi-structured interview, data were obtained from 25 interviewees comprised of six senior management from regulatory bodies, six senior airport managers, three senior finance executives, one senior operation manager, four operation managers, three senior engineers, and two from NGOs (please refer to Appendix 1 for details). We did not have to seek special permission to access the participants as all participants who were approached agreed to be interviewed for this study. Some participants were recruited through the snowball technique, where one participant led us to the next, who could help us better understand the environmental management practices in the aviation sector.

The interview sessions were done at the interviewees' offices at their convenience. To ensure anonymity, all interviewees were labeled according to their generic posts with no specific reference to their respective organisation. At the end of each interview, we allowed the interviewees to elaborate or add anything in terms of other relevant areas that may have been missed according to their knowledge and experience under the scope of this study.

The data collected from the interviews were manually transcribed by the interviewer. This allows the interviewer to reflect on the body languages, facial expressions and the context in which the data was mentioned by the interviewees. Subsequently, the interview transcripts were organised using NVivo software. The data obtained were then analysed using a thematic approach - a technique of identifying, analysing, and reporting patterns within the data (Braun & Clarke, 2006), as it helps to "identify, analyse and report patterns in the data" (p. 79). Thematic analysis is particularly suited when theme, concepts are used to capture and represent multiple levels of reaction or meanings of patterns noted in the dataset that relate to the research objectives; it also facilitates the straightforward interpretation thereby enabling a more thorough understanding of the phenomenon (Boyatzis, 1998). Braun and Clarke (2014) and Guest et al. (2011) outlined a flexible thematic analysis in their bid to search for themes or patterns. Following their recommendation, the analysis process involved six stages: (i) familiarisation of data, which involved data exploration, code and retrieval functions, and data organisation; (ii) generation of initial codes, which involved the selection of appropriate quotation marks in which the researchers made every effort to ensure that the codes are under the correct label as represented by the statements made by the respective interviewees; (iii) themes and sub-themes inquiry stage, in which labels and codes were developed from the datasets and the rich information was then reviewed. All the codes were closely reviewed one by one to minimise instances of redundancy. This involved making comparisons between codes and sub-codes to identify the main patterns that would represent the themes; (iv) scrutiny of themes and sub-themes to identify the suitability of the potential themes which are aligned with the research objectives. Only after this process had been completed can the themes be further classified according to broader themes, in relation to themes based on the actors' characteristics and actions, and in relation to their roles in the environmental management practices; (v)

clarification of themes which involved a detailed analysis to be written for each of the themes that emerged based on the interviewees' "stories." Here, the "stories" that these themes created were scrutinised to fit in with the entire story about the data obtained. The themes were coded for repeated conversation during the interview and precise reading (Miles et al., 2014) and (vi) reporting the analysis to produce the findings based on the analytical narratives of the data extracts. Following the six stages outlined above, both authors agreed on the three themes emerged from the data that are trade-off between environment and economic benefits, internal stakeholders' influence on environmental practices and external stakeholders' pressure on environmental practices. These themes form the findings of this study as presented in the section below.

Trade-Off Between Environment and Economic Benefits

The findings establish the rationale and tensions behind adopting environmental practices within the aviation industry. Whilst significant players in the industry support the environmental sustainability agenda, the agenda is framed within the economic logic, in which the economic concerns are always the underlying reason for conducting environmental sustainability:

> We (only) switched on the air-conditioner at 11am because it is still cold in the morning. By doing this, we managed to save a lot in energy costs. Major cost saving was when we upgraded our air-conditioner chiller for RM16,000 with an energy efficient one, and our electricity cost really went down. (Senior Engineer I)

> We do have the Energy Department in the headquarters (office). They gave us guidelines to implement initiatives in our terminal, like we switch off the lights at certain parts and at certain times. We want to save costs. (Senior Finance Executive I)

However, convincing senior managers to move to using energy-efficient equipment is not an easy task. A senior electrical engineer of an airport in the northern state of Malaysia narrated that it has been a real challenge to convince the management to switch to LED lights because it will immediately increase the company's expenditure and thus reduce the profit. He said: "Our management wants to see immediate results. They want to see how this (change to LED) can increase company's profit" (Senior Engineer 2).

The above quotes reflect the benefits perceived by interviewees about implementing the environmental agenda, which is very much driven by cost savings associated with those initiatives. This highlights that financial outcomes supersede environmental concerns, which is also confirmed by Hahn and Figge (2011) and Gao and Bansal (2013). The influence of different time orientations in realising the sustainability development agenda is a significant area of focus. This is because tension prevails over whether priority should be given to only long-term measures and disregard short-term ones. As quoted by one interviewee: "It is rather costly to maintain the LED, but it has reduced the electricity usage and electricity bills. So, in the long-term, we can save" (Senior Engineer 1).

The Senior Operations Manager of one airport confirmed that the focus of the airport is to achieve the long-term objective of reducing energy consumption at the airport. This can be seen from the adequate budget allocated to the airport to procure LED products: "We are working on it as initiated by the Headquarters. They allocated RM 1 million in each

international airport for LED products. If we study the Long-Cycle Cost, LED could save the energy by up to 60 percent" (Senior Engineer 2).

As narrated by the following interviewee, the organisation had to incur huge expenses to purchase LED products, but she acknowledged that the trade-off between financial and environmental benefits is needed to achieve long-term benefits for the company, and to embrace commitment for environmental protection:

> We have to spend a lot, but I think it is worth it because the environment is a long-term matter. It is not something that we can see the benefit within 1-2 months. It should be a long-term effort and commitment. (Senior Finance Executive 2)

The importance of long-term focus was also acknowledged by an interviewee from the aviation regulatory body. The aviation industry requires huge capital expenditure, for instance, to buy and operate an aircraft with a supersonic engine, that would reduce the impact on the environment. Thus, such decision requires long-term strategic planning: "We cannot maintain our status quo; this is the right time for us to move forward. Yes, it requires a high cost, but then, it is for the long-term benefits as well" (Regulator 1).

The lack of resources allocated for environmental activities is cited as a major setback for the environmental agenda by many interviewees. Allocation for environmental-related expenditure is still very much confined to traditional budget allocation. As mentioned by Senior Airport Manager 2, he budgeted thousands of ringgits for annual sustainable waste disposal. This budgeted amount is collected from various departments before being approved by the head office, which controls the budget process of all airports. This is clarified by another interviewee below:

> The departments need to allocate funds for any environmental projects to be carried out. We use SAP [accounting software] for budget allocation. More allocation in the future will be very much dependent on how successful the current year's project is. (Senior Finance Executive 2)

While most interviewees are frustrated with the quantum of budget allocated for environmental practices, they agreed that basing future allocations of the environmental budget on the performance of the current project, is an excellent mechanism to ensure all resources directed towards environmental management practices are used for its intended purposes according to organisational priorities:

> For this airport, we have been allocated a budget to maintain the environment. We will regularly update the top management. If we have planned three projects for the environment but are later informed that there is a budget cut, then we will be asked to proceed with one first and the rest will be held for future years. We will need to prioritise the project which is more urgent. Here, we do budget planning, task planning, and budgeting in terms of time. I have prepared for a five-year environmental plan, and I can say that for energy alone, we have more than 20 activities in the pipeline. (Senior Airport Manager 2)

As claimed by the Senior Airport Manager 2 above, the budget is allocated wisely depending on the financial condition and urgency of the organisation. A well-planned project calendared by the airports enables the proper execution of environmental activities. The top management has set a return on investment for the budget allocated for the environmental

activities to enable them to calculate the amount of cost reduction from its investment. However, unlike any other type of investment, the return on investment from environmental initiatives and practices may not generate quick profit and positive outcomes within a short period of time, resulting in this being viewed as a rather unattractive mode of investment.

The Senior Airport Manager above has demonstrated that whilst environmental practices in the organisation could be embedded into business and financial standards, this requires proper planning, budget allocation, and the right mindset by everyone within the organisation, including operational and top management.

Intrinsically, organisations therefore, must be prepared to allocate enough resources to commit to environmental practices. In another organisation, the commitment to environmental practices, such as proper disposal of scheduled waste, is due to the need to comply with the requirements of ISO certification: "Once we go for ISO 14001 certification, we need to monitor the disposal of our scheduled waste. Likewise, we need to comply with the ISO requirements to monitor noise and air pollution" (Senior Airport Manager 4).

Most of the interviewees acknowledged that certification could push for better environmental initiatives, but some are sceptical of whether such certification can facilitate better environmental initiatives, as mentioned by the following interviewee:

> In the meantime, we do have our own business model where I am the one who is directly in charge, but we do not have any EMS model and I think it is quite challenging to have an extensive EMS model because we need to integrate all departments to be green. (Senior Airport Manager 3)

What is also evident from the data is that environmental initiatives need to be embedded within the culture of the organisation, and everyone has a role to play in ensuring the success of such initiatives throughout the organisation. Top managers plays a significant role in pushing for better values across their organisation:

> We try to change our culture in the office, such as we need to keep reminding each other to switch off the light during lunchtime. And now, we are used to it to the point that it is becoming a norm. (Senior Airport Manager 6)

> We do make environmentally friendly efforts here, even if it is not much. Like myself, as a leader, I started to bring my own lunch box which can be reused rather than using a plastic lunch box. (Senior Airport Manager 4)

Internal Stakeholders' Influence on Environmental Practices

Implementing environmental practices in business operations within the aviation sector is subject to an organisation's strategic priorities. The strategic priorities and pressure from stakeholders have been the most significant reason for implementing an environmentally inclined business strategy. Thus, businesses must acknowledge that stakeholder pressure is an agenda they must address: "A lot of our (environmental) initiatives and proposals are from the internal stakeholders. Most often, we will say yes to all the proposals, although in the end, the decision is made by the airport manager" (Senior Finance Executive I).

Interviewees from other airports also agreed that current environmental practices are mainly initiated by the airport's employees, such as experts from the engineering department who proposed using LED lights and replacing the existing chiller with an energy-efficient one. They suggested that creating an environmentally friendly airport will enhance customer experience. The interviewee explained below: "Sometimes… when we do something and

people are using it, we feel happy. So, it feels like, “Wow! I did that and people are using it” (Senior Engineer 3).

The interviewee above associated his involvement with sustainability initiatives not only to please the customers but also for his self-satisfaction from his work. He further explained that it is difficult to find a direct correlation between energy saving from the replacement of the air chiller and the increase in the number of airport customers. Still, he feels confident that such an initiative benefits both customers and the airport's management.

Besides initiating environmental activities within their functional role, our interviewees also engage with the community living near the airports. Engaging with this community, and instilling societal awareness, have been identified as push factors to support an organisation’s environmental practices Field (Bui & De Villiers, 2016; Fernández-Llamazares et al., 2015; Lynes & Dredge, 2006) as they play an important role in enabling effective environmental practices implementation. For instance, whilst companies can ensure their products comply with the environmental standards regarding its materials and production processes, ultimately, it is the community that would determine whether those products are consumed in the way they were designed for and for meeting its original purpose.

For instance, one airport manager has made extra efforts to engage and connect with the head of the village in his attempt to educate the villagers on the possible environmental consequences of airport operations, as stated below:

> Carbon emitted from aircraft does not only impact humans, but also all living beings. So, we have communicated with the community. In fact, in X (airport in eastern part of Malaysia), I am the one who communicated with the head of the village - called on him and told him about how the operations of this airport will impact the surrounding environment and the villagers. This has resulted in DCA introducing the clause on maintaining a certain distance between any residential area and the airport. (Senior Airport Manager 1)

The effort of the Senior Airport Manager1 above is a good example of engaging with the community in implementing environmental practices. Creating community awareness on good environmental practices would facilitate a more integrated approach to protecting the environment. As narrated above, the engagement with the community may lead regulators to introduce relevant rules, for instance, regarding the distance between an airport and a residential area. Continuous community engagement is also necessary to educate the people on how their activities will affect the environment. For example, an interviewee below commented on the practice of a car transfer operator at the airport compound. Operators who continue running their car engines, while completing the airport transfer process, will contribute to the accretion of CO2 into the air, resulting in more adverse consequences to the environment. This practice is observed in most of the airports in the country. One airport staff in the northern state of Malaysia commented as below:

> By right, the car transferring anyone to the airport should be parked in the car park; however, the practice here is they just park the vehicle at the driveway with the car engine running. This contributes to carbon emission which affects the air-conditioning system. If you are aware, the air-conditioner filter at the arrival section is really bad. According to the report from the mechanical department, this has happened because of carbon emission and smoke. (Operation Manager 4)

The Senior Airport Manager 5 of the same airport fully agreed with the comment made by his subordinate as above. He suggested that community awareness and involvement in sustainability practices are equally important towards ensuring sustainability. He stated: "As I said, generally, we can implement environmental practices… however, the issue is how serious the community is in their efforts to inculcate environmental awareness as their way of life" (Senior Airport Manager 5).

Therefore, educating society to be environmentally friendly is a crucial part of the whole model of the EMS in the aviation industry. As suggested by the interviewee above, society should consider environmental practices as a way of life.

This section illustrates how different internal stakeholder groups have been affected and are affected by the operations within the aviation sector. It also highlights implementing environmental practices, resulting in organisational members in the industry incorporating environmental practices into their business strategy. Environmental practices, at best, can be described as existing due to the need for regulatory compliance. Still, it will be a long journey to be a part of the organisational culture.

While internal stakeholders have initiated environmental practices within the organisation, and commenced community engagement activities, the external stakeholders, such as the regulators and Non-governmental Organisations (NGOs), play a crucial role in putting pressure on the aviation players to observe good environmental business practices. In this study, the interviewees from NGOs and aviation regulatory bodies confirmed that they continuously pressured the airports and airlines to conform to environmental regulations and improve their environmental practices.

External Stakeholders' Pressure on Environmental Practices

Regulators. In Malaysia, the Ministry of Transport (MOT) and the Department of Civil Aviation (DCA) are the aviation regulatory bodies that are external stakeholders that have direct access to airline companies and airline operators. The MOT focuses on developing policies, whereas the DCA focuses on aviation's technical and operational aspects. In 2016, the Malaysian government established another aviation regulatory body, namely the Malaysian Aviation Commission (MAVCOMM), whose primary role is to regulate economic and consumer relations matters related to civil aviation in Malaysia. All international standards adopted by Malaysia will be first kept by the Department of Standards (DOS) in the Ministry of Science, Technology and Innovation before it is released to the relevant Ministry for implementation. The DOS acts as a mediating regulatory body between international and national standards. Thus, international aviation standards will be adapted according to the needs and context of the Malaysian aviation industry. Malaysia has been a voluntary participant in the implementation of CORSIA. Through this initiative, the airlines and other aircraft operators of member countries are subject to carbon offsetting requirements, which will be measured based on the CO2 they emit on flights subject to offsetting.

Many interviewees specified the role of local and international regulators as crucial stakeholders in pushing for the uptake of the environmental agenda within the industry. A regulator acknowledges such a role as below:

> The Government has an active involvement in this environmental agenda as we are highly concerned with our society, and we want the people to be protected. The second factor is because it can grow our national economy, especially via the tourism industry. (Regulator 2)

In this regard, the environmental agenda has been developed by regulators to ensure that airline activities would not affect social wellbeing, as well as to promote the economic development of this nation. For the government, the benefit to the society at large should be the main priority of the regulatory body.

In the aviation industry, the most common source of air pollution is by way of reduction in air quality. As highlighted by one interviewee, the departure time lag from one commercial aircraft to the next is approximately five minutes: "…Yeah, other than KLIA and KLIA2, the departure in this airport is within two to three minutes of time lag… We have many flight movements here because we are located in the fascinating island" (Senior Airport Manager 3).

The minutes in lag time, multiplied by the number of flights in the queue, has resulted in air pollution from aircraft becoming a severe problem for airports in Malaysia. The high number of airport flights contributes to unhealthy air in the surroundings. Likewise, the employees are also adversely affected by this pollution. Acknowledging the effects of the pollution from the aircraft, there is, therefore, a need to monitor and contain these effects. As such, airports are required to report any environmental issues about their operations directly to the relevant regulatory body, after which analysis will be undertaken:

> The airports and commercial airline organisations are required to submit their report to us. These reports describe the environmental initiative that they are currently practicing. Therefore, we can recognise which part these organisations still lack. Our concern is with the airline companies because they are involved in the emission of CO2 from the aircraft. However, airports also need to tell us about their progress. Anyway, our airports in Malaysia are quite advanced in terms of environmental aspects. They have already developed a solar roof parking for their passengers and this parking is on a permanent basis and enables the airport to absorb solar energy from the sun. (Regulator 3)

As mentioned by the interviewee above, the regulatory bodies continuously monitor the environmental practices of the airport operators and airline companies. Nevertheless, regulators in Malaysia rely heavily on the standards issued by ICAO. The development of national standards is viewed as costly, and the government's priority lies primarily on safety issues. This is as suggested by the following interviewee from a regulatory organisation:

> Well, actually we look into sustainability in aviation as a whole, including social and economic aspects. We look overall, social, economic, safety and health… it is useless for us if we invest millions of ringgit but we neglect the safety of our people. You see tourism will boost up the aviation industry in this country. However, tourists will travel here only if there is good transportation, and it is safe for them. (Regulator 4)

Considering two major airline tragedies in Malaysia in 2014, it is not surprising that the safety issue would be the main priority of the aviation industry, especially airline companies and its regulators. The main pressure from the regulators comes from their regular audit. All interviewees acknowledged the importance of audit, but almost everyone expressed the pressure of having to prepare for many audits throughout the years, as mentioned by the following interviewee: "Too many audits sometimes make us immune. It is very stressful because we have to answer their queries within a specified period" (Operational Manager 2).

From the perspective of the regulators, audit is the most important activity that must be conducted to ensure compliance with the international aviation standards. Furthermore,

Malaysia has been a council member of ICAO for a few terms and showing a high degree of compliance with ICAO standards is crucial for its image at the international level.

However, as explained below, the uptake of sustainability practices is still very much dependent on whether organisations can commit their limited allocation to these initiatives. Although pressure on compliance appears to be a push factor, most interviewees argued that it has a very minimal impact:

> Our environmental initiatives are still very small, as our total capital expenditure allocation (on this) also is not big. We have yet to re-engineer the system for environmental compliance purposes; however, we do include an environmental component in our business plan. At this stage, we really need our stakeholders, including the community, to participate and have awareness (on it). (Senior Airport Manager 3)

The above quote suggests that pressure from the regulators alone is not sufficient to encourage companies to implement environmental practices. So long as the trade-off between economic and environmental benefits continues to exist, companies will naturally be inclined towards prioritising profitability. Thus, community engagement is necessary to complement the pressure from the regulators and to instil awareness on the role they can play in improving the overall sustainability practices of the aviation industry.

NGOs. We also interviewed two officials of NGOs involved in environmental protection in Malaysia, and actively giving training on general awareness of environmental issues to the public. Both interviewees expressed their concerns with the lack of a formal approach to create environmental awareness among the public. However, one interviewee, a senior manager of the environmental protection society, an NGO that actively promotes environmental protection in Malaysia, narrated that the informal awareness programmes done by the universities, NGOs, and other corporations, are already substantial, which over the years, have improved public awareness, but this awareness has yet to change the attitude and behaviour of the public towards protecting the environment. With regards to the aviation sector, he said:

> We have been quite critical of the aviation industry as well. Especially because we have the United Nations framework convention on climate change, which is trying to control, mitigate and prevent the increase of greenhouse gas emission. Yet, the thing is, the aviation industry until recently has always been outside the UN process. So, they are not becoming a part of the solution. Until recently, they said... ouh, we will monitor the industry… and they are trying to do something but a bit slow. They should be able to do more and one of the things which has been recommended is that if people travel on a flight of less than two hours, they should choose the train. (Senior Manager NGO1)

Unlike other types of pollution, citizens are less familiar with airline operations, and as a result, they have not been very critical about the pollutants emitted by the airlines compared to pollutants produced by the factories. Thus, he said it is crucial for the NGOs and the government to increase the society's awareness of airline pollution. He added that:

> In a way, the provocation comes from the NGOs; we force the government to act, to put better control on the industries which are the culprits. The thing is the government's focus has always been economic prosperity. Once we are rich,

> only then, they will worry about pollution. See, this is an old-fashioned approach you know. (Senior Manager NGO1)

The priority for the economic dimension of sustainability did not just happen at the aviation industry level. As narrated by the interviewee above, the government appears to be in tandem with the industry, in showing a strong inclination towards the economic dimension of sustainability over the environmental dimension.

Another NGO interviewee, a Senior Manager of the Flight Attendants Society in Malaysia, also commented on the lack of efforts from the government to educate the public on the importance of environmental protection. He argued that the level of environmental education in Malaysia is very basic, that is, only at level three from a scale of 10, because both the industry and the government tend to give more priority to the economic dimension of sustainability over the environmental dimension. He added: "We need more awareness; we need more campaigns. We need more aggressive plans. The Union is actually moving this issue up, we are pushing it, we are the voice of the voiceless" (Senior Manager NGO2).

Since the efforts from the government are lacking, and public awareness is still low, the Union has been continuously pushing for more campaigns among the union members and the public as well as pressuring the government to pay more attention to environmental matters.

Discussion and Conclusion

In this study, we show the ways by which stakeholders have influenced environmental practices in the aviation industry. We divided our analysis of stakeholders' influence on environmental practices into two categories, i.e., stakeholders within the organisation (internal stakeholders); and stakeholders outside the organisation (external stakeholders). We find that employees have gradually initiated the implementation of environmental practices as part of their functional duties in the organisation. For instance, engineers have suggested the use of LED lights and energy-efficient air conditioning chillers to reduce the impact on the environment. Further, they have also initiated community engagement to educate the society on the environmental effects of the aviation business, thereby encouraging them to provide ideas for improving environmental management. This is evidenced by the issuance of new clauses in the guidelines issued by the relevant regulator relating to the distance between the airport and residential areas as result of engagement with the village head. Thus, this study contributes to the limited number of studies that show the internal organisational processes of change in embedding sustainability practices (Adams & Larrinaga-González, 2007; Gray et al., 1995; Larrinaga-Gonzalez & Bebbington, 2001; Narayanan & Adams, 2017).

We also show that the extent of internal stakeholders' influence on environmental management practices is limited by the number of resources available. In line with prior studies (Dey, 2007; Narayanana & Adams, 2017; Spence & Rinaldi, 2014), we find the primacy of the economic dimension of sustainability over the environmental dimension is also a feature of the aviation industry.

While internal stakeholders have been instrumental in introducing environmental management practices within the aviation sector, we find that both regulators and NGOs play crucial roles in pushing for better environmental agenda in the industry. Both the MOT and the DCA are the regulatory bodies for the aviation sector, and airlines and airports are expected to comply with the regulations. They also have the power to monitor the implementation of environmental practices in the organisation via monthly or yearly reports. Compliance is also in the form of meeting the various requirements of EMS certification, i.e., ISO14001. The aviation industry in Malaysia is practicing environmental management in its operating systems,

such as scheduled waste systems and energy reduction. All these practices are done mainly for regulatory compliance, leading to long-term cost reduction.

The pressure to comply with international and local environmental standards by the regulators for the Malaysian aviation industry has resulted in organisations changing their operating systems. In this study, the financial performance of organisations can be seen through a reduction in the cost of energy obtained by replacing the LED lights and air-conditioner parts, as well as setting up a solar parking system to generate power. These environmental practices cannot be achieved without regulatory intervention. The proactive action by regulators at the national and international levels promises a more successful implementation of the environmental agenda globally, as evinced in Spain (Gray & Bebbington, 2000; Larrinaga-Gonzalez & Bebbington, 2001) and Hong Kong (Khator et al., 1992).

We find that the regulatory authorities are the most significant stakeholder group in the aviation industry because they lay down the minimum conditions for the aviation industry to exist (Lynes & Dredge, 2006; Saraswati, 2001). The issuance of licenses, registrations, technical requirements of aircraft and airports, and aircraft accident and accident investigations, are among the roles of the aviation regulatory bodies. From our interview, the reference to the role of the ICAO and the MOT in shaping the environmental agenda is explicit. The regular audit from the authorities is time consuming and creates disruption to the daily activities of the aviation industry's management but is useful towards encouraging compliance with environmental standards. This is evidenced by the interviewees from different airports who narrated that their activities are shaped by the standard operating procedures issued by the headquarters.

Our study also shows the role of NGOs as another stakeholder group that pushes for better environmental management in the aviation industry. We have illustrated that NGOs have commented on the lack of government efforts to educate the public on environmental protection. They argued that the government also exhibits a similar approach to the industry because of the priority the government puts on the economic dimension over the environmental dimension. The NGOs argued that the people's lack of awareness of environmental issues is more prominent in the aviation industry because the public is not familiar with aviation operations, and it is not something that the public must deal with daily. Thus, the NGOs actively educate the public and push the government to formulate better environmental guidelines for aviation companies. The findings of this study also support previous studies that have noted a lack of public awareness of environmental issues in emerging countries (Debrah et al., 2021; Ferronato & Torretta, 2019).

While this study has shown that the Malaysian aviation industry has gradually moved towards the adoption of the EMS, and complies with various international and local environmental regulations, more is expected in terms of engaging the society with environmental practices, as well as to balance the economic, environmental and social dimensions of sustainability practices. In an emerging economy like Malaysia, to balance the economic, social and environmental dimensions of sustainability is a continuous struggle. The findings of this study indicate that the aviation industry and the government must set long-term priorities to address the trade-off between economic and environmental dimensions of sustainability. The long-term solutions for environmental issues in the aviation industry must not be the sole responsibility of the aviation business or the aviation regulators; it must encompass the cooperative efforts of all relevant Ministries, including the public. As illustrated in this study, the car transfer at the airport also contributes to CO_2 emission at the airport; thus, the public must be part of the formula in setting a long-term environmental agenda for the aviation industry.

Our study is not without limitations. First, the timing of the fieldwork was before the outbreak of COVID-19 pandemic. Most sectors, aviation included, have changed tremendously

post-COVID-19. During the COVID-19 outbreak, the country's borders were closed, commercial airlines were not in operation, and airports were almost completely deserted. People reverted to online meetings which reduced the need for having physical meetings that require commuting via air transportation. This trend may continue in the future. However, post-COVID-19 pandemic, we have seen that the demand for airline travel has slowly begun to increase, and thus, we expect that our finding on the aviation sector's struggle to balance between economic and environmental elements remain relevant. Perhaps, the focus on the economic dimension is more crucial in the post-pandemic era due to the need for economic recovery, the weakening Malaysian currency against the US dollar, and the increase in fuel price. The second limitation is the study only focuses on the major airports in Malaysia, the experience of airport personnel, the main local regulatory bodies for the aviation industry, and selected NGOs. Future studies may include the perception of the two major airline companies in Malaysia and compare the environmental management practices between the Malaysian aviation industry and in other ASEAN countries. Third, this study is conducted in the context of the Malaysian aviation industry, and thus, the results cannot be directly generalised to other contexts. However, we believe that the findings remain useful in the context of emerging economies, which often share similar environment, social and economic issues.

To sum up, our study provides an analysis of the ways in which internal and external stakeholders influence environmental practices in the aviation industry in Malaysia. The findings show that both internal and external stakeholders play major roles in shaping the environmental practices in the aviation industry. Nevertheless, how to balance the concerns between the environmental and economic elements of sustainability, and how to create the right mind-set, attitude and behaviour among the public on environmental issues, remain a great challenge to various stakeholders, including the government, NGOs, and educational institutions.

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Appendix A

List of Interviewee

No	Organisations	Interviewee
1	Regulatory Body 1	Senior Regulator 1
2	Regulatory Body 1	Senior Regulator 2
3	Regulatory Body 1	Senior Regulator 3
4	Regulatory Body 1	Senior Regulator 4
5	Airport A	Senior Finance Executive 1
6	AirportA	Senior Airport Manager 1
7	Airport A	Operation Manager 1
8	Airport B	Finance Executive
9	AirportB	Engineer 1
10	Airport B	Operation Manager 2
11	Airport B	Senior Airport Manager 2
12	Airport C	Operation Manager 3
13	Airport C	Senior Finance Executive 2
14	Airport D	Senior Airport Manager 3
15	Airport D	Senior Airport Manager 4
16	Airport D	Senior Manager 5
17	Airport D	Operation Manager 4
18	Airport D	Senior Finance Executive 3
19	Airport D	Senior Engineer
20	Regulatory Body 1	Regulator 5
21	Regulatory Body 2	Regulator 6
22	Airport E	Senior Airport manager 6
23	Airport E	Engineer 2
24	NGO	NGO1
25	NGO	NGO2

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