***Going Green: A Strategic Analysis of Swiss International Air Lines Towards Full Environmental Sustainability***

Juliette Kettler, University of St. Gallen, +41 79 860 92 47, juliette.kettler@gmx.ch

## Overview

The mitigation of climate change is one of the most urgent and far-reaching challenges humanity faces. The aviation sector plays a crucial role in tackling this challenge. This master thesis investigates the case of Swiss International Air Lines (SWISS) and examines the necessity, value and possibility of a proactive environmental strategy.

As a first step, a scientific definition of Full Environmental Sustainability for Airlines (FESA) is developed. Additionally, efficiency, consistency and sufficiency are introduced as three possible strategies towards sustainability. As a basis for the strategy development process in the thesis, the Framework for Sustainable Strategy Development (FSSD) is introduced. Its backcasting approach is especially well suited for such environmental challenges.

The following empirical analysis is divided in three sections. The first section focuses on describing and evaluating the current approach of SWISS to reduce their emissions. Secondly, a SWOT analysis is conducted. Internal and external facilitating and impeding factors for long-term strategies towards environmental sustainability in the case of SWISS are discussed in detail. The final section focuses on two possible scenarios of external developments and corresponding strategies for SWISS to achieve net zero emissions by 2050. Challenges and benefits of both strategies are discussed.

## Methods

Following the approach of the Framework for Sustainable Strategy Development (FSSD), this case study aims to develop strategies for Swiss International Air Lines (SWISS) to achieve Full Environmental Sustainability. The definition of the goal to be achieved is based on relevant scientific literature.

The empirical analysis takes a qualitative approach involving 11 semi-structured expert interviews and desk research. When selecting the interview partners, care was taken to ensure that several different stakeholder groups (e.g. policy, investors, research) and hierarchical levels were represented. It needs to be noted that the interviews were mostly conducted before the outbreak of the COVID-19 virus, so the impact of this crisis is excluded from the analysis.

The transcripts of the 11 conducted interviews are the main source of data used to answer the research questions. However, as the interviews cover a wide range of aspects, additional desk research is conducted to complement or cross-check the primary data from the interviews. The desk research focuses on relevant reports by the industry (e.g. from IATA, ICAO) or other larger institutions (e.g. IPCC, European Commission).

## Results

Full Environmental Sustainability for Airlines (FESA) is defined as compliance with the Paris Agreement to mitigate climate change to below 2°C. Concretely, this translates to two requirements: (1) no use of fossil resources, and (2) net zero greenhouse gas emissions by 2050.

The analysis of SWISS’s current environmental strategy showed that the strategy is a step in the right direction but is not drastic enough to achieve FESA. The SWOT analysis further revealed that SWISS has already built several environmental capabilities, but essential capabilities to achieve FESA are still lacking. The latter include a clear business case for sustainability and resources to invest substantially in new technologies. The external analysis showed that efficiency measures bear little further potential for reducing emissions, while consistency (i.e. synthetic fuel) is the most promising and likely strategy to decarbonise aviation. A focus on sufficiency, i.e. the replacement of short-haul flights with high-speed trains, would be a further important step towards environmental sustainability. Whether SWISS should prioritise synthetic fuels or whether the airline can instead focus on the rail market depends on external developments within the dimensions policy, technology and customers. Both approaches were illustrated in two scenarios and corresponding strategies.

## Conclusions

The thesis showed that it is is possible and valuable for SWISS to achieve Full Environmental Sustainability, i.e. become net neutral and fossil-free concerning its Scope 1 emissions by 2050. However, achieving this goal requires more drastic measures than SWISS is currently taking. Airlines have picked the low-hanging fruit and now need to move on to a more fundamental redesign of their services or technology. To achieve the set goal, fossil fuel and even some air travel needs to be replaced with more sustainable alternatives.

When comparing the three possible sustainability strategies, it becomes clear that consistency shows the most potential to decarbonise aviation. This is due to the necessary technology already being available and its applicability to long-haul and short-haul flights. In contrast, a sufficiency strategy alone is not likely to lead to the necessary emission reductions. However, if policy and other stakeholders (e.g. fuel suppliers) decide to substantially support synthetic fuel, SWISS should exploit the additional emission reduction potential and value creation opportunities of sufficiency.

Both strategies require larger investments, and possibly even a review or extension of the company’s business model. Especially for airlines, which generally have low profit margins, such investments are not easily done. A further barrier is the fact that aviation is a global industry, which results in its decarbonisation being dependent on the strategic decisions of other airlines, technological developments, policy measures and customer behaviour. This dependence on external developments and coordinated action of numerous stakeholders worldwide slows progress. These barriers are considerable, but do not make it impossible to achieve FESA per se. As explained above, the necessary technology already exists. However, for an airline to actually take the necessary steps to achieve FESA despite the barriers, the financial and strategic benefits of reducing emissions must become clearer than they are today. Building a clear business case is essential for the success of sustainability strategies.

Although the costs of implementing a strategy like the ones proposed are high, the findings of this thesis suggest that the costs of not engaging in such a strategy would be higher. From a strategic and financial point of view, the adoption of one of the proposed strategies is worthwhile, as this would result in the avoidance of several risks as well as the creation of several competitive advantages. With such a proactive sustainability strategy, SWISS would take on its responsibility towards society and the environment and embark on a credible pathway towards a future with a maximum climate warming of 2°C.

## References

As the full list of references is 15 pages long, it is not included in this extended abstract. Please refer to the original document.