

# Problems faced by singapore airlines management essay

[Environment](#), [Air](#)



This report will analyse the problems faced by Singapore Airlines. Due to rising fuel costs and increased regulations, it has become more pressing for SIA to deal with their own fuel consumption and carbon emissions. Moreover, SIA also strives to reduce waste and maximise resource utilisation, given that wastes may possess adverse effects on to the environment.

In order to solve these issues, SIA has looked into green and sustainable operations. Apart from contributing to the environment, this approach can also slash costs and build a more positive branding image in the medium and long run, effectively boosting profits.

Furthermore, this report also investigates and evaluates the measures already done by SIA, without forgetting our recommendations on these issues as well.

SIA seeks to improve fuel productivity via technologies, such as Continuous Descent Approach and User Preferred Route, improving efficiencies in air traffic management, regular engine wash, and minimising the weight of the aircraft. It has been found that such measures are successful in reducing fuel usage, and hence, carbon emissions.

However, SIA may not have done much in terms of biofuel, a cleaner form of fossil fuel. We recommend SIA to shift its vision to be greener and to boost their innovations through an increase in R&D spending. SIA can also collaborate with other companies to enjoy economies of information. Other recommendations include incorporating Etaxi, which helps to reduce around 3% of the total fuel burned during taxiing through short and medium

journeys, and encouraging passengers to bring their own entertainment devices while removing individual screens in the cabin.

SIA also operates the most fuel efficient group of fleets, with 19 Airbus A380 in operations. Furthermore, SIA seeks to reduce waste through recycling – by selling or trading in the planes. As up to 85% in weight of an aircraft can be recycled, a trade-in would make a substantial impact in reducing waste from aircraft disposals. Hence, SIA will also be able to benefit from the proceeds or the cost savings yielded.

In reducing food wastage, SIA has done measures, such as carrying less food, after observing that about 1/3 of passengers do not eat dinner on late-night flights out of Singapore. Such measures may add up to a significant reduction in wastage, as well as, cost. However, we shall also recommend SIA to commence a food waste recycling programme which involves various restaurants and airlines. This way, SIA will be able to build a stronger image as a socially responsible company.

SIA also maintains a young fleet of average age of 6. 17 years, as compared to the industry average of 13. 6 years. As such, SIA would be able to save cost from reparation and maintenance due to a smaller possibility of mechanical failure. Engines from young aircrafts will also emit less carbon dioxide.

Finally, SIA's cabin crews are required to pass a strict training and selection process to maintain their high service quality. Hence SIA will be able to operate at a more effective capacity than other airlines because each crew is

capable of serving more passengers without compromising their service standards.

## **1. Introduction**

Singapore Airlines (SIA) was founded in 1972 and is the flag carrier airline of Singapore. The company is widely regarded as one of the best in the world by attaining Skytrax five-star award# and being placed third in the 2012 Skytrax's Global Airline Ranking#. SIA is also known for introducing the Singapore Girl, the company's iconic image in which cabin crews don the unique Malay " Sarong Kebaya" to exude the aura of Asian grace and hospitality#. Furthermore, SIA is a pioneer in many aviation aspects which include being the first to offer free headsets, choices of meals and drinks in Economy class in the 1970s#. In terms of market capitalisation, SIA has also performed strongly and was placed third globally in 2011 with US\$10. 52 billion#. As such, with these tremendous achievements, the airline has truly brought the aviation industry to a whole new level.

## **2. Key Issues of Concern**

Recently, the aviation industry has been battered with rising fuel costs (Bloomberg, 2012)#. As fuel contributes around 40% of the industry's total operating costs (Aviation Daily, 2008) and with more emissions regulations, such as the EU Emissions Trading Scheme (ETS), there has been an even more critical need for airlines to improve their fuel productivity.

Although it may be slightly costly to implement initially, an investment in green technology may be able to give SIA an edge over its competitors

economically in the long run through benefits, such as improved branding and improved efficiency in managing resources, which may increase the company's profit margin. (Lynes & Dredge, 2012)

Furthermore, with Pulau Semakau, the only landfill in Singapore, set to be filled in 2040, there is an alarming need for SIA to reduce waste generated to increase its lifespan. This can take place through waste recycling into useful by-products, such as electricity, and cabin crew training to reduce waste through more efficient resource management.

### **3. 1 Improving Jet Fuel Productivity**

Having been stimulated by its membership in Asia's South Pacific Initiative to Reduce Emissions (ASPIRE), SIA has planned to adopt the Continuous Descent Approach in her flights. The company has carried out trials for this approach, and over the period of three months, they saved 245 tonnes of fuel across around 600 flights.

SIA has also worked together with Air Navigation Service Providers (ANSP), like Airservices Australia, to improve efficiencies in air traffic management. (Singapore Airlines, 2008)# This involves improving route access and air traffic control systems so as to reduce flight delays. This helps to reduce fuel usage due to circling busy airports and longer taxiing on the ground. In fact, up to 10% of aircraft fuel could be reduced through more efficient air traffic management. (Lynes & Dredge, 2006)#

SIA has also used User Preferred Route (UPR) for flights from Los Angeles to Singapore to plan its air route. (Singapore Airlines, 2011)# The route an

aircraft takes, the altitude at which it flies and the weather it encounters are factors that affect the amount of fuel used and hence the carbon emission. (M2 Presswire, 2010) UPR take into consideration these factors and plans the most fuel-efficient routes for the pilots to take. Regular engine wash programmes are also conducted to improve fuel efficiency. SIA has hired Pratt & Whitney's EcoPower engine wash service which helps to reduce fuel burn up to 1.2 percent, eliminating three pounds of carbon emissions for every pound of fuel saved. (PR Newswire (U. S.), 2010)

In fact, a total of 10,686 kg of fuel and 33,769 kg of carbon emissions were saved (M2 Presswire, 2010) in a demonstration green flight done by SIA in 2010 using these similar measures – UPR and engine washing. Although the measures in the demonstration are over and above SIA's regular engine and airframe maintenance programmes, the result shows the potential reduction in fuel and carbon emission that can be achieved from planning of fuel-efficient routes and regular engine wash, and also shows the improvement SIA can seek to implement in its regular operations. For example, although Singapore-Los Angeles route, where UPR is used in, is to be stopped in 2013 due to poor returns (Straits Times, 2012), SIA can seek ways to adapt UPR for other routes.

In designing an aircraft, the structural weight of an aircraft is an important factor as it has a high impact on fuel consumption. (Vogelsang & Gunnick, 1986)# Reduction of 1 kg in the weight of a plane is estimated to save US\$3000 of fuel worth annually. (Bhatta, 2012)# Similarly, using this concept, SIA seeks to reduce fuel usage by minimising the weight of the

aircraft during operations through usage of lightweight crockery, cargo containers and reduction of operator's items. (Singapore Airlines, 2012) SIA also works together with SmarttPapers Aviation to offer e-magazines and e-newspapers in its cabin. (Straits Times, 2010) As large, long-haul aircraft can carry up to 400 kilograms of paper per flight (The New York Times, 2011)#, this means a decent amount of savings for an airline over the course of a year due to less fuel consumed. Hence, this shows that ecological and economic interests can be meaningfully connected together.

SIA has also signed an agreement with Panasonic Avionics to equip more than 40 of the airline's new aircraft with inflight entertainment and communications systems. This approach utilises a radio network that will provide broadband internet connections, effectively removing kilometers of wirings on each individual seats. This implies a significant weight reduction on the plane that will contribute to less fuel usage and hence, a friendlier environmental approach.

### **3. 2 Recommendations**

Although SIA has joined Sustainable Aviation Fuel Users Group (SAFUG), we believe the company has not done well enough in the area of biofuel. This is suggested through the statement by SIA's CEO Goh Choon Phong in an interview that developments of biofuel will take time. It is surely a stark contrast to Lufthansa that has implemented "burnFAIR" and has already tested biofuel in regular flight operations for just under six months in the research framework. As such, we recommend SIA to change the company's mindset through a steady shift in vision to be greener and to boost their

innovations through an increase in Research and Development (R&D) spending.

Perhaps, SIA can also link up more with other firms in the industry to provide herself with a platform to learn from others. This may lead to economies of information, leading to tremendous cost cutting for the company.

Collaborations such as British Airways' with Triple O, a company producing aerodynamics aircraft holdings, to improve fuel efficiency can be a real example for SIA to follow suit.

SIA can also learn from Lufthansa that has just introduced their revolutionary "ETaxi." It is an electric drive mounted on a main landing gear to be used by planes in the continental fleet for all taxiing purposes. It allows aircraft to taxi to runway without the engines; hence it reduces kerosene consumption and is almost emission free. This way, SIA will be able to reduce around 3% of the total fuel burned during taxiing through short-and-medium journeys in the future. This figure will certainly increase exponentially when we take SIA's long-haul journeys into account.

Lastly, with view of SIA's agreement with Panasonic as elaborated above, the company may choose to remove heavy individual screens on the aircraft altogether and encourage her passengers to use their own devices for entertainment instead. According to reports by Lufthansa that has implemented these similar approaches for its Airbus A340-600 with 380 seats, this amounts to about 900 kilos reduction in weight, which corresponds to fuel savings of 47 tonnes per aircraft and year. In the long



term, this revolutionary approach can surely slash the utilisation of fossil fuel and release less emissions, implying a vast improvement in SIA's green efforts.

### **3. 3 Evaluations**

From the above elaborations, although there is still room for improvement, it may be safe to suggest that SIA has done a fairly great job in being green environmentally.

As seen above, efforts done by SIA has resulted in reduction of fuel usage. This will certainly prove worthwhile as large costs will be saved in the long run. Not only that, by reducing fuel usage, carbon emissions, and hence carbon tax charges, are also reduced. Given that airline industry is highly competitive, these cost savings as well as the positive image built will help SIA gain an edge over its competitors.

However, SIA should be careful not to overspend in R&D and neglect present issues, such as cabin crew training. Otherwise, current product and service quality may plummet and hurt the image of SIA, effectively slashing their profit margin, defeating their purpose of engaging in green and sustainable operations.

Finally, it is worth reminding that, although green operations are crucial, passengers' safety is certainly more important. Hence, SIA should ensure that the stringent safety standards have been complied and not rush to deal with this matter.

## **4. Planes**

SIA has backed aircraft and engine manufacturers to develop innovative technology, including green technology, by often ordering new aircraft types before they are built. This ensures the manufacturers their sales, making them more willing to invest in R&D to develop such technology that meets SIA's requirements.

Additionally, SIA operates one of the youngest and most fuel-efficient groups of fleets. For example, SIA is the first to operate the Airbus A380 with 19 of them in operation. Their fuel burn per seat mile and carbon dioxide emissions per customer are the lowest among any aircraft in the world.

With SIA's policy of maintaining young fleets, purchases of new aircraft are made regularly. In this process, used planes are sold to low cost carriers, or are traded-in. For example, in October 2012, SIA and Scoot announced orders for new aircraft, and as a part of the deal, Airbus would take back five of SIA's long-haul A340s. According to Airbus, up to 85% in weight of an aircraft can be recycled; hence, such a trade-in would make a substantial impact in reducing waste from aircraft disposals. Thus, by selling or trading in old planes, SIA may be able to benefit from the proceeds or the cost savings yielded, while contributing to the environment via recycling.

## **5. 1 Food Wastage**

Food wastage has been a pressing issue for airlines as they will normally cater for more than what the passengers have pre-ordered to ensure food

availability and to ensure that there is a wide variety for customers to choose from.

In its operations, SIA aims to reduce waste without compromising customer service. For example, its cabin crews have recommended carrying less food after observing that about 1/3 of passengers do not eat dinner on late-night flights out of Singapore. Furthermore, the cabin crews will only pour drinks from one brand of red wine in the first class planes, unless specifically requested otherwise, to reduce wastage. Also, as many people do not consume jam, SIA has opted not to include it on every breakfast set so as to reduce waste. Although these will only contribute to small reduction in food wastage, they may add up to a significant reduction in wastage and hence cost.

## **5. 2 Recommendations**

Nevertheless, SIA may still learn from other companies in reducing food wastage. For example, in September 2012, Lambert St Louis International Airport has commenced a pilot food waste recycling programme that will convert food leftovers from several restaurants into high-grade agricultural compost for use on farms and gardens. The compost will be sold as soil additives for farms and gardens.

Hence taking heed from Lambert St Louis International Airport, SIA may work with Changi Airport to commence a similar food waste recycling programme which involves various restaurants and airlines. By taking the lead in

initiating such programmes, SIA can build a stronger image as a socially responsible company.

## **6. Average Fleet Age**

One of SIA's policies is to operate young and modern fleets of fuel-efficient aircraft. The average age of SIA aircraft is found to be 6.17 years and has been maintained for the past 4 years. This is comparatively lower than that of its competitors like Emirates of 6.4 years, Qantas of 8.3 years and Cathay Pacific of 10.57 years, and is also about 7 years lower than the industry average of 12.6 years.

With these young fleets, SIA would be able to save cost from repair and maintenance due to a smaller possibility of mechanical failure. This is supported by the comparison between SIA and Cathay Pacific maintenance cost where in 2011, SIA aircraft maintenance and overhaul costs per kilometer flown is S\$1.48 while Cathay Pacific aircraft maintenance cost is S\$2.70. In addition, a younger fleet is also more fuel efficient, resulting in better carbon dioxide emission efficiency. In 2011, Cathay Pacific has emitted a total of 12,499 thousand tonnes of carbon dioxide while SIA has emitted 11,620 thousand tonnes of carbon dioxide, which is relatively lower than that of Cathay Pacific.

## **7. Quality Service**

In order to achieve its mission "to providing air transportation services of the highest quality", SIA has invested many endeavours in its cabin crew training.

SIA cabin crew training, consisting of classroom and on-the-job training, lasts for 15 weeks, which is much longer than the other airlines', like Cathay Pacific of 5 weeks and Emirates of 6 weeks, as well as the industry average of 8 weeks. The cabin crew will be trained on the product knowledge including food and beverage, service procedures, passenger handling, deportment and grooming, language and communication skills, safety equipment procedures and first aid. With the product knowledge, it is less likely the cabin crew will serve products unmatched to the passenger's requests, like serving the wrong drink. With this training, the cabin crew would be able to " prevent defects". For example, like functional, safety, and situation handling skills.

During their career with SIA, they will also spend time at welfare homes and engage with the less fortunate. The visits allow them to develop empathy for others and thus, better put themselves in the shoes of the passengers, feel for the passengers, and hence, deliver a better and cordial service. To ensure a quality service at all times, SIA has made its training flexible by changing the training content accordingly to meet the customer expectations. Furthermore, SIA also owns a system of " self-directed" learning, in which the cabin crews would take responsibility for their own developments, and select and attend 3 to 4 days of the refresher courses every year.

The effort put in training is complemented with SIA's substantial effort put in the cabin crew selection process. The cabin crew applicants have to pass

both the academic and physical attributes. There are 3 rounds of interviews, a “ uniform test”, a “ water confidence” test, psychometric tests, and a tea-party. This recruitment process ensures that suitable candidates are chosen for the positions, while the trainings enhance their capabilities and prepare them as cabin crew. When the crew starts flying, “ they carefully monitored for the first 6 months, through a monthly report by the in-flight supervisor.”

Its dedication has won SIA many awards and titles worldwide like Skytrax World Airline Awards 2012 (UK) “ Best Economy Class” and Business Traveller (UK based) 2012 “ Best Cabin Staff”, indicating that the cabin crew has managed to deliver service that met the customer expectation. By ensuring its crew delivers better quality services, SIA will be able to operate at a more effective capacity than other airlines because each crew is capable of serving more passengers without compromising their service standards.

SIA Cabin crew – 7, 438; Seat capacity per employee (seat-km) – 8, 163, 082; Passenger load carried per employee (tonne-km) – 594, 663; Passengers carried ( ‘ 000) – 17, 155; Passenger load factor (%) – 77. 4

Furthermore, training will lead to prevention of defects in terms of services. Such costs are the most preferred quality related cost for SIA to incur as it is less costly than external failure costs. This also means that less resources are used to “ repair such defects”, i. e. resolve customer complaints.

## **8. Conclusion**

In conclusion, we can observe that fuel usages, carbon emissions, and resource utilisation are pressing issues for SIA. As such, they have looked into measures, such as green technology, better route planning and cabin crew training to indicate its dedication in green and sustainable operations. Finally, these efforts may also improve SIA's branding image, indirectly boosting their revenues and profit margins.

Nonetheless, there is still room for improvement to grow for SIA by learning from other companies, such as Lufthansa that has introduced various eco-friendly technology. Hence, we recommend SIA to continually keep up with more emerging global emissions regulations and invest more heavily in R&D and management training. Only then will SIA be able to defend their firm foothold in the aviation industry and ensure their survival in the long run.