CASE STUDY

Profitability Drivers in the South African Airline Industry:
A Comparative Analysis of SAA and Comair

A half-thesis submitted in partial fulfilment of the requirements for the degree of

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in the

RHODES BUSINESS SCHOOL

By

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i. *Declaration*

I, *Davison Herbert Batidzirai*, hereby declare that this thesis is my own original work, that all references and sources have been accurately reported and acknowledged, and that this document has not previously, in its entirety or part, been submitted to any University in order to obtain an academic qualification.

1 December 2014

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Davison Herbert Batidzirai Date

ii. Acknowledgements

God is Great!

This thesis is dedicated to my parents who have valued education, which bore four Masters Graduates and one Bachelor's Degree in the family. Thank you for your undiminishing support.

To my daughters Victoria and Tanaka, I love you.

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iii. Abbreviations

ACSA	Airports Company of South Africa
AASA	Airline Association of Southern Africa
ACNS	Air Control and Navigation Services
ASK	Available Seat Kilometres
BA	British Airways
BRICS	Brazil Russia India China & South Africa
CAGR	Compound Annual Growth Rate
CASK	Cost per Available Seat kilometres
CDA	Continuous Decent Approach
CEO	Chief Executive Officer
DPE	Department of Public Enterprises
EBIT	Earnings Before Interest & Taxes
EFT	Electronic Funds Transfer
EPS	Earnings Per Share
GDP	Gross Domestic Product
HR	Human Resources
IATA	International Air Transport Association
ICCT	International Council on Clean Transportation
LCC	Low Cost Carrier
PASK	Passenger Available Seat Kilometres
PFMA	Public Finance Management Act
ROCE	Return on Capital Employed
RM	Revenue Management
ROS	Return on Sales
RPK	Revenue Passenger Kilometres
SAA	South African Airways

SADC	Southern African Development Community
SAFM	South African Frequency Modulation radio
SAS	Scandinavian Air Service
SMMEs	Small Medium Micro Enterprises
USA	United States of America

iv. *Integrative Summary*

The quest for profitability is a key financial outcome cherished by most commercial businesses. The research sought to understand why Comair has been consistently profitable while South African Airways (SAA) has produced intermittent profits. The two airlines have been chosen primarily because they are the two biggest passenger airlines in the South African aviation market each with a proud history of more than 40 years of service.

The study found that SAA had a better employee per available seat kilometres value from 2008 to 2011. From 2008 to 2010, salary expense per employee at Comair was almost half that of SAA. The 5-year average fuel cost in relation to total costs is slightly higher at Comair (33.8%) compared to SAA (31.2%). On revenue drivers, Comair had consistently outperformed SAA on revenue per revenue passenger kilometres (RPK). The average RPK at SAA was 0.508 compared to 0.636 at Comair. Comair's load factor was higher at an average of 79.4% compared to SAA which was 72.6%. On the last revenue driver, SAA had a higher average flight stage length of 9.96 hours over the five year period. This contrasts with Comair whose flight stage length averaged 5.86 hours. The mixed results may indicate that for profitability, better performance and the magnitude of that performance in specific categories of the profitability drivers matters most.

The research aimed to explore, describe and explain the key profitability drivers emphasised by both SAA and Comair. The intention was to establish the focus given to these drivers by the two airlines, identify similarities or differences, and how the outcome of financial measurement was addressed. The key questions the study sought to answer were why Comair is consistently profitable while SAA is not; and what are the similarities or differences on the profitability drivers?

The study is significant because SAA is a state-owned airline which has been receiving large state bailouts costing the taxpayer significant amounts of money. The case study will help understand the two companies better, their level of performance on the selected profitability drivers and how the drivers are accounted for and addressed. The comparative case study can assist in identifying areas for future research including the possibility of conducting a longitudinal study on the identified profitability drivers. The researcher had the assumption that Comair performs better than SAA on all factors that drive profitability, i.e. lower costs and higher revenue factors.

The research is being written as a comparative case study. This makes it possible for the calculated profitability drivers to be explained while qualitative information is used to explore and interpret both airlines' performance. Thus both qualitative and quantitative information are used in the research to triangulate and validate findings. A comparative case study allows an in-depth analysis of selected variables to make a conclusion about the cases. The study elected to use the post-positivism paradigm and the ontology critical realism because the paradigm allows ancillary information to be tested and generated to explain the financial results contained in annual reports of both airlines.

The study on comparative profitability drivers of Comair and South African Airways is situated in the field of managerial economics, finance and management accounting. The case provides a summary of themed profitability drivers of cost and revenue. The research looked at six profitability drivers (number of employees per available seat kilometres; salary expense per employee; cost of fuel in relation to total costs; revenue per revenue passenger kilometres; load factor; and average stage length) as identified by Chopra and Lisiak (2006:2), which they found to be significant in multiple categories of overall airline performance. To be profitable, cost drivers should be lower while revenue drivers should be higher.

Section 1 of this report describes, analyses and explains the profitability drivers of SAA and Comair for the period 2008 to 2012. A comparison of the two cases is made within the context of other studies and airline performance. Relevant literature was reviewed to underpin the results of the study. This information is presented in Section 2 of the report. A number of profitability studies in the airline industry have been cited to ensure that the study is consistent with current and previous literature on airline profitability drivers. These include Doganis (2002), who found that profitability of an airline depends on the interplay of three variables: unit costs, unit revenues or yields and load factors achieved; Antoniou (1992) on load factors and capacity-related costs; and Martin and Roman (2008) on cost reduction strategies.

SECTION 1: THE CASE STUDY

COMPARATIVE ANALYSIS OF SAA AND COMAIR

1.1 Introduction

Profitability is a key outcome of operating an airline business. Chopra and Lisiak (2006:2) identified six significant profitability drivers in multiple categories of airline performance. The drivers can be grouped under 'costs' and 'revenue', which are the basis for this study. Airlines attempt to reduce costs while increasing revenue. Both SAA and Comair are cognisant of the impact of reduced costs and increased revenue for profitability.

A review of the literature on airline performance has shown various results in relation to profitability. These include studies by Antoniou (1992) on passenger load factors, capacity related costs, newer and more efficient fleets and freight revenue; Pope and Ardalan (1993) on capacity utilisation; and Tsikriktsis (2007) on operational performance. The studies were designed to explain the debilitating low profitability in the industry and find solutions.

The analysis is based on the annual reports of the two airlines for the period 2008 to 2012. A primary interview was conducted with the CEO of Comair while a third-party interview between a radio anchor and the CEO of SAA was accessed by the researcher.

The two airlines are at a crossroads where decisions need to be made on employee numbers, destinations, salary expense and fuel costs. An analysis by Gittell, Nordenflycht and Kochan (2004:178) indicated that wage or employment cuts on their own may produce short-term gains but affect long-term financial health of a company.

An analysis of the two airlines' profitability drivers was performed. The research sought to identify, analyse and compare profitability drivers and areas requiring improvement. The research critiqued literature on airline performance and provided avenues for future research.

1.2 Background to the case

SAA and Comair are the top two airlines by revenue, passengers carried and aircraft in South Africa. Both have created low-cost airlines in order to reduce costs. This is similar to the trend in Europe where full-service carriers have created low-cost subsidiaries (Harvey and Turnbull, 2010:230). However, what is not clear (as both adopt opaque reporting methods) is the extent to which their respective low-cost operations are cross-subsidising their full-service offerings or vice versa (L Birns, personal communication, 5 May 2014).

SAA has received financial bailouts from the state while Comair has relied on its healthy balance sheet to tap into equity markets. The contrasting financial performance of the two airlines raises questions about why one is profitable while the other is not, and about similarities or differences on profitability drivers. Poor financial performance can be reversed. Avianca, a national airline of Colombia, entered bankruptcy restructuring in March 2003 after years of heavy losses but has been profitable since the merger (Karp, 2013:22-24).

Future research may explore other important factors in profitability drivers, including aircraft type, leasing versus owning, route network structure and others. "Most models provide an incomplete understanding of profitability drivers" (Demydyuk, 2011:40).

1.2.1 South African airline industry

1.2.1.1 Value and size of SA airline industry

The South African aviation industry "contributes R74 billion to South Africa's annual gross domestic product (GDP) and sustains around 230 000 jobs across the entire value chain in the country" (Styan, 2013). This makes aviation an important sector in the economy.

1.2.1.2 Market share of SAA and Comair

Both Comair and SAA have the same objective of delivering sustainable profits and growing market share. Comair held about 39% of the domestic market, while SAA held the remaining 61% in 2013 (Centre for Aviation, 2013). Market share can be enhanced by increasing flight frequencies. Increasing flight frequency between cities creates an airline identity and a propensity for travellers to use the airline, causing a disproportionately large market share (Siegmund, 1990:649). Large market share does not necessarily result in profitability. Jackson (2007) found that "overall market share obscures relative competitive strengths". However, market share may provide brand recognition for future marketing and competitive advantage.

As at 2010, the world market share was dominated by full-service airlines at 80% and LCCs at 9% (Mancilla, 2010). This was caused by legacy issues, where the regulated market in the past allowed only state-operated airlines. In contrast, LCCs accounted for 40% of domestic South African capacity (Centre for Aviation, 2009). The figure may be lower since 1-Time's collapse in 2012. The boundaries between low-cost and full-service are increasingly blurred with all airlines experimenting in order to beat the price-sensitive market (Michael and Fletcher, 2009:422).

1.2.1.3 South African Airways (SAA)

SAA, a state-owned company, was established in 1934 and operates under the oversight of the Department of Public Enterprises. SAA operates in three distinct markets (domestic, regional and international) for its core services, moves 60% of all air cargo in South Africa and accounts for 38% of all international arrivals to South Africa (SAA, 2010:4). "The SAA Group has a long-term role in supporting the South African government's developmental-state policy objectives" (SAA Annual Reports, 2011:15). "The company has developed a holistic 20-year strategy with a focus on recapitalisation of the balance sheet, review of route network and fleet renewal, cost compression, African growth and a new group structure" (Kalawe, 2013).

Despite being state-owned with poor financial results, SAA has largely operated like any other private company. "SAA has a dual mandate and is committed to markets and tourism agenda as well as support to economic growth and transformation of the country" (Kalawe, 2013). Although the state has some influence on routes operated, the airline has enough leverage to operate commercially. The shareholder's priority for now is for the airline to get its head above water. "I just want SAA to break even and ensure their credit rating is upgraded" (Brown, 2014). This will open doors for cheap borrowing costs.

In an effort to increase synergy within the SAA Group, there are plans to pool resources. "In future, the three state-owned airlines SAA, SA Express and Mango Airlines are to be integrated into one holding company but will continue to operate as separate brands in pursuit of national development goals" (Business Day, 2013). Part of the turnaround strategy is to migrate the three airlines into a new group structure (Kalawe, 2013).

1.2.1.4 Comair

"Comair is an affiliate of British Airways which operates more than 50 daily flights within South Africa and to destinations in Mauritius, Namibia, Zambia and Zimbabwe" (One World, 2013). It is not known to what extent Comair leverages attractive financing by virtue of its affiliation to British Airways plc (L Birns, personal interview, 5 May 2014). Comair has two brands, British Airways (franchise) and Kulula.com, which share a single pilot workforce, flight operations centre, call centre, and IT, marketing, finance and HR departments (Venter, 2013). In addition, it “provides other travel-related services, undertakes third-party simulator training, operates airline lounges and has started a catering division where excess capacity is sold to external customers” (Venter, 2013).

Comair is a publicly listed company. Management has shares in the company, a factor that may mitigate the gap identified under the principal-agency theory (Figueira, Nellis and Parker, 2009:2354). To an extent, management and employee ownership ensures alignment under the principal-agency theory, serving the interests of the company through stockholders (Gu and Kim, 2009:995). Comair has since stopped issuing shares to staff but pays a profit share bonus when good profits are delivered (Venter, 2013).

Comair has shareholdings in 11 companies. Investments in ancillary services and aligned businesses are part of Comair’s market strategy to sow seeds for future profitability.

1.2.1.5 Airline characteristics and value chain

The value chains of both airlines are more or less aligned to the “generic airline model” (with more than 41 key activities) developed by Wagner, Huber, Sweeney, and Smyth (2005:289). This model shows that airlines perform the following key services: route selection, yield management, fuel management, flight crew scheduling, aircraft acquisition, aircraft operations, gate operations, flight connections, reservation system and ticket sales. The concentration of activities of the two airlines is in the inbound logistics and operations pillars.

SAA maintains a significant travel agent support programme, while Comair depends largely on direct online ticket purchases. Both Comair and SAA are hybrid carriers. “A hybrid refers to a combination of characteristics of two or more other carrier types, while benefits adapt to dynamic industry and revenue streams come from more than one source” (Tolpa, 2012).

1.3 The case story

1.3.1 Profitability at SAA and Comair over the past five years

Profitability patterns at SAA and Comair have been significantly different, largely explained by cost and revenue structure. Part of the poor performance of SAA is attributed to discounts offered to travel agents and other business clients (Venter, 2013), as well as poor quality of services. SAA's service has been "inconsistent although there are pockets of excellence" (Kalawe, 2013). Using the Return On Capital Employed (ROCE) method, Comair had a higher profitability ratio of 10.9%, against -2.6% for SAA, during the period 2008 to 2012.

Table 1: Profitability patterns at SAA and Comair compared (Return on Capital Employed)

	2008	2009	2010	2011	2012	5-year average (%)	5-year Profit/(Loss)
Comair (ROCE)	16.3%	11.5%	14.4%	10.1%	2.1%	10.9	R319 million
SAA (ROCE)	-14.5%	4.6%	8.0%	17.3%	-28.4%	-2.6	(R762 million)

Source: Calculated from financial figures in Comair and SAA annual reports (2008 to 2012).

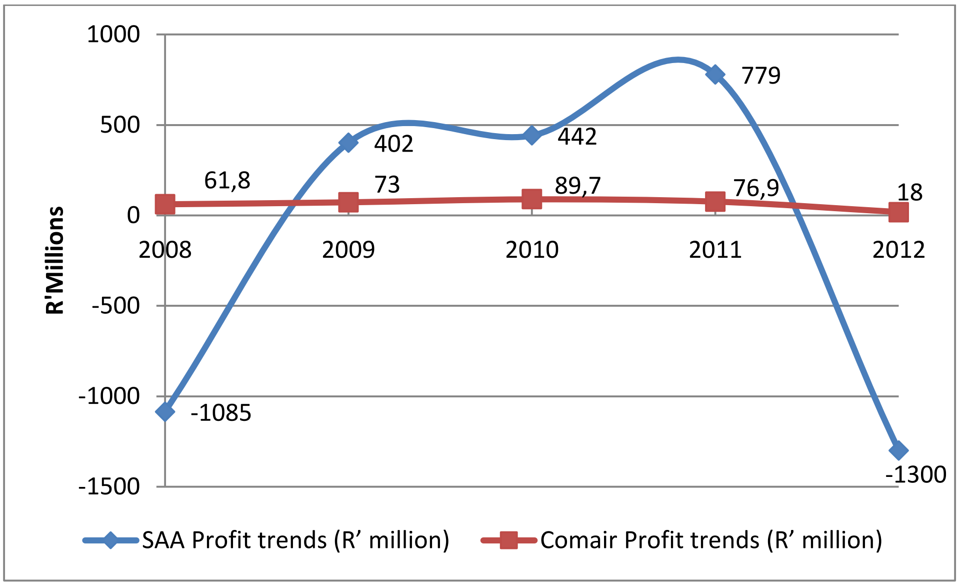
Higher ROCE results in increased shareholder earnings and low ROCE indicates low selling prices, high costs or both (Goldsmithibs, 2013). Furthermore, Philips (1976:248) observed that "market concentration may be the cause of high profits or, conversely, market concentration and high profits may be the result of superior performance by a few firms". This research argues for the latter and takes the position that Comair had better performance on factors of profitability that matter the most.

The profitability pattern appears to support the findings of Abdullah, Munisamy and Satar (2013) that "privately owned airlines perform better than publicly owned airlines". This is in line with Givoly, Hayn and Katz (2010:22), who found that "management of firms whose equity is publicly traded has stronger incentives to manage earnings". However, profitability should not be seen in isolation. A comparison between the profitability drivers of SAA and Comair needs to be made in order to reach a credible conclusion.

SAA experienced huge swings in profits while Comair had more consistent, flatter profits over the five years. When benchmarked against the airline industry, International Air Transport Association (IATA) data showed "a peak in profitability of 4% between 2008 and 2012"

(Bruce, 2010). This suggests that for the same period, Comair's profits were above the industry norm, making it an 'outlier'; SAA's profits were negative and far below the norm.

Figure 1: Profit patterns at SAA and Comair



Source: Generated from financial data in Comair and SAA annual reports (2008 to 2012).

The challenge is that "the airline industry, as a whole, operates in an environment of perpetual cyclicality; achieving profitability is, at best, a zero-sum game" (Accenture, 2013).

SAA was largely affected by "high fixed cost environment, external shocks and competition" (Dikolli and Sedatole, 2004:345). However, it has been good at managing costs while Comair has been good at revenue management. Of the five pillars of SAA's turnaround strategy (Kalawe, 2013), three focus on cost management (review of global network, reduction of costs, migrating into new group structure). Since Comair has been profitable on a consistent basis, one inference that can be made is that revenue drivers matter most for profitability. Another inference can be that although SAA scored better on two of the cost drivers, the difference compared with Comair did not have any significant effect on overall profitability. A plausible explanation can be that SAA's cost advantage on employees per ASK and fuel cost as a percentage of total revenue do not matter more when analysed in relation to the six drivers. Comair has deployed its capital better to produce sufficient return to shareholders.

Profits can be increased in two ways: by increasing revenues or by lowering costs (Pinchuk, 2002:283). Although SAA's total costs have been higher than Comair's, they have been increasing at a lower rate (2,2% at SAA and 12,1% at Comair)(See Tables 2 and 3 below).

Both airlines increased total average revenues over the five-year period, by 2,4% at SAA and 11,8% at Comair (See Table 12 below).

1.3.2 Profitability drivers in the airline industry

The following section presents the analysis of the two airlines' performance on the six profitability drivers within the context of literature on managerial economics and management accounting. Although the airline industry is forecast to grow by 5% a year to 2050 (Morin, 2013), there are high cost and revenue pressures, especially from oil and labour costs, as well as depressed market conditions which result in lower demand for air travel.

Profitability drivers identified by Demydyuk (2011:49) and Chopra and Lisiak (2006) have been used to analyse and compare profitability drivers at SAA and Comair. Jiang and Hansman (2006) noted that these models are not able to address causality and/or future constraints. Since this was a case study, the results cannot be used to extrapolate performance of similar airlines. The results presented an opportunity to understand the performance of SAA and Comair and the factors involved. A critical realist adopts a view of reality as an open and complex system where other mechanisms and conditions also exist (Zachariadis, Scott and Barret, 2013:857). This view helps to explain the performance of the two airlines by taking into account different data sets and perspectives of decision makers.

1.3.3 Cost management

Both SAA and Comair offer air transportation services to different segments of the market which incur significant costs. Comair provides real-time assessment of costs such as weighing of aircraft and providing the exact amount of fuel shortly before departure (Venter, 2013). This is "real-time costing for efficiency" (Pigott, 2008:19).

SAA and Comair make use of various tools to reduce costs, including realignment of routes flown, reducing aircraft weight through use of light materials, and introduction of fuel-efficient aircraft. "Cost initiatives often involve more than a singular tool" (Schiff & Schiff, 2008:50). The tools can be applied mainly under the inbound and outbound activities.

Total costs increased by a 5-year average of 2.2% at SAA and 12.1% at Comair between 2008 and 2012 (See Tables 2 and 3 below). The small increase at SAA is largely explained by reduced routes and aircraft flown. Comair increased its flight frequencies and fleet (even though the new fleet is efficient) hence the higher increase in costs. The only period when SAA and Comair reduced total costs was in 2010 at 15% and 6.7% respectively (See Tables 2 and 3 below). This is mainly attributed to the low oil price during that period and retirement of the fuel-inefficient Boeing 747 fleet. Comair gradually reduced costs, mainly through the introduction of fuel-efficient Boeing 737-800 aircraft.

As the SAA Group leans more towards a full-service carrier, the results contradict Collins, Roman and Chan (2011:43), who observed that full-service carriers may be less able to quickly adjust operating costs. SAA was able to quickly introduce alliances, self-check-in counters and e-ticketing. SAA was also able to provide services to third parties through SAA technical services. Fuel costs and Airport Company of South Africa (ACSA) charges carried the most significant costs. The following operating cost per ASK was recorded:

Table 2: Comair Group total costs and operating cost per ASK

	2008	**2009**	**2010**	**2011**	**2012**	**5-year average**
Comair Group total costs (R millions)	2 576	2 920	2 723	3 311	3 974	3 101
ASK (millions)	4 293	4 253	4 777	5 735	5 713	4 954
Operating cost per ASK	0,60	0,69	0,57	0,58	0,70	0,63
% y/y increase/decrease in total costs		13,4	-6,7	21,6	20,0	12,1

Source: Constructed with data from Comair annual reports; Venter, 2014.

Table 3: SAA Group total costs and operating cost per ASK

	2008	**2009**	**2010**	**2011**	**2012**	**5-year average**
SAA Group total costs (R millions)	23 629	24 478	20 805	21 602	25 176	23138
ASK (millions)	32 681	29 980	29 850	32 378	32 423	31 462
Operating cost per ASK	0,72	0,82	0,70	0,67	0,78	0,74
% y/y increase/decrease in total costs		3,6	-15,0	3,8	16,5	2,2

Source: Constructed with data from SAA annual reports.

Although it is important to have more ASK, traditionally used volume-based drivers need to be augmented with strategy-related operations-based cost drivers for more accurate evaluations of the cost effects of operating decisions (Banker, 1993:597). Long distances work only when ticket prices are 'just right', load factors are high and other costs are low.

SAA focuses mainly on the following cost items: fuel, leases, maintenance, airport and navigation services and labour (Kalawe, 2013). SAA's overall operating costs per ASK were higher, averaging R0.74 or US cents 7.92 (US$1:R10.76). Comair's average costs per ASK for the same period amounted to R0.63 or US cents 6.74. Higher operating costs for SAA were linked to the high costs involved in external outstations (L Birns, personal communication, 5 May 2014).

Operating costs are still high compared with other airlines. "AirAsia has been extremely successful in reducing its labour productivity (operating costs per ASK) from US cents 4.6 in 2001 to US cents 2.19 in 2005 making it the lowest cost listed airline in the world at that time" (Poon and Waring, 2010:204). At SAA, Kalawe (2013) admits, labour costs are high and productivity is low.

The primary reason for the difference between SAA and Comair is that SAA operates expensive long-haul networks to destinations in Africa, North and South America, Europe and Asia. Some of these routes have low load factors which impact on the cost per ASK. As a regional carrier, Comair covers short distances in Southern Africa. Caves, Christensen and Tretheway (1984:484) developed a model which confirmed the existence of fixed costs in airline networks. SAA has high fixed costs hence higher overall costs per ASK as shown in Table 3 above.

Table 4: SAA and Comair total revenue compared

	2008	**2009**	**2010**	**2011**	**2012**	**5-year average**
SAA total revenue (R millions)	22 257	26 376	22 263	22 824	23 800	23504
% year on year increase/decrease in total revenue		18,5	-15,6	2,5	4,3	2,4
Proportion of costs to revenue	1,1	0,9	0,9	0,9	1,1	1,0
Comair total revenue (R millions)	2 688	3 049	3 010	3 588	4 163	3300
% year on year increase/decrease in total revenue		13,4	-1,3	19,2	16,0	11,8
Proportion of costs to revenue	1,0	1,0	0,9	0,9	1,0	0,9

Source: Constructed with data from SAA and Comair annual reports.

The 5-year average proportion of costs to revenue at Comair and SAA over the period is evenly matched at 0,9 and 1,0 respectively (See Table 4 above). A solution to varying costs may be found through ASK adjustments. "Increasing flights (ASK) to stimulate demand increases operational costs while decreasing ASK reduces operational costs but may lead to market share losses and lost demand" (Centre for Air Transportation Systems Research, 2013). Both SAA and Comair face competition, which reduces leverage to increase capacity. "International carriers, particularly from the Middle East, are presenting stiff competition to African airlines" (Quest, 2013). Even without this factor, SAA's market share dominance tends to thwart fair competition in a market that appears to be oligopolistic.

The two airlines have various programmes designed to reduce costs. SAA Technical (SAAT) has managed to reduce costs through its "aircraft maintenance programme to over 24 domestic and foreign airlines including Comair" (SAA, 2008:13, SAA, 2012). Although revenue is generated by SAA, there are costs associated with a maintenance subsidiary. "Global maintenance outsourcing is in an increasing trend" (McFadden & Worrells, 2012). Moreover, the skills capacity that SAAT used to have is now limited to staff haemorrhaging for other international carriers, requiring partnerships with successful airlines to enable skills transfer (Kalawe, 2013). Comair outsources its fleet maintenance to SAA in order to reduce costs. "Comair is looking at doing its own maintenance but no decision has been taken yet" (Venter, 2013).

There are "ten categories of operating costs" (Roman, 2011:184). This research will focus on three: productivity of employees, cost of employees and fuel costs. These costs have been found to be significant in multiple categories of overall performance (Chopra and Lisiak, 2006:2). The challenge is that "costs can be lowered and actually result in both lower customer satisfaction and lower profits" (Pinchuk, 2002:283).

Lower costs have a positive effect on profitability. Lower costs at SAA were not enough to generate profitability. The labour to airline ratio, for example, was three times higher at SAA than at Comair. Real-time costing empowers process-level staff to guard against inefficient, costly service practices and decisions (Pigott, 2008:19). This has been implemented at Comair, where tablet technology in the cockpit allows the crew to calculate the weight and exact amount of fuel required for efficiency shortly before departure (Venter, 2013).

Airlines have lower fixed costs since capital investments in airport infrastructure are borne by governments (Cubbin, 2014). However, the cost of operating from those airports is high. Airport charges (70% increase in 2011 *plus* 161% increase over the next five years) including higher fuel prices drove up costs (SAA, 2012). Airlines end up implementing surcharges. Future studies can look at the effect of fixed costs versus variable costs on the two airlines.

1.3.3.1 Number of employees per ASK

An important measure in airline economics is ASK, which is a function of capacity, i.e. number of aircraft available multiplied by number of seats available for each route. In order to calculate the number of employees per ASK, it is necessary to know the number of employees and the ASK.

The number of employees at SAA increased substantially over the five-year period; at Comair the number increased moderately. SAA increased its labour force by an average of 8.2% compared with 1.3% for Comair. Lower employee numbers are likely to lead to lower total employee expenses. A reduction in the workforce at SAA will be difficult due to its hub-and-spoke route network, with the main airport at the centre connecting to numerous peripheral airports. This system requires intensive labour and services for ground operations, gate operations and customer care. "Output per employee is significantly affected not only by a carrier's route system and fleet composition but also by staffing levels either mandated for safety purposes or negotiated in collectively bargained contracts" (Gittell et al, 2004:167).

The hub system can be a cost saver in large volume settings because of more efficient use of other inputs (Banker, 1993:583). SAA's development agenda necessitates a high number of employees. In support of the New Growth Path, SAA was "targeting the creation of 529 direct jobs in 2012 and 1 615 jobs over the next three years" (SAA, 2012).

Table 5: Employees at SAA and Comair

	2008	2009	2010	2011	2012
SAA total number of employees	8 227	7 989	8 034	10 057	11 044
Comair total number of employees	1 782	1 781	1 883	1 953	1 873

Source: Constructed from SAA and Comair annual reports; Venter, 2013; Venter, 2014.

The ASKs are influenced mainly by the route network (to determine kilometres) and number of aircraft (to determine seats). ASK is likely to be higher when an airline has more long-haul routes. The SAA network is over-extended with routes outside the continent. SAA has followed an aggressive expansionist strategy with new routes to Latin America, India, China and West Africa. The spokes of the hub are long hence the high ASK for SAA. Comair is more focused on domestic and regional markets. South Africa's relationship with its BRICS partners and Africa partly influences SAA's route network. Emerging regions are projected to drive economic growth in the next 20 years, which bodes well for passenger growth (Lange, 2013) for both airlines. The following table highlights the ASK outcomes:

Table 6: Available seat kilometres

	2008	2009	2010	2011	2012	5-year average
SAA passenger available seat kilometres (millions)	32 681	29 980	29 850	32 378	32 423	31462
% year on year increase/decrease in ASK		-8,3	-0,4	8,5	0,1	0,0
Comair passenger available seat kilometres (millions)	4 293	4 253	4 777	5 735	5 713	4954
% year on year increase/decrease in ASK		-0,9	12,3	20,1	-0,4	7,8

Source: Compiled from data in SAA and Comair annual reports; Venter, 2013; Venter, 2014.

SAA has more than twice the number of aircraft that Comair has. Although Comair has fewer planes, it has higher flight frequency.

In a study in the USA, “the data suggest that better labour and capital productivity are the source of the low-cost carriers’ advantage” (Borenstein, 2011:54). Airlines with lower cost drivers, such as employees per ASK, employee cost and low fuel cost, are likely to be profitable. Employees per ASK is a measure of labour productivity (Chopra and Lisiak, 2006:3). Others measure labour productivity by calculating “total RPK per employee but not all employees have clear effects in the carrier’s RPK output which may require a separation of pilots, flight attendants, mechanics, dispatchers, ground personnel to create a weighted index” (Gittell, et al, 2004:167). Future studies may look at such categorisation.

Employees per ASK at SAA shows that productivity deteriorated (i.e. the score increased). The 5-year average employee per ASK was 0,29. Comair’s employees per ASK decreased each year, and its 5-year average was 0,39. “Airlines are always trying to bring down the cost on available seat kilometres” (Ganeshan, 2011). SAA increased this cost at a 5-year average of 8.1% while Comair reduced employees per ASK by 5.7% (See Table 7 below).

Table 7: Employees per available seat kilometres

	2008	2009	2010	2011	2012	5-year average
SAA number of employees per ASK	0,25	0,27	0,27	0,31	0,34	0,29
% year on year increase/decrease in ASK		8,0	0,0	14,8	9,7	8,1
Comair number of employees per ASK	0,42	0,42	0,39	0,34	0,33	0,39
% year on year increase/decrease in ASK		0,0	-7,1	-12,8	-2,9	-5,7

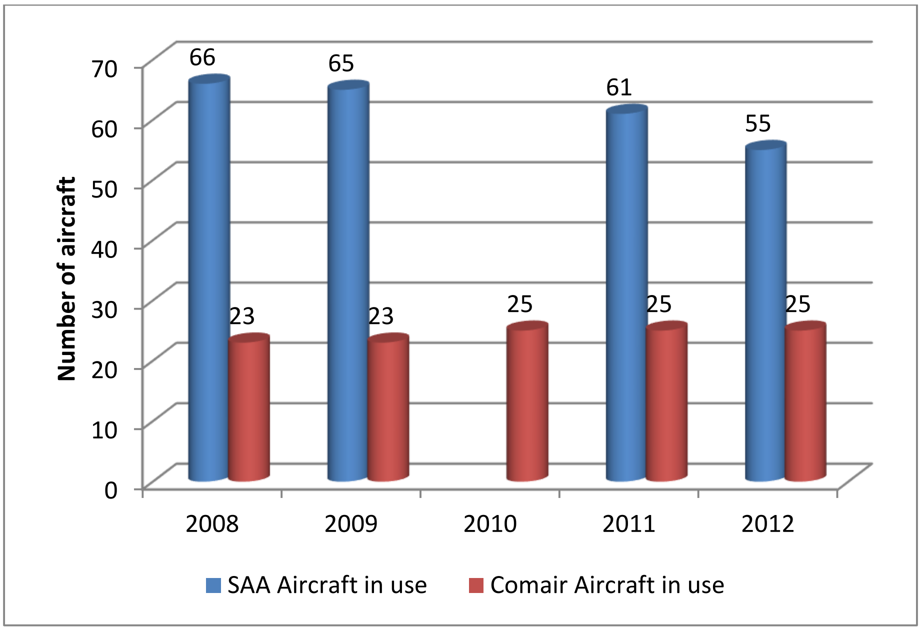
Source: Calculated from data in SAA and Comair annual reports; Venter, 2013; Venter, 2014.

Looking at the numbers alone can be deceiving. At Emirates Airlines, the cultural composition of the airline has a positive impact on productivity (Sull, Ghoshal and Monteiro, 2005:37). The Emirates model may work especially for SAA which has global destinations. “At Southwest Airlines (American low-cost carrier), superior performance in on-time arrival performance is partially attributable to relatively high supervisor to employee ratios” (Knez and Simester, 2001:761). Southwest has been the highest-performing firm in the airline industry with the highest operating margins, the lowest service failure rate, the highest labour productivity, and the second highest aircraft productivity, despite its reliance on short-haul flights, which tend to reduce productivity (Gittell, et al, 2004:171). Comair's performance is in line with Southwest's, with high labour and aircraft productivity.

A comparison can be made with full-service and low-cost carriers as measured in the USA between 1994 and 2004, where full-service and LCCs had an average ratio of 0,55 and 0,49 respectively on employees per ASK (Chopra and Lisiak, 2006:18). The average performance of both SAA and Comair was therefore much better when benchmarked with USA airlines as measured between 1994 and 2004.

However, SAA's employee cost per ASK is much lower than Comair's. In the USA, differences in scale are shown to have no role in explaining higher costs for small airlines; the primary factor is density of traffic within an airline's network and average length of individual flights (Caves et al, 1984:471). SAA reduced the number of seats available but still has more than twice the number of aircraft that Comair has. One can conclude that SAA is shrinking the number of available seats while Comair is increasing the number of available seats. The number of aircraft in use can be a crude indicator of seats available.

Figure 2: Aircraft in use at SAA and Comair



Source: Annual reports of SAA and Comair; Venter, 2014.

Both airlines are going through an aircraft replacement cycle for operational efficiency and effectiveness. To have more planes flying is not the issue; rather, it is how 'productive' they are. The number of employees in relation to aircraft is another key indicator of productivity.

Table 8: Labour to airplane ratio

	2008	2009	2010	2011	2012
Labour to airplane ratio (SAA)	125	123	155	165	201
Labour to airplane ratio (Comair)	77	77	75	78	75

Source: Calculated from information in SAA and Comair annual reports; Venter, 2014.

SAA's labour to airplane ratio has deteriorated (125:1 to 201:1) while Comair's improved from 77:1 to 75:1. The reduction at Comair can be attributed to a 4.1% decrease in the labour force in 2012 and an increase in aircraft fleet. Comair's ratio was much healthier and comparable with SAS Scandinavian Airlines. "Even as far back as 2006, SAS Scandinavian had just 42 staff per aircraft, which suggests that SAA is inefficient" (Whitfield, 2006). Comair's ratio is one of the lowest in the world. Maake (2013) noted that the high ratio of employees per plane at American Airlines (293:1) led to its bankruptcy. The high ratio at SAA is cause for concern.

Despite this difference, employees are highly valued by both airlines. "Comair measures employee performance while recognising staff that excel. Leadership development programmes were introduced and between 1.4% and 5% of Comair's payroll is spent each year on training and development of staff" (Comair, 2011). Importantly, "shared governance between employees and management is associated with gains in service quality, aircraft and labour productivity, and operating margins" (Gittell, et al, 2004:176).

Flexibility may be required for success (Droege and Johnson, 2010:249). This means employees can be re-deployed, have their remuneration downgraded, or be made redundant. With stringent labour laws and unionisation in South Africa, this may prove difficult to implement. "Having a low unionisation rate can translate into superior or inferior performance, depending on the approach to union avoidance" (Gittell, et al, 2004:173). Comair started reporting on levels of unionisation in 2011 (46%) and 2012 (54%). "Union membership has since dropped" (Venter, 2013). At Southwest Airlines, "with 90% unionisation, its profits were consistent" (Torbenson, 2009), indicating that unionisation was not a significant factor in profitability.

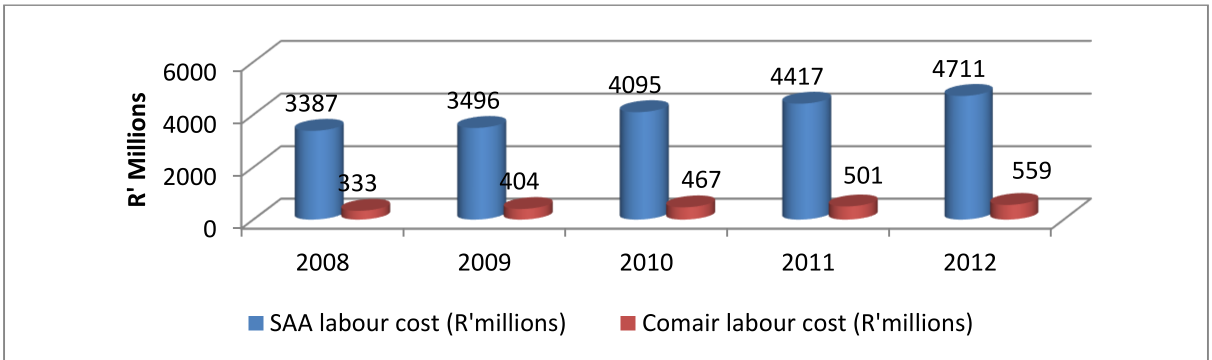
At Comair, the role of employees is well communicated. The practice is consistent with the observation by Droege and Johnson (2010:249) on communication between management and labour for productivity. "We treat staff like we want to treat our customers, hence we have put huge amount of effort into the company culture" (Venter, 2013). With well-trained and motivated staff, Comair was able to increase productivity.

SAA re-introduced the induction programme and initiated CEO roadshows to staff to explain group objectives (SAA, 2011:17). SAA runs leadership, management and supervisory development programmes in partnership with top universities. A flight academy was also established to train pilots. However, SAA spent only 0.20% of total income against a target of 0.35% on training in the 2011 financial year (SAA, 2011). Although both airlines have extensive employee skilling programmes, Comair appears to be doing more due to its programmes such as 'Think Vision', 'Precious Cargo' well-being, 'On Track' to measure employee performance, 'Take Off' leadership and succession planning, access to wide and varied communication and higher spent on staff training and development. This investment will pay off in the medium to long term and will certainly impact on profitability.

1.3.3.2 Salary expense per employee

Labour after fuel is the second most expensive cost at both airlines. Labour costs increased annually for SAA at 7.9% in 2011 and 6.7% in 2012 (SAA, 2011; SAA, 2012). Comair witnessed higher increments of 7.3% and 11.6% over the same period (See Figure 3 below).

Figure 3: Employee costs at SAA and Comair



	2008	2009	2010	2011	2012	5-year average
Employee costs at SAA	3387	3496	4095	4417	4711	4021
% y/y total employee cost increase/decrease		3,2	17,1	7,9	6,7	8,7
Employee costs at Comair	333	404	467	501	559	453
% y/y total employee cost increase/decrease		21,3	15,6	7,3	11,6	13,9

Source: Constructed from financial data in SAA and Comair annual reports; Venter, 2014.

The above figures show employee costs but what is important is the proportion of labour costs to total costs. Despite increases, labour costs constituted an average of 17.4% of total costs at SAA between 2010 and 2012 and 14.4% of total costs at Comair between 2008 and 2012. Comair has a lower salary expense account than SAA. However, the proportion of labour costs to total costs at both airlines is lower than in the USA. "In the USA airline industry, labour costs used to account for 38% of operating costs (and 25% of total costs) in 2005" (Traveltrade, 2005). "Labour costs for US passenger airlines now constitute 23.9% of operating expenses" (National Airline Policy, 2014).

Figure 4: Proportion of labour costs to total costs

Source: Constructed SAA and Comair annual financial reports.

Despite the higher number of employees, SAA's average employee cost has declined while Comair's has increased. Paying employees lower salaries affects morale. Incentive schemes raise employee performance (Knez and Simester, 2001:743). The average employee cost per year for Comair (R321 640.60) is lower than for SAA (R426 566.50). Some airlines seem to perform quite well with well-compensated employees, even in difficult times (Gittell, et al, 2004:164). Higher labour costs do not spell doom as long as employees achieve high productivity. Labour costs averaged R0,14 and R0,09 per ASK for SAA and Comair respectively between 2008 and 2012 (See Table 9 below).

Table 9: Labour cost per available seat kilometres

	2008	2009	2010	2011	2012	5-year average
Labour cost per ASK (SAA) in cents	0,10	0,12	0,14	0,14	0,15	0,14
Labour cost per ASK (Comair) in cents	0,08	0,09	0,10	0,09	0,10	0,09

Source: Calculated from data in SAA and Comair annual reports; Venter, 2014.

The labour cost per ASK is lower at Comair. From the data, one can conclude that the labour cost per ASK is better managed at Comair than SAA. Comair's labour cost is lower because it employs fewer people per available plane and, as a regional airline, flies fewer kilometres.

Table 10: Salary expense per employee

	2008	2009	2010	2011	2012	5-year average
Salary expense per employee (SAA)	0,41	0,44	0,51	0,44	0,43	0,45
% y/y salary expense per employee increase/decrease		7,3	15,9	-13,7	-2,3	1,8
Salary expense per employee (Comair)	0,19	0,23	0,25	0,26	0,30	0,25
% y/y salary expense per employee increase/decrease		21,1	8,7	4,0	15,4	12,3

Source: Calculated from data in SAA and Comair annual reports; Venter, 2014.

From 2008 to 2010, the 5-year average salary expense per employee at Comair was almost half that of SAA. The average employee cost per employee was 0,45 at SAA and 0,25 at Comair (See Figure 5 above). Higher employee cost at SAA may be partly explained by higher wage settlements and legacy salary structures. This requires further exploration. Although the ratio increased at SAA, it started to decrease from 2011. Comair's costs have steadily increased. SAA increased its 5-year average salary expense per employee by 1.8%, compared with Comair's 12.3% (See Table 10 above).

Martin & Roman (2008) developed four strategies to deal with employee costs, including "scheduling reasonable flight hours for flight crew, reducing cabin crew over-time, dispatching maintenance staff efficiently during direct working hours, and encouraging employees to provide cost-control strategies". In the new turnaround strategy at SAA, "a focus will be made on reducing labour costs and increasing productivity" (Kalawe, 2013). There have been similar calls in previous restructuring processes, but the dual mandate of SAA may complicate successful execution of the new strategy. The development agenda of the airline is also seen in its employment targets, transformation efforts, Broad-Based Black Economic Empowerment (B-BBEE) drive and its impact on the economy (Kalawe, 2013).

The nature of labour relations in South Africa presents challenges to any restructuring process at SAA. Labour laws are rigid and with the state hard-pressed to create employment, SAA is seen as an anchor for job creation. Labour costs should not be seen in isolation. Gittell et al (2004:177) found that focusing on quality and timely labour relations across the board may help in improving financial performance more than salaries per se. These relations can take the form of profit sharing, extensive communication with employees, high levels of supervisory involvement with front-line employees, selective recruitment for teamwork skills, flexible work rules, and the use of cross-functional performance measures (Gittell et al, 2004:171). Future studies can explore the relationship between wage levels, workplace relationships and performance.

1.3.3.3 Proportion of fuel cost

"Fuel remains the major factor undermining the airline industry's financial performance" (Traveltrade, 2005). From about US$85 a barrel in 2008, brent crude oil averaged US$110 a barrel between 2011 and 2012 (Indexmundi, 2013). Fuel cost is influenced by the type and weight of aircraft flown, flight path, and cost structure of the fuel purchase programme. SAA flies to destinations such as Luanda, Accra and Lagos where the fuel prices imposed are much higher than the global average (L Birns, personal communication, 5 May 2014).

The average oil cost in relation to total airline costs for the five-year period was 31.2% at SAA and 33.8% at Comair (calculated from SAA annual reports; Venter, 2013; Venter, 2014). However, on average, this ratio has increased by 3.4% at SAA while it decreased by 4.0% at Comair (See Table 11 below). The fuel cost in relation to total costs for both airlines is much higher than US passenger airlines as reported in the third quarter of 2013 (National Airline Policy, 2014).

The SAA fuel cost in relation to total cost peaked in 2009 at 35%. At Comair, the cost peaked in 2008 at 39%. During that period, Comair had fuel-inefficient aircraft in its fleet. The cost of fuel as a percentage of total costs declined in 2009 which only reflected in the 2010 reporting year, primarily due to “brent crude oil price dipping from US$99 a barrel in 2008 to US$62 a barrel in 2009. Thereafter the price increased up to US$111 in 2012” (IATA, 2012).

SAA total fuel costs have increased by 10.8% during the study period (See Annexure e). A big drop in fuel cost (40.7%) was recorded by SAA in 2010 (SAA, 2010). This is attributed to the retirement of a high fuel-consuming Boeing 747 fleet. Total fuel costs at Comair increased at an average of 11.1% (See Annexure d). The difference between the two can be explained by the increase in Comair’s fleet while SAA reduced its fleet. Comair increased its flight frequencies, translating into higher fuel cost despite having fuel-efficient aircraft.

To compensate for high fuel costs, the airlines introduced fuel surcharges on tickets and purchased more efficient aircraft. Despite this, airlines like SAA are still not making a profit. Fuel surcharges squeeze demand as ticket prices become more expensive. “Newer efficient aircraft achieve more efficient operations” (Markou, Cros and Yang, 2011:10). According to Venter (2013), “the new aircraft at Comair has seen a 27% decrease in fuel burn per seat over the past seven years with the newer ones on lease reducing this further by 4%”.

Table 11: Fuel cost as a % of total costs

	2008	**2009**	**2010**	**2011**	**2012**	**5-year average**
Fuel cost as a % of total costs (SAA)	30	35	30	28	33	
% y/y fuel cost as a % of total cost increase/decrease		16,7	-14,3	-6,7	17,9	3,4
Fuel cost as a % of total costs (Comair)	39	35	29	34	32	
% y/y fuel cost as a % of total cost increase/decrease		-10,3	-17,1	17,2	-5,9	-4,0

Source: Constructed from data in SAA and Comair annual reports; Venter, 2013; Venter, 2014.

SAA is increasingly moving towards a fuel-efficient Airbus fleet which constituted 59% of its fleet in 2011 and 67% in 2012 (SAA. 2011; SAA, 2012). SAA’s ability to pay for aircraft cheaply is in doubt, considering the high debt to equity ratio. “SAA has to go to government because it does not have equity to support debt (15% upfront deposit required per aircraft) and it is more expensive to lease than own aircraft; it is a vicious circle because SAA need to make profits to build equity so that they buy their own aircraft but they end up leasing at a premium and they don’t make profits” (Venter, 2013). Debt to equity ratio shot up at SAA from 3:1 in 2008 to 29:1 in 2012. In contrast, Comair’s debt to equity ratio declined from 1,56:1 in 2009 to 1,28:1 in 2012 (calculated from financial figures in Comair and SAA annual reports). What this means is that SAA may be saddled with huge debts or may not be able to borrow cheaply for future capital expansion.

Aircraft replacement programmes at Comair and SAA are aligned to reasons advanced by Abdelgany, Abdelgany and Raina (2005). Comair has moved towards standardisation of its fleet with Boeing 737-800 aircraft while 67% of SAA's fleet is now Airbus. "Comair is moving towards efficient Boeing 737-800 aircraft on a high utilisation basis, increased staff productivity, cost control and leveraging of information technology" (Venter, 2013).

Although the introduction of newer fleet is beneficial in terms of fuel consumption, introduction costs impact on profitability. Introduction costs include leasing or purchasing and the associated debt costs. Both airlines now operate a modern fleet with the average age of SAA aircraft at 9.7 years, and less at Comair (Calculated based on fleet purchase dates at both SAA and Comair). Airlines with younger fleets are more likely to achieve financial targets with better financial outcomes. Holloway (2008) noted that "age and fuel efficiency of a carrier's fleet are key drivers of fuel cost". Comair will continue to have lower fuel cost due to its fleet replacement cycle. The same holds true if the recapitalisation programme for SAA is approved by the shareholder.

Both airlines have introduced measures to reduce fuel costs. "Immediate cost reduction priorities at SAA include a focus on fuel cost ... and labour productivity" (Kalawe, 2013). Comair "initiated a company-wide programme to identify new cost-saving opportunities" (Comair, 2008:3). Cost-reduction strategies at both airlines include replacing old aircraft, as well as those measures proposed by Martin and Roman (2008), especially "with regards to reduction of weight on aircraft, fuel-saving performance and fuel hedging".

Weight is a factor in fuel consumption. "Weight on board Comair aircraft was reduced by implementing a paperless cockpit, installing light-weight seats, reducing the amount of potable water carried on board the aircraft and reducing the weight of the aircraft galleys and thus reducing the fuel used on board. The tablet technology has reduced about 7kg of paper documents in the cockpit by allowing the crew to calculate the weight and exact amount of fuel required for efficiency shortly before departure" (Venter, 2013). This supports the view by Pigott (2008:19) that "real-time costing empowers process-level staff to be the first line of defence against inefficient and costly operations". Real-time costing "enables intelligent cost-cutting measures to maximise business potential" (McGowan, 2009:60). The downside is that "fuel efficiency creates more available seats, which in turn increases weight and hence costs" (Wei, 2013).

Comair has developed the most efficient routing of aircraft between airports (Comair, 2012:32). In December 2010, Comair purchased the SABRE scheduling system to assist in people planning and rostering (Comair, 2011:6). Scheduling systems improve profitability through savings in operating costs (Lohatepanont and Barnhart, 2004). These systems are not fully accurate as the operating environment is dynamic, requiring constant adjustments and decision-making. Future studies may explore the functionality of scheduling software.

At SAA, the commercial division is responsible for aircraft scheduling and long-term aircraft fleet planning (SAA, 2011:19), which are designed to reduce fuel costs. An important dimension to fuel management is hedging. "A fuel price hedge would create exceptional value when an airline is on the edge of bankruptcy, but when this occurs an airline does not have the liquidity to buy oil derivatives. On the other hand, hedges probably did make sense when airlines were state-supported" (Morrell and Swan, 2006:729). SAA's "weak balance sheet" (Kalawe, 2013) makes hedging an expensive exercise.

Comair hedged approximately 10% of its monthly fuel oil requirements in the past and has implemented continuous descent approach (CDA) to reduce average fuel consumption. Comair no longer hedges fuel except in particular situations (crisis) because of the insurance premium associated with hedging (Venter, 2013). This supports the view that hedging reduces the range of possible profits and returns for investors through cash commitments that could be distributed to investors (Trempski, 2009). The reduction in fuel hedging as a key fuel management instrument is similar to that of Southwest Airlines, which reduced hedging from a high of 85% to 25% within five years (Bundgaard, Bejjani and Helmer, 2006:23).

SAA had 10.6% of the total fuel bill hedged as at the end of 2008 and this was increased to 40% and then 60% of fuel price risk exposure by 2010 (SAA, 2008; SAA, 2009; SAA, 2010). "SAA has now built treasury analytic tools, price projectors, exposure calculators and a hedge optimiser to minimise losses" (SAA, 2011:127).

The "distance flown is a fuel cost driver" (Berrittella, La Franca and Zito, 2009). SAA has a higher total fuel cost than Comair because it has more planes and its planes fly long distances. SAA collaborated with Air Control Navigation Services (ACNS) to design the most economic flight path, reduced the amount of food carried on board and removed some equipment on A320 Airbus aircraft in order to reduce flight costs (Kalawe, 2013).

Others feel fuel efficiency is overrated as the International Council on Clean Transportation (ICCT) found that Allegiant Air, the most profitable airline on domestic American routes between 2009 and 2011, was the least fuel-efficient airline during 2010 (Economist, 2013). However, Venter (2013) noted that they are unique in that they only fly the Las Vegas- Miami route selling gambling packages, have a monopoly and charge high prices.

In conclusion, SAA and Comair have exhibited different performance on the three cost drivers of employees per ASK, number of employees and fuel cost. Comair has a better salary expense per employee ratio while SAA fared better on the other two. Comair flies shorter distances which impacts on the employee per ASK ratio. The employee per ASK rate has been increasing at SAA, while decreasing at Comair. The employee to airplane ratio at SAA is very high while Comair's ranks among the lowest in the world. However, "low unit cost is of little value if revenues are weak" (Centre for Air Transportation Systems Research, 2013).

1.3.4 Revenue management

The second profitability theme is revenue, which has three profitability drivers of passenger revenue per ASK, load factor and stage flight hours. Naturally, SAA generates more total revenue than Comair because of its size. However, it is the productivity of this revenue which matters. It is calculated with a measure such as passenger revenue per ASK and load factors.

SAA total revenue increased by 16% in 2009 from 2008, driven mainly by continued growth on the African route network and improvements in efficiency and utilisation of aircraft (SAA, 2009:10). Although SAA revenue dwarfs that of Comair, the revenue gap has been narrowing every year (6.2 times in 2008 and 4.1 times in 2012) (See Figure 6 below). On average, SAA grew its revenue by 2.4% between 2008 and 2012 while Comair grew its revenue by 11.8% (See Table 12 below). This is mainly due to "a focus on profitable routes and high pilot utilisation rate by Comair which increased by 25% in 2010 for Kulula.com and 20% in 2011 for British Airways" (Venter, 2013).

Table 12: SAA and Comair Group Revenue

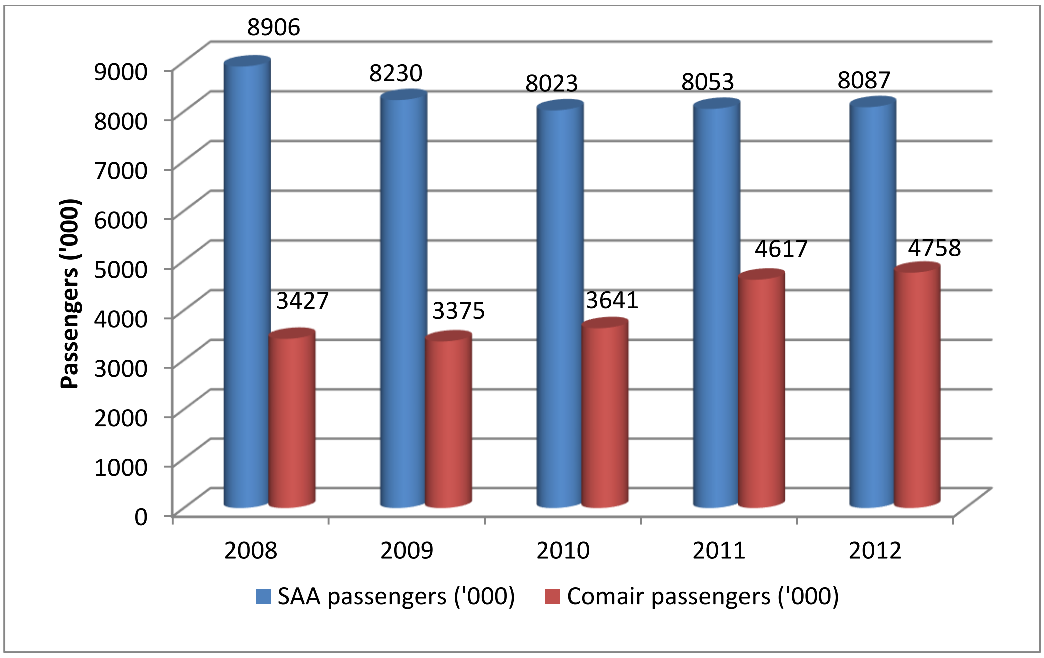
	2008	**2009**	**2010**	**2011**	**2012**	**5-year average**
SAA revenue ('millions)	22 257	26 376	22 263	22 824	23 800	23504
% y/y group revenue increase/decrease		18,5	-15,6	2,5	4,3	2,4
Comair revenue ('millions)	2 688	3 049	3 010	3 588	4 163	3300
% y/y group revenue increase/decrease		13,4	-1,3	19,2	16,0	11,8

Source: Compiled from SAA and Comair annual reports

1.3.4.1 Revenue per passenger kilometres

Revenue is influenced by factors such as number of passengers carried, passenger revenue per available kilometres, medium of ticket sales, ticket prices and route networks. The following Figure 6 compares revenue per passenger kilometres between 2008 and 2012:

Figure 5: Revenue passengers at SAA and Comair



	2008	2009	2010	2011	2012	5-year average
SAA passenger numbers	8906	8230	8023	8053	8087	8260
% y/y passenger increase/decrease		-7,6	-2,5	0,4	0,4	-2,3
Comair passenger numbers	3427	3375	3641	4617	4758	3964
% y/y passenger increase/decrease		-1,5	7,9	26,8	3,1	9,1

Source: Compiled from SAA and Comair annual reports; Venter, 2014.

SAA passenger numbers decreased by an average of 2.3% while Comair numbers increased by an average of 9,1% between 2008 and 2012 (See Figure 6 above). In particular, "Kulula.com had high passenger volumes but fewer flights while British Airways operated more flights with lower loads, giving almost identical passenger volumes" (Venter, 2013). Fleet size influences the number of passengers carried. SAA reduced its fleet from 66 in 2008 to 55 in 2012, streamlining its fleet and retiring inefficient aircraft, while Comair increased its fleet from 23 to 25 during the period (See Figure 2 above). SAA reduced the number of routes and frequencies hence the decline in passenger numbers. Since the end of 2012, SAA's frequency on some routes has increased, especially on the Zanzibar, Mauritius, Dar es Salaam and Kinshasa routes (Kalawe, 2013). The economies of these regions are growing and will contribute to more revenue.

The two airlines are targeting both business and economy class passengers. “Economy class passenger numbers at SAA dropped and excess capacity increased on some routes due to intense competition from Middle Eastern Airlines” (SAA, 2012:18). In 2012, “there was a 17% increase in business class travellers compared to 10% in the economy class at SAA” (SAA, 2012:26). “Business travellers drive profitability” (Uncles, 2002). “Business travellers are the main sources of revenue at Comair while 30% to 40% of traffic is leisure; international traffic has declined since the introduction of direct flights by Emirates, KLM and others into airports such as Cape Town and Durban” (Venter, 2013). International traffic refers to passengers who fly to regional destinations plus passengers who continue to other local destinations from other international airlines using code-sharing and alliance tickets. Passenger revenue per ASK was as follows:

Table 13: Passenger revenue per ASK

	2008	2009	2010	2011	2012	5-year average
SAA passenger revenue per ASK (cents)	0,506	0,578	0,489	0,477	0,491	0,508
% y/y passenger revenue per ASK increase/decrease		14,23	-15,40	-2,45	2,94	-0,17
Comair passenger revenue per ASK (cents)	0,622	0,705	0,609	0,550	0,693	0,636
% y/y passenger revenue per ASK increase/decrease		13,3	-13,6	-9,7	26,0	4,0

Source: Constructed with data from SAA and Comair annual reports; Venter, 2013; Venter, 2014.

The RPK is lower for SAA than for Comair. RPK has shown a general decline of minus 0,17% over five years at SAA (See Table 13 above). The reduction can be attributed to the drop in passenger numbers and aircraft in use, frequency of flights and distance flown. RPK at Comair increased by an average 4,0% over the same period (See Table 13 above). Comair plans to provide tablets to ground staff to obtain data quicker and technology to audit revenue that discounts cancellations quicker and improves revenue management (Venter, 2013). Average 5-year RPK for SAA was R0,508 compared with R0,636 for Comair (See Table 13 above). RPK at Comair was higher than the “average of USA LCCs (0,606)” (Chopra and Lisiak, 2006:18).

In order to increase RPK, both airlines have emphasised new technologies and platforms for increased seat utilisation. Kulula.com has been the “single biggest success story of e-commerce in South Africa” (Finweek, 2007). “Pre-Kulula period, 80% of tickets were sold through travel agents, 20% through call centres and 5% via internet; today 70% of tickets are sold through electronic distribution channels while 30% of tickets are sold via travel agents" (Venter, 2013). This is in line with observations "in the USA where 50 to 60% of ticket sales were from online services by 2007" (Berry and Jia, 2010:3). SAA launched its online check-in and one-stop-shop in 2008 while increasing self-service, online and mobile check-in options since 2012 (SAA, 2008; SAA, 2012).

Revenue is a function of ticket prices. In the past, carriers were not allowed to offer a lower fare that was uneconomic for the industry as a whole (Glover, Glover, Lorenzo and McMillan, 1982:73). This changed after liberalisation. Comair's average ticket selling price was R752 in 2011 and R837 in 2012 based on information in the annual reports of those years. SAA's average airfare peaked in 2009 at R2,300 and declined to R1,964 in 2010 (Calculated from data in SAA annual reports). Comair ticket prices are lower because the majority of flights are short haul and operated by its LCC.

Comair's revenue management approach is more inclined towards a LCC. "LCCs offer low prices for the majority of flights" Demydyuk (2011:41). Although SAA ticket prices are higher than Comair's, Venter (2013) still believes "SAA puts massive discount into its corporate clients, who get up to 25% discount and about 10% discount to travel agents, thus giving away 35% before they carry the passenger". Ticket prices are generally affected by factors such as service frequency, distance flown, load factor, ticket delivery channel, flexibility of ticket and class of ticket. Gerardi and Shapiro (2009: 30) found "an increase in competition on a route significantly reduces price dispersion in markets identified as having a heterogeneous mixture of business and leisure travellers". This has happened to an extent on the golden triangle between Johannesburg, Cape Town and Durban. The two airlines have some of the lowest ticket prices on these routes because of intense competition.

In response to profitability challenges, mergers and alliances have been used to expand markets but this has not thwarted competition (Borenstein, 2011:236). With membership in Star Alliance and One World respectively, SAA and Comair are able to attract a sizeable number of alliance member customers. Comair felt alliances are no longer adding value. "The alliance model of 15 years ago is shaky because of benefits which are not there and the effect of international competition laws. Alliances have more theoretical benefits and now airlines look for more commercial benefits" (Venter, 2013).

Passenger revenue per ASK is directly affected by the load factor or capacity of each flight leg. This in turn is affected by passenger demand, airline seats available, frequency of flights and route network among others. Most of SAA's long-haul flights to West Africa, Mumbai and Beijing were making losses primarily due to low load factors and fuel-inefficient A340-600 aircraft (Kalawe, 2013).

1.3.4.2 Load factors

Airlines strive for higher load factors but not necessarily 100%. "The load factor is a much more significant factor in determining the impact on airline profits" (Chopra et al, 2006). A higher load factor is not necessarily good since it has associated costs such as food (catering for higher numbers), weight (increases fuel burn) and delays (processing of more passengers). "Increased load factors provide greater revenue but at the same time add to the fuel cost burden on aircraft weight (extra passengers plus their luggage)" (Wei, 2013). Load factor during the period of study was as follows:

Table 14: Load factor at SAA and Comair

	2008	**2009**	**2010**	**2011**	**2012**	**5-year average**
Load factor at SAA (%)	76	74	71	70	72	72,6
% y/y load factor increase/decrease		-2,6	-4,1	-1,4	2,9	-1,3
Load factor at Comair (%)	79	80	78	79	81	79,6
% y/y load factor increase/decrease		1,3	-2,5	1,3	2,5	0,6

Source: Constructed with data from SAA and Comair annual reports; Venter 2013; Venter, 2014.

Load factor at SAA has shown a general downward movement, recording a 1.3% decrease from 2008 to 2011 (See Table 14 above). From a peak of 76% in 2008, load factor declined to 70% in 2011 and increased to 72% in 2012. The decline from 2008 was caused largely by the post-2007 economic slump. The average load factor over five years was 72.6% (See Table 14 above). Load factor is expected to increase further since SAA's fleet size was reduced.

SAA is planning to purchase more aircraft. "SAA is looking at spending between $4-billion and $7-billion for 25-30 long-haul aircraft for delivery from 2017" (Engineering News, 2013).

SAA is still struggling to fill seats primarily on long-haul flights due to a combination of competition, weak economies and inefficiencies.

When load factor is superimposed on the profit chart, SAA recorded profits when load factor was down and losses when the load factor was higher. The inverse relationship between load factor and profit at SAA appears to suggest that “high load factor may be a result of selling a large proportion of seats at low fares” (Centre for Air Transportation Systems Research, 2013). This may be researched in future studies.

Load factor averaged 79.4% at Comair over the five years (See Table 14 above). Capacity utilisation has shown a slight increase of 0.6% over that period (See Table 14 above). Capacity utilisation is therefore better at Comair. This, combined with the fact that Comair has been profitable, supports the finding by Antoniou (1992) that “profitable airlines have high load factors”. Capacity utilisation is higher at Comair mainly due to concentration of short-haul flights between Johannesburg, Cape Town and Durban. The fleet is also comparatively smaller than SAA thus reducing operational costs. Capacity is increasing at a time when Comair is increasing its fleet size.

Seats represent a fixed cost. Irrespective of how many passengers are on board, an airline will still have fixed costs such as fuel and aircraft lease costs. In order to remain profitable, airlines cut routes in line with travel demand. “The purpose of cutting routes is also to push up the load factor” (Assaf, 2011:2173). To close the gap in profitability, in the USA, “Continental Airlines’ strategy was geared toward slashing operating costs since fixed costs do not self-adjust to fluctuations in passenger volume” (Roman, 2011:184).

To reduce the number of empty seats on its planes, Comair terminated its overnight Dar es Salaam flights (Comair, 2011:5). SAA discontinued a number of routes between 2009 and 2012 such as the Paris, Zurich and Cape Town-London destinations (SAA, 2012). However, “airlines are likely to make a profit or loss even if they are flying with high load factors” (Ganeshan, 2011). If the cost of flying passengers is high or if the passenger fares are too low, losses can still occur. Too much capacity in a market leads to discounted fares at unprofitable yields (Jacobs, Ratliff and Smith, 2010:356).

The results show that Comair has understood the use of capacity at an optimum level. Both airlines have continuously restructured routes for profitability. But because Comair has lower fixed costs, it has been able to size its fleet in relation to demand, price and distance flown.

1.3.4.3 Average flight stage length

Flight stage length or block hours is the final revenue driver. The average flight stage length measures the average time it takes between closing of aircraft doors at departure and opening at arrival. The performance of the two airlines was as follows:

Table 15: Average block hours

	2008	2009	2010	2011	2012	5-year average
SAA average block hours (hours)	10,6	10,07	9,48	9,58	10,07	9,96
% y/y average block hours increase/decrease		-5,0	-5,9	1,1	5,1	-1,2
Comair average block hours (hours)	5,59	5,74	5,48	6,34	6,13	5,86
% y/y average block hours increase/decrease		2,7	-4,5	15,7	-3,3	2,6

Source: Constructed with data from SAA and Comair annual reports; Venter, 2013; Venter, 2014.

Over the five-year period, the average flight stage length at SAA was higher at 9,96 hours versus 5,86 hours for Comair. SAA has shown a decreasing trend of 1.2% compared with a 2.6% increase at Comair (See Table 15 above). This can be attributed to an increase in fleet size and frequencies at Comair, while SAA reduced routes flown.

The above statistics reveal a number of things. SAA has higher average block hours primarily due to the longer distances flown compared to Comair. By virtue of flying long-distance flights and higher number of aircraft, SAA has higher flight stage hours. There is a disadvantage if the route network is local or regional as is the case with Comair. This is because flight stage hours increase with distance flown. The measure can also reveal operational efficiencies if the same routes are compared. The idea is to increase the average block hours as it indicates the productivity of an airline's fleet.

SAA performs better even though it has reduced capacity. However, a higher flight stage score on long routes which do not yield significant revenue per ASK will not improve profitability. It is important that comparison is made on similar routes to determine the efficiency of both airlines.

1.3.5 Ownership

In a study in China, Wang and Yung (2011:810) found that "state enterprises have better revenue earnings quality, which brings into question the conventional belief that state ownership is the root of all sorts of corporate inefficiency". Earnings quality refers to lower accruals. SAA's revenue is almost three times that of Comair and its revenue-earnings reporting is more detailed. In the same study, Wang and Yung (2011:810) state that one possible explanation for this result is that the government might have served as a powerful external monitor guarding against managerial opportunism in state enterprises. However, in the case of SAA, various strategies failed in the past because they were not monitored by government and there was no action plan (Kalawe, 2014). The situation may change since SAA's new turnaround strategy has an action plan with key indicators and strong monitoring. This is in addition to audits by the Auditor General resulting in detailed annual reports.

On the other hand the public choice theory suggests that "civil servants pursue vote and budget maximisation goals that lead to waste and other inefficiencies" (Figueira, Nellis and Parker, 2009:2354). This is not necessarily true since SAA is run as a commercial operation like any other airline. The results show that SAA was better than Comair at managing employees per available seat kilometres and fuel cost as a percentage of total revenue. The new SAA network plan is premised on "commercial sustainability" and ensuring a "network with an African footprint, a global reach" (Creamer, 2013).

Private capital market is a superior monitor of management than government (Figueira et al, 2009:2354). This contradicts Wang and Yung (2011), who noted that the state serves as a powerful monitor. However, Comair found that share prices do not respond to airline profitability (Venter, 2013). This is mainly because of the perpetual cyclicality of the airline industry as a whole, with profitability almost a zero-sum game (Accenture, 2013).

The results support Aulich (2010:200) and Figueira et al (2009:2353), who found that differences in ownership between public and private organisations impact little on performance. Comair had three areas where it performed better than SAA and vice versa, although Comair performed better in areas that matter most. Management of publicly traded firms has stronger incentives to manage earnings (Givoly, Hayn and Katz, 2010:222), as found at Comair. State-owned airlines receive bailouts from the state (Cantle, 2009:55). SAA received a guarantee of R5 billion two years from September 2012. Comair had to rely on financial markets for funding.

1.3.6 Summary performance

The above section provided the results of the case study with the following performance summary on the identified profitability drivers between 2008 and 2012:

Table 16: Who is better at managing profitability drivers?

		SAA (5-year average performance)	**Comair** (5-year average performance)
Cost drivers (Should be lower)	Employees per available seat kilometres	Better (0.28)	Poor (0.38)
	Salary expense per employee	Poor (0.45)	Better (0.25)
	Fuel cost as a percentage of total revenue	Better (31.2%)	Poor (33.8%)
Revenue drivers (Should be higher)	Passenger revenue per available seat kilometres	Poor (0.51)	Better (0.64)
	Load factor	Poor (72.6%)	Better (79.4%)
	Flight stage	Better (9.96 hours)	Poor (5.86 hours)

Source: Constructed from SAA and Comair annual reports; Venter, 2013; Venter, 2014.

Comair is better at managing mostly revenue drivers while SAA is better at managing mostly cost drivers. "Comair is more nimble, while SAA's leaders and shareholders are subject to the Public Finance Management Act (PFMA) and various other oversight and conflicting government policy considerations which all have to be addressed in order to secure consensus" (L Birns, personal communication, 5 May 2014). A key factor at SAA has been instability at CEO and board level. In the last 10 years, SAA has had no less than five CEOs. At Comair, there has been a long-term CEO and a stable board. The Minister of Public Enterprises also blamed the slow decision-making processes at SAA board level for the challenges faced by the airline (Brown, 2014).

Although the results appear to be evenly matched, further research is required. Comair has been consistently profitable, which seems to suggest that revenue drivers are more important as long as cost drivers are low enough. The cost difference between the two airlines is very wide on the salary expense per employee, with Comair enjoying a comparative advantage.

Although the above measures are key in determining profitability, future research may explore the effect on profitability of flight scheduling, technology, customer satisfaction, marketing efficiency, infrastructure availability, employee skills training, flight rewards system, alliances and codeshares, freight and mail revenue, debt to equity ratio and others. Other areas of interest in the South African airline industry include:

1. The relationship between ROCE, selling prices and costs;
2. Supervisor to employee ratio;
3. Relationship between unionisation and performance;
4. Relationship between wages and performance;
5. Comparative flight stage hours on similar routes;
6. The effect of borrowing on profitability;
7. Fixed costs versus variable costs;
8. Functionality of scheduling and its contribution to profitability; and
9. Frequency of flights and their contribution to profitability.

1.4 Conclusion

The research aimed to explore, describe and explain key airline profitability drivers at SAA and Comair. The intention was to establish the focus given to these drivers, identify similarities or differences and how the outcome of financial measurement was addressed. The research proposed that Comair was better at managing costs and increasing revenue than SAA. In pursuit of the study objectives, the following conclusion can be made.

Comair was better at managing three of the six profitability drivers but has been profitable throughout the study period. Both airlines follow a similar value chain as depicted by Wagner, Sweeney and Smith (2005) with most of the 41 key airline activities performed mostly in the inbound and operations pillars. Literature suggests that it is better not to have singular tools when analysing cost and revenue factors (Schiff & Schiff, 2008:50). Already there are contradictions in some areas of performance when a singular tool is used, e.g. when overall operating cost per ASK is used, Comair achieved better than SAA. However, using employee per ASK and fuel cost as a percentage of total costs gives SAA an advantage.

The airline type as identified by (Tolpa, 2012) only matters as far as identifying activities of the airlines. In reality the two airlines incorporate elements of different types. The distinction between full service and low cost is now blurred because low-cost airlines also offer scheduled services, and interconnect with other networks via alliances. Low-cost arms of SAA and Comair are targeting both cost-conscious business customers and leisure travellers. Mango and Kulula.com are therefore not for the mass market alone, as suggested by Mitchell and Mills (2009).

Private capital market is a superior monitor of management than government (Figueira, Nellis and Parker (2009:2354). If this was the case, Comair would have better scores in three of the scores where it performed below SAA. Venter (2013) noted that the stock market is not quick to respond to airline performance. Pay-for-performance principle is key for profitability (Gu and Kim, 2009:1003) but the result is the opposite at SAA.

The public choice theory suggests waste and inefficiencies by public figures (Figueira et al, 2009:2354). However, the results show that SAA was better than Comair at managing employees per ASK and fuel cost as a percentage of total revenue. The results support Aulich (2010:200) and Figueira et al (2009:2353), who found that public versus private ownership impacts little on performance. Management of publicly traded firms has stronger incentives to manage earnings (Givoly, Hayn and Katz, 2010:222), as found at Comair.

Profitability at SAA followed airline industry patterns in line with observations by Bruce (2010). However, for Comair, profitability patterns were not aligned to the industry norm, which backs Bruce (2010) on “outliers”. A low return on capital employed indicates low selling prices, high costs or both (Goldsmithibs, 2013) and this can be investigated. There are strong indications that SAA’s selling prices are low in comparison to costs.

Comair has implemented real-time costing which has enabled continuous reduction in costs. This supports the view that real-time costing empowers process-level staff to guard against inefficient, costly service practices and decisions (Pigott, 2008:19). Although airlines have lower fixed costs (Cubbin, 2014) the two airlines pay more in terms of airport charges, which increased astronomically since 2011.

The theoretical justification behind hedging is weak (Morrell and Swan, 2006:713). Comair in particular has been progressively reducing its reliance on hedging as a strategy to manage fuel costs. Successful companies ensure that the measurement is on profit contribution rather than volume (Skugge, 2007:243). SAA has higher revenue, higher ASK, more employees, but these volume-based factors do not translate into profits. The quality of that volume is not good. Profitable airlines have high load factors (Antoniou, 1992), as proven by Comair.

The trend is to purchase tickets online (Berry and Jia, 2010:3). Comair has led the way in innovations and ticket purchases.

Finally, aircraft productivity is computed as block hours per aircraft day which is considered a revenue-producing mode (Gittell et al, 2004:167). The disadvantage is that if the route network is local or regional, as with Comair, flight stage hours will be less. By flying long distances and having a higher number of aircraft, SAA has higher flight stage hours.

SECTION 2: LITERATURE REVIEW

2.1 Introduction

This study is situated in the field of management accounting and managerial economics. The airline industry has changed as the introduction of jets lowered costs much faster than fares (Siegmund, 1990:649). This advantage was not maximised due to varying management approaches. Over the past few decades airlines showed episodic profitability. The research aimed to explore, describe and explain key profitability drivers emphasised by both SAA and Comair. The study aimed to identify similarities or differences and how the outcome of financial measurement was addressed. The research started with the premise that Comair performs better than SAA on all key profitability drivers.

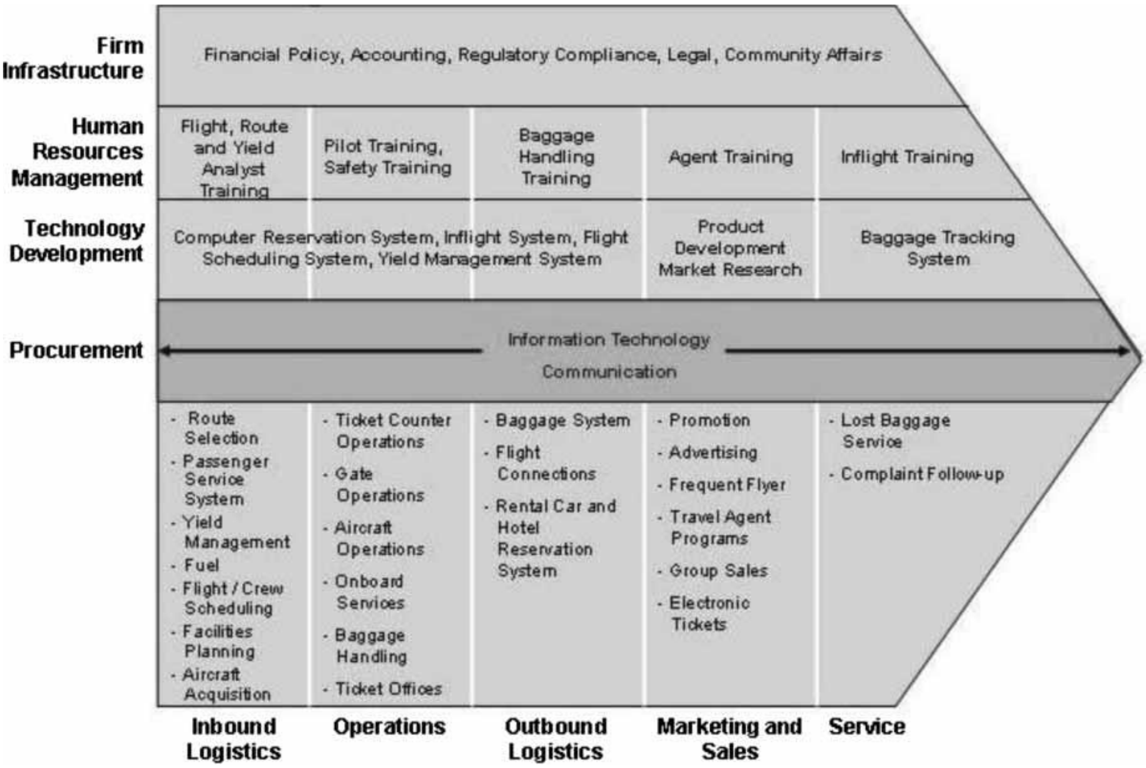
There have been many empirical papers on the airline industry (Berry and Jia, 2010:4). However, such studies have not been common in South Africa. The need for high performance is a major target for every airline (Assaf, 2011:2165). Company performance information is used for external financial reporting, strategic decision-making and operational control (Desroches, Hatch, Lawson and Stratton, 2009:13).

The research will present literature on airline value chain and business model, profitability, cost and revenue profitability drivers. These drivers have been found by Chopra and Lisiak (2006:2) through a regression analysis to be important in determining airline performance. A number of studies have identified these as key measures of airline performance.

2.2 Airline value chain and business models

The airline industry has a distinct value chain linked to profitability drivers. A focus on the value chain is likely to yield better financial outcomes. Wagner, Sweeney and Smith (2005:289) developed an airline value chain which looks as follows:

Figure 6: Airline value chain



Source: Wagner et al (2005:289).

The bulk or core of activities in an airline business is concentrated in the domains of *inbound logistics* and *operations*. An airline may choose its own business model based on this value chain. A firm's business model describes how it competes and makes money (Collins, Roman and Chan, 2011:37). Such a model is not fixed and can be adjusted with time. There is a significant relationship between business model and a firm's performance (Goll, Johnson and Rasheed, 2006:1). The business model is contingent upon the category of each airline. There are five major airline types but categorisation is becoming blurred.

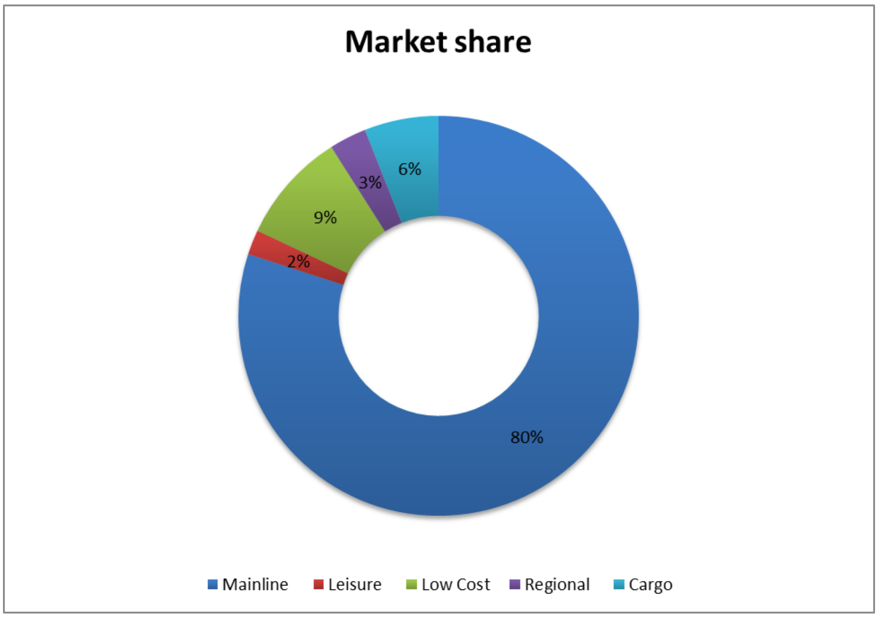
Table 17: Passenger airline classification

Carrier type	Example	Service level	Characteristics	Benefits	Downsides
Full service/network carrier/ Legacy	Lufthansa Emirates	Full range, pre-flight, on-board, different service classes, connecting flights	Different aircraft types, wide network range, hub-and spoke network, number of service classes, yield management	Economies of density/scale/ scope, competitiveness, reduction of hub premiums	Complexity of connecting flights, high capacity utilisation, flight delays
Low cost	Southwest Ryanair	Low service level due to price leadership strategy	Medium sized aircraft, severe cost cutting strategies, smaller airports, point-to-point connections instead of hub network	Lower operational costs, lower ticket prices	Low service level, no connecting flights
Holiday Carrier (Charter airline)	Thomas Cook	Full on-board services, limited network	Direct point-to-point flights, full tourist class on-board services	Demand concentration	Dependency on holiday services
Regional Carrier (Charter)	Allegiant Air	Full on-board services, limited network	Geographically independent or feeder, decentralised flights between smaller airports	Access to smaller airports allows FNCs to complement their network	Limited coverage
Hybrid carrier	Air Baltic	Depends on the carrier	Depends on the carrier (combines characteristic of two or more types)	Adaptation to dynamic industry, revenue streams from more than one source	Same as initial business models

Source: Adapted from Tolpa, 2012.

The predominant airlines in the world are full-service or network carriers followed by low-cost airlines (LCCs). In the past, the majority of airlines were state owned until deregulation, which allowed private operators to enter the market. However, market dominance does not necessarily equate with successful financial returns.

Figure 7: World market share (%) of predominant business model



Source: Mancilla, 2010.

Full-service airlines are international with a network-oriented system (one or more hubs), covering a wide geographical area and providing transportation in several different classes (Demydyuk, 2011:41). Full-service airlines offer more routes, fleet and infrastructure investments, which lead to higher operating costs (Collins, Roman and Chan, 2011:41). The pattern may be changing as full-service airlines experiment with different models in order to remain profitable.

On the other hand *focused airlines* or LCCs tend to keep costs low due to their value chain advantages and target the mass market using a broad cost-based approach (Mitchell and Mills, 2009). Such costs cannot be reduced to the core. Doing so would reduce the quality of service and impact on long-term profitability. Unlike full-service carriers, LCCs offer non-stop point-to-point services to and from uncongested airports instead of connecting flights via a hub (Nhuta, 2012). This traditional approach is changing due to availability of services and convenience of inter-connectivity at airport hubs.

LCCs continue to grow at a faster pace while full-service carriers are setting up their own low-cost operations and/or implementing low-cost tools in order to become competitive. The growth of LCCs and their simplified fare structures highlighted the weaknesses of traditional airline revenue management forecasting and optimisation (Belobaba, 2010:19). Low-cost operators proved it was possible to run an airline with low fares. This has led to increased focus on review of cost and revenue optimisation systems.

Airline characteristics are evolving to create hybrid airline types. Berger (2010) saw a "convergence between the cost structures of full service and LCCs in the United States and the trend is likely to follow in other markets". Low fares cannot be sustained and where there is little competition, fares are likely to be higher. Tsikriktsis (2007) noted that "the profitability gap between focused airlines and the rest of the industry has narrowed". Although the distinction between low-cost and full-service airlines is narrowing, so too is the importance of ownership in determining profitability.

2.3 Ownership

Ownership is discussed within the context of the principal-agent theory and public choice theory which are often used to differentiate performance of public versus private business. Under the principal-agent theory, "managers face greater incentives to pursue profit maximisation strategies than managers in the state sector because the private capital market is a superior monitor of management behaviour than government" (Figueira, Nellis and Parker, 2009:2354). The assumption is that the manager in the private sector makes rational decisions in the best interest of the principal since he/she is intricately linked to the company.

Under the agency theory, "interests of managers as agents of the shareholders are misaligned, they tend to pursue self-serving interests that may conflict with those of the stockholders" (Gu and Kim, 2009:995). However, this could be a generalisation. In the real world, the ethical dimension of managers is important and it is possible to have principals who are corrupt and act in their own self-interest. Misalignment of interests can occur if there is information asymmetry. Managerial compensation and/or certain monitoring mechanisms can resolve the principal-agent problem (Gu and Kim, 2009:995-996).

Under the public choice theory, government ministers and civil servants are wasteful and inefficient (Figueira et al., 2009:2354). However, there are successful government businesses operating on a commercial basis. Closely tying CEO compensation to earnings performance is essential as airlines implement the pay-for-performance principle (Gu and Kim, 2009:1003). However, markets may not respond in the same way in different industries.

The effect of state ownership on performance produced conflicting results (Wang and Yung, 2011:794). On the one hand, "differences in ownership between public and private organisations impact little on the performance of organisations" (Aulich, 2010:200). A study by Figueira et al (2009:2353) revealed little difference in performance between state-owned and privately owned banks, largely because management principles are the same.

On the other hand, privately owned airlines perform better than publicly owned airlines (Abdullah, Munisamy and Satar, 2013). There are, however, numerous examples of successful publicly owned airlines. Givoly, Hayn and Katz (2010:222) found that management of firms with publicly traded equity has stronger incentives to manage earnings. Wang and Yung (2011:794) found lower levels of earnings management among state-owned enterprises than privately owned firms in China. This is primarily because the incentives regime in Chinese state-owned entities may not support effective decision-making.

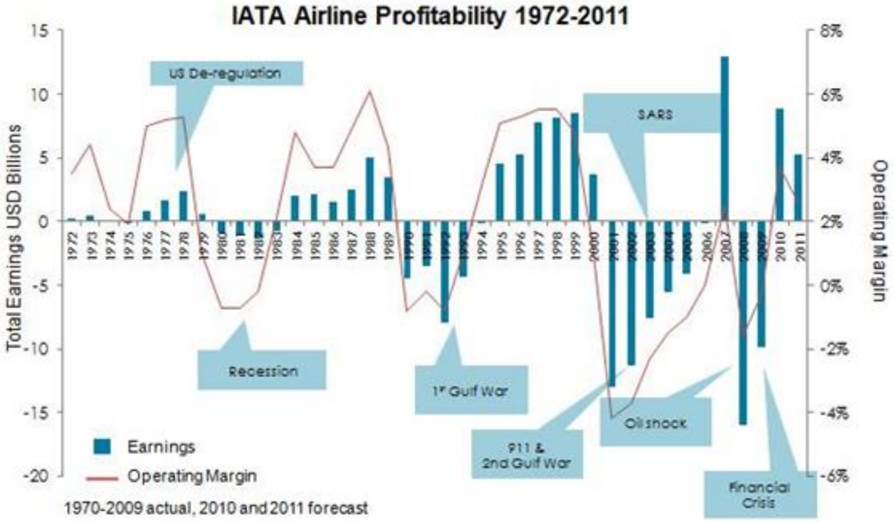
State-owned airlines are able to receive government funding while private airlines resort to selling ownership stakes (Cantle, 2009:55). The cost of such funding depends on the strength of the balance sheet. There are, however, unquantified benefits which accrue from state investments in unprofitable markets, which benefit the private sector in the long run.

Wang and Yung (2011:810) found better earnings quality by state firms because the government might have served as a powerful external monitor guarding against managerial opportunism. Stringent reporting requirements which are audited may take the place of weak corporate governance. It is also possible that close monitoring by the state reduces the pressure on managers to manipulate firm-specific information, causing lower levels of earnings management (Wang and Yung, 2011:810). Although ownership may be an issue in the industry, both state and privately owned airlines have to deal with cost and revenue issues that impact on profitability, specifically where airlines compete in the same market.

2.4 Profit cyclicality in the airline industry

Using International Air Transportation Authority (IATA) data, Bruce (2010) illustrated the profitability cycle of the airline industry from 1972 to 2011, which was affected by global shocks (*Figure 9*). Profitability can follow the industry pattern, but there are outliers that consistently buck the trend (Bruce, 2010).

Figure 8: IATA airline profitability



Source: Bruce (2010).

Industry profitability swings are projected to be much longer and sharper in years to come (Jiang and Hansman, 2006). This is mainly due to the intensity of competition, economic growth and intertwined world economies.

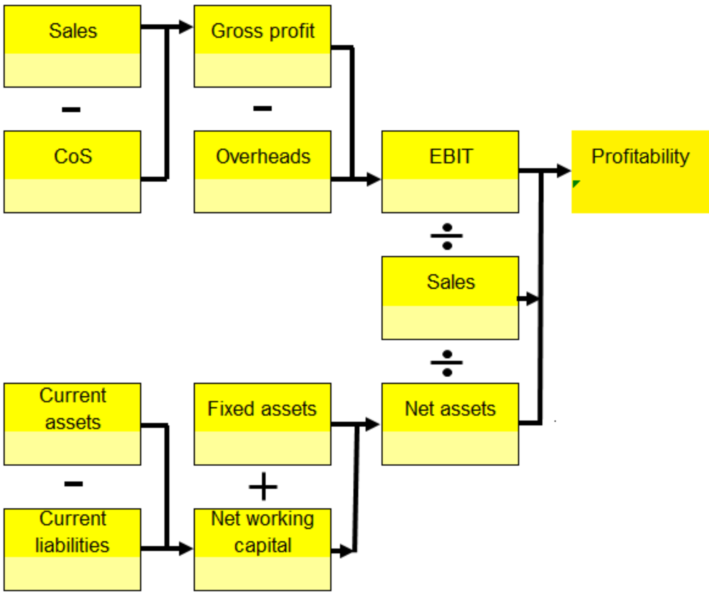
Despite industry growth over recent decades, most airlines are consistently unprofitable throughout the business cycles (Demydyuk, 2011:39). This sometimes leads to bankruptcy (El-Gazzar, Finn and Tang, 2008:91). Falling ticket prices, rising costs and a competitive industry are likely to lead to poor financial performance. To understand the causes of poor financial performance, it is essential to look at airline profitability drivers.

2.5 Profitability in the airline industry

Airlines operate within a low-margin, high fixed-cost environment with big airlines bearing a heavier burden than smaller, low-fare operations (Dikolli and Sedatole, 2004:345-346). Big airlines invest in airport infrastructure (other than building airports) to support their services. Smaller airlines can have high costs considering their small bargaining power, resulting in low profitability. Profitability is a measure of “a company’s ability to generate earnings before interest and taxes (EBIT) from its sales” (Ward and Price, 2009) (*Figure 10*). It is possible for a company to make profits but achieve poor profitability. Variation in cost and revenue even on the same routes produces different profit results.

Generating return on sales (ROS) and return on capital employed (ROCE) are the two primary financial goals in business (Rastogi, 2009:117). Profitability should be higher than the rate of company borrowing, otherwise a low ROCE indicates low selling prices, high costs or both (Goldsmithibs, 2013). Higher ROCE ensures continued shareholder support.

Figure 9: Profitability calculation



Source: Ward and Price, 2009.

2.6 Profitability drivers in the airline industry

The value chain with more than 41 activities provides a platform for airlines to transact and achieve profitability. According to Doganis (2002), the profitability of an airline depends on the interplay of three variables: *unit costs, unit revenues or yield, and load factors achieved*. Using a regression analysis, Chopra and Lisiak (2006:2) found the following profitability drivers to be significant in multiple categories of overall performance: lower number of employees per ASK or per departure; lower salary expense per employee; lower fuel cost, larger revenue per RPK; higher load factor and longer flight stage. This framework, which is consistent with other studies, will be used to guide the research.

During the last 20 years, several profit driver models have been developed but most provide an incomplete understanding of profit drivers (Demydyuk, 2011:40). It is desirable to have a comprehensive model but this reduces comparability due to differences in how data is accounted for and classified. Most studies have studied specific links in isolation (Kamakura, Mittal, de Rosa and Mazzon, 2010). There is growing evidence supporting a core set of profitability drivers.

There are limitations. “These models are not able to address causality and/or future constraints” (Jiang and Hansman, 2006). Models can assist with explanations but assumptions and peculiarities have to be factored. Tsikriktsis (2007), for example, hypothesised that higher quality mostly in focused airlines leads to increased profitability.

Profitability drivers fall into two broad categories, *costs* and *revenue*. “Revenue drivers are passenger-based and cost drivers are kilometre-based” (Demydyuk, 2011:49). In order to increase profitability, an airline either has to increase revenue or reduce costs or do both. Among others, operational costs are affected by fuel cost, fleet composition and size, aircraft flight hours, aircraft age, material and labour costs, routes flown and business model (Markou, Cros and Yang, 2011:2). Transacting on these activities produces different financial outcomes for airlines. This study will focus on labour and fuel cost as the biggest cost drivers.

Although it is desirable to reduce costs, airlines cannot reduce services to pure low cost standard (Pereira, 2011). Passengers may switch loyalties if service standards are low, thus impacting on revenue. The cost-revenue balance is a key source of differentiated profitability. The following section will look at three cost and three revenue profitability drivers.

2.7 Cost management

The starting point for improving cost management is understanding cost drivers and behaviour of cost (Rastogi, 2009:118). Without a full appreciation of costs, one will deliver goods and services at a loss. “It enables one to understand what products or services to make and what customers to sell them to” (Pigott, 2008:19). This has to be done in a timely manner. Real-time costing empowers process-level staff with immediate operational feedback information for decision-making (Pigott, 2008:19). In the real world, real-time information may be scarce, corrupted or take time to secure. Huge investments in transacting systems, which often add costs, may be required for real-time costing.

There are two major types of costs: fixed costs and variable costs. It is the variable costs that are mostly controlled by airlines, for example the quantity and quality of food served on each flight leg. “Physical capacity represents a large fixed cost and is not modified easily or quickly” (Huefner, 2011:44). An aircraft is an example of a fixed cost. Aircraft purchases create higher fixed costs especially when fleet size continues to grow. A flight leg will have a defined number of air crew whether or not it is full. When passenger numbers are small, it is common to deploy low-capacity aircraft.

Though desirable, cost reduction risks the loss of present and future income if customer satisfaction is affected (Cugini, Caru and Zerbini, 2007:524). Airlines should implement measured reductions, investing time and effort to determine which service cost areas and quantum should be adjusted. This is particularly so with employee numbers per ASK, employee cost and fuel cost in relation to total costs.

2.7.1 Number of employees per ASK

"Employees per ASK is a measure of labour productivity at an airline that depicts the number of employees at the airline per seat kilometre flown" (Chopra and Lisiak, 2006:3). The figure is aggregated for all flights and aircraft of an airline in a single period. The seat kilometre flown advantages airlines that have long-haul routes but negatively impacts them if flights are not filled. "Airlines are always trying to bring down the cost on ASK" (Ganeshan, 2011).

Number of employees per ASK varies between full-service and LCCs. Chopra and Lisiak (2006:18) found a ratio of 0,551 and 0,495 respectively on employees per ASK for full service and LCCs in the USA between 1994 and 2004. These figures are expected to be down now as airlines improve on cost-efficiency. The number of employees per ASK has a direct bearing on employee cost.

Employee numbers impact on other measures such as employees per number of aircraft or per profit contribution. The ratio of employees per plane varies significantly. "At Qantas the ratio was 109:1; at Iberia it was 168:1; at American Airlines, which filed for bankruptcy protection in 2011, it was 293:1" (Maake, 2013). Too many employees per available airplanes contributed to the collapse of American Airlines. Lower number of employees is not a sufficient condition for profitability. Effective human resource practices matter more in relation to revenue growth, profit growth and reduction of employee turnover (HR Focus, 2006). How an airline manages its workforce becomes a crucial profitability issue.

2.7.2 Salary expense per employee

Cost per ASK (CASK) is often used to measure productivity. "It is a measure obtained by dividing total operating costs by total ASKs excluding interest payments, taxes and extraordinary items" (Demydyuk, 2011:42). Some expenses are withheld from CASK calculations to better isolate and directly compare operating expenses (El-Gazzar et al, 2008:91). In this particular case, only salary expenses are included in the calculations.

The lower the salary expense per employee the better the cost management environment to achieve profitability. In the USA, AirTran in Dallas, Texas attempts to sustain lower employment costs by striking a balance between flexibility and control (Droege and Johnson, 2010:249). This means the airline is able to reduce its workforce when the situation arises and manage employee contracts to minimise cost liability.

Employee cost is computed as a "multilateral index of three categories of employees: pilots, co-pilots and other cockpit personnel; cabin attendants; and all other personnel" (Windle, 1991). Labour cost per full-time equivalent employee for US passenger airlines constitutes 23.9% of operating expenses (National Airline Policy, 2014). Developed markets such as the USA and Western Europe are likely to have a higher proportion of airline labour costs to operating expenses due to the "intricate structural nature" of those economies.

Airlines use a number of strategies to address employee costs. Some airlines use global maintenance outsourcing to reduce wage bills (McFadden and Worrells, 2012). The downside is that outsourcing comes at a premium. Outsourced employees' level of productivity may not be fully controllable since they are not fully integrated in the airline. "The introduction of outsourcing may lead to short-term disruptions in performance" (Knez and Simester, 2001:759). There is usually high staff rotation with outsourced staff.

Constant communication between employees and management to reinforce cost and customer services is required for success (Droege and Johnson, 2010:249). Synergy, team work and positive culture results in better airline performance. "The relevance of cost drivers to profit improvement has to be clearly understood by all functions and employees" (Rastogi, 2009:117). This empowers employees to act for the benefit of organisation.

Four constructed strategies to deal with employee costs include: "scheduling reasonable flight hours for flight crew, reducing cabin crew over-time, dispatching maintenance staff efficiently during direct working hours, and encouraging employees to provide cost-control strategies" (Martin & Roman, 2008). Where employees feel valued, they are likely to act in the interest of the airline. "Rising costs have forced airlines such as Northwest in the USA to ask employees for $950 million in wage concessions in order to remain competitive" (Cubbin, 2014). This may not be possible in South Africa where labour laws are not flexible.

2.7.3 Cost of fuel

The recent rise in fuel prices has had a pronounced impact on the global airline industry. The global airline fuel bill increased from 14% (2003) to 26% (2006) of operating expenses (Mazraati and Faquih, 2008:323). Airlines have little leverage to navigate through high fuel costs. “In the third quarter of 2013, US passenger airlines averaged 27.6% of operating expenses on fuel cost alone” (National Airline Policy, 2014).

Inefficient aircraft drive up fuel costs. In a study by Nhuta (2012), 70% of respondents ranked fuel costs as the highest contributor to poor airline performance. Fuel remains the major factor undermining the industry’s financial performance (Traveltrade, 2005). However, lower fuel prices alone do not necessarily result in profitability. Borenstein (2011:54) found the airline industry in the USA experienced losses in 13 of the 19 years when aviation fuel was below $1.40 a gallon between 1986 and 2004.

The type of aircraft in use, load factor, exchange range and fuel purchase policy, among others, have an effect on fuel cost. “The age and fuel efficiency of a particular carrier’s fleet are key drivers of fuel cost” (Holloway, 2008). Fuel cost will continue to be a major cost driver for the foreseeable future. “Although domestic airlines increased their traffic and used their capacity more efficiently, higher fuel prices adversely affected their progress toward more sustained profitability” (Mudde and Sopariwala, 2008:1).

Southwest Airlines “improved fuel efficiency through the use of newer and better equipped airplanes to compensate for increased fuel costs” (Bundgaard et al, 2006:23). If planes are not full or if ticket pricing is not correct, an airline will not benefit from using fuel-efficient aircraft. The weight and distance flown remains a fuel cost driver (Berrittella, La Franca and Zito, 2009). Fuel burn is better with longer distances provided the flights are ‘productive’.

Higher fuel costs necessitated the introduction of fuel surcharges by some airlines. This tended to increase the cost of flying. Fuel cost reduction can be implemented with four strategies: “optimising fleet dispatch, reducing the dead weight of aircraft, improving aircraft fuel-saving performance and conducting fuel hedging strategies, and dispatching different types of aircrafts to execute long-haul and short-haul flights” (Martin & Roman, 2008). Such operational practices require implementation of integrated tools to assist decision-making.

Another tool used to manage fuel cost is hedging. This is done by paying for fuel now at an agreed price for delivery on agreed future dates. "The carriers that produced an adequate return, especially in the second half of 2000, tended to be those that had good fuel hedge (swaps, call options, futures and forwards contracts) positions in place" (Carter, Rogers and Simkins, 2001). This is supported by Pickett (2009:18), who noted that hedging in the industry reduced the effects of the previous oil price peak. The timing and financial health of each carrier determines costs associated with hedging. "Hedging may be a zero-cost signal to investors that management is technically alert" (Morrell and Swan, 2006:729).

Changes in the operating environment necessitated a shift in the use of hedging as a key fuel management tool. "Southwest Airlines has drastically reduced its fuel hedge from a high of 85% in 2005 to 25% by 2009" (Bundgaard et al, 2006:23). It is often difficult to predict long-term fuel prices especially in a turbulent market. According to Morrell and Swan (2006: 713), "the theoretical justification behind hedging is weak". It can actually cost more if fuel price premiums are taken into consideration.

Airlines have "resorted to scheduling in order to improve profitability" (Lohatepanont and Barnhart, 2004). The downside is that scheduling systems are expensive to maintain and may not be accurate where information and data do not feed the system smoothly. IATA has since developed a template for improving fuel efficiency in the shorter term including "taxiing via the most efficient route, flying the most fuel-efficient aircraft, flying the most efficient routing, operating at the most fuel-efficient speed, operating at the most fuel-efficient altitude, maximising the aircraft's load factor and minimum fuel to safely complete the flight" (IATA, Environmental Review, 2004). A combination of effort and factors is therefore required to reduce the fuel bill.

2.8 Revenue management

"Revenue is derived from scheduled passenger service among others" (Jangkrajarng, 2011). A number of factors such as ticket prices influence revenue outcomes. Kamath and Tornquist (2004) found that "revenues of airlines are tied to fare prices, economic growth, number of flights and routes". This is why even airlines with the same business model have different financial results. The setting of prices is a function of revenue management. One option is to increase airfares to generate more revenue. However, increasing competition intensity is putting considerable pressure on fare price increases (Rastogi, 2009:117). Other profitable opportunities that may be explored include cargo revenue, car hire, hotel booking and insurance.

Organisations that have adopted revenue management techniques have fixed capacity, perishable service capacity, high fixed and low variable costs, uncertain or time-variable demand patterns and the ability to forecast demand (Huefner, 2011:41). For the techniques to work, there must be organisational capacity to use them. "The relationship among pricing, revenue management controls and capacity directly impacts on the profitability potential of an airline's schedule" (Jacobs, Ratliff and Smith, 2010:370). Clever companies sow the seeds of future profitability rather than focusing on short-term profit gains.

Similar to costing, revenue management considers various inter-related factors such as flight scheduling. "The flight schedule is aimed at optimising the deployment of the airline's resources in order to meet demands and maximise profits" Etschmaier and Mathaisel (1985:127). Scheduling is not a silver bullet for revenue management. Management should analyse information and make correct decisions. Revenue management techniques still have non-optimal allocations of capacity even though they are desirable (Jiang and Barnhart, 2009: 336). This thesis will explore revenue per passenger kilometres, load factors and flight stage length as key revenue profitability drivers for airlines.

2.8.1 Revenue per passenger kilometres

Passenger revenue is "revenue received by the airline from the carriage of passengers in scheduled operations" (El-Gazzar et al, 2008:91). The higher the number of passengers carried, the higher the likelihood of higher revenue. An airline with an over-extended route network is likely to show very high RPK because of long distances flown. Provided the plane is full and the ticket price is optimal, RPK for an airline will be high.

Although it is important to measure revenue per passenger kilometres, it may be necessary to measure the profitability of passengers flown on each flight leg. Demydyuk (2011:39) found strong evidence indicating that "operating profit per passenger or per passenger-kilometre is the most significant variable in explaining the variation in airline profitability". This is in line with Skugge (2007:243), who noted that "successful companies ensure that measurement is on profit contribution rather than volume". This is so because an airline may be full, but full fare paying passengers are few.

To increase profitability "firms often develop tiered levels of serving customers of different importance" (Homburg, Droll and Totzek, 2008:110). Segmentation does not automatically result in profitability and may lead to high administrative costs. Higher revenue alone is not enough for profitability. The channels used for ticket sales are important for revenue generation. "In 1996, less than 0.5% of tickets were sold online but by 2007, online sales accounted for 26% of global sales" (Berry and Jia, 2010:3). Travel agencies carry the revenue that would have accrued to the airline had it operated its own reservation system online.

However, "recent pressures on airline profitability have increased interest in integrated optimisation, ancillary revenue" (Graff, 2008:397). Ancillary revenue is generated from cargo and other services on passenger aircraft. Such diversification may increase revenue. "Ancillary revenues contribute mostly to LCCs" (Sarker et al, 2012). This requires implementation of revenue management techniques.

Revenue management was seen as a way to maximise revenues and fill empty seats by offering targeted price reductions (Huefner, 2011:41). Revenue management is gradually shifting from just filling seats. "What is required now is a graduation from a 'transactional' to a relationship model, moving on from a purely flight date revenue maximisation to profit maximisation" (Venkat, 2007:306). An airline may generate huge revenues but if the revenue does not churn out profits, it becomes detrimental in the long run. Although it is important to provide periodic discounts, too much of it will cause profits to suffer.

Revenue optimisation models are widely available for airlines. However, a study by Skugge (2007:243) concluded that "very few companies that have revenue management programmes capture their full potential today". If staff cannot fully utilise the systems and the information for decision-making there will not be benefits. If information feeding the system is inaccurate, incomplete and untimely, no benefits will be accrued.

2.8.2 Load factor

"The load factor represents the proportion of airline output that is actually consumed" (El-Gazzar et al, 2008:91). Simply put, "the load factor as an average measure of each airline shows how 'full' the planes are" (Ganeshan, 2011).

In a study of the US industry, Antoniou (1992) showed that "profitable airlines have high passenger load factors". Thoren (2002) found that "load factor was the major determinant of airline profitability". Banker, Chang and Majumdar (1993) found that "capacity utilisation is associated with changes in overall profitability". This makes load factor an important profitability driver.

Too much capacity may lead to perishability, while limited capacity may result in airlines being unable to accommodate high travel demand. "A profitable way to enhance revenues involves finding ways to convert some idle capacity to productive use" (Huefner, 2011:45). This may require excess planes to be leased or sold, or a change in routes. "Too much capacity in a market leads to deeply discounted prices to stimulate demand at unprofitable yields" (Jacobs, Ratliff and Smith, 2010: 356).

It is desirable to fill the plane to a level where it is economic and profitable to run a flight leg. "The higher the load factor, the better the chance of meeting costs and making a contribution to profit" (Vernon, 1969:51). This becomes better if operating cost is low and ticket price is 'just right'. "Airlines are equally likely to make a profit or a loss even if they are flying with high load factors" (Ganeshan, 2011) because not all passengers pay enough to cover the cost. The challenge for airlines is to offer enough seats to equal travel demand. "Excess capacity is a fundamental reason for losses in the US airline industry" (Baltagi, Griffin and Daniel, 1995). Despite the desire to maintain high load factors, it is virtually impossible to have an average capacity utilisation of 100% in the passenger airline business.

On some routes load factor can be increased by reducing the number of aircraft in operation, reducing flight frequencies and varying ticket pricing. In the USA, Allegiant Airline managed to cut excess capacity by not running unprofitable routes, but as the economy improved and demand increased, they ramped up average daily flights (Kiel, 2011). Airlines need to adjust quickly to market demands in order to push up load factor for profitability.

2.8.3 Flight stage hours

Fight stage length/ hours measures airline productivity. “Stage length is the average distance flown in kilometres per aircraft departure” (El-Gazzar et al, 2008:91). Flight stage hours are computed as “block hours per aircraft day, i.e. the hours between pulling back from the airport gates which are considered to be in a revenue-producing mode” (Gittell et al, 2004:167). It is the average time between closing aircraft doors at departure and opening doors at arrival.

An airline that flies long distances is certain to have long flight stage hours. Flight stage hours can be affected by the extent to which employees cooperate in getting planes loaded and turned around quickly (Gittell et al, 2004:168). Employee productivity is a priority in determining the speed at which the aircraft is serviced at take-off and landing points.

2.9 Conclusion

This section has explored the airline value chain and business model. Understanding the value chain is the key step to understanding profitability drivers. The majority of airlines are full-service airlines followed by LCCs. Competition has resulted in a convergence of models to produce hybrid airlines.

Airline models may operate within the public, private or mixed ownership domain. There are conflicting or inconclusive results showing the effect of ownership on profitability. However, the principal-agent theory supports the thesis that managers face greater incentives to pursue profit maximisation in the private sector because private capital monitors are better than in the public arena where the agent is theoretically separated from the principal. Although this is partly true, there is information asymmetry which can lead to wrong decision-making. Public entities face the same challenges as private companies. Ownership is important but is dwarfed by the cost-revenue management issues faced by both sectors to produce better profitability.

Profitability is cyclical and appears to be largely elusive on a sustainable basis in the airline industry. External shocks impact on profitability but internal factors matter equally and are amenable to closer management focus.

A number of profitability models researched by various authors can be decomposed into costs and revenue. Chopra and Lisiak’s (2006:2) profitability drivers’ framework is used in the research since it has been found to be significant in explaining airline performance. The drivers are interdependent and affected by factors such as fuel management criteria, type of aircraft and ticket distribution channels.

This chapter has added to the understanding of literature on airline economics and management accounting in relation to key profitability drivers. This is key in understanding the aim of the research, which is to analyse and identify similarities or differences of profitability drivers and how financial measures are addressed. The research seeks to explain the key profitability drivers emphasised by both SAA and Comair in light of the proposal that Comair is better at managing cost and increasing revenue performance factors.

SECTION 3: RESEARCH METHODOLOGY

3.1 Introduction

Section 3 focuses on the research aim, paradigm, method, data collection and analysis. "Once a researcher has developed a research question they are seeking to answer, they must consider the methodologies, methods, theoretical perspective and the epistemology that informs this theoretical perspective" (Crotty, 1998). This ensures that appropriate tools are assembled to generate sufficient and valid evidence for the research.

The main research paradigm chosen for this study is post-positivism: critical realism, which lies between positivism and interpretivism. Critical realism has a single objective view with multiple perceptions. Foucault (1972:49) argues that "texts form the objects of which they speak". In fact critical realism "increases the understanding of causal mechanisms and contexts that are needed in order to achieve outcomes from actions" (Fox, 2009:465).

In terms of method, this research is premised on a comparative case study. Case study research varies from "intensive case studies, comparative studies, and action research cases" (Cunningham, 1997:403). A comparative case study is a social science methodology which looks at in-depth analysis of selected variables to make a conclusion about the cases, in this case SAA and Comair. In-depth analysis was made by analysing financial and non-financial performance on six profitability drivers of employees per ASK, salary expense per employee, fuel cost in relation to total costs, revenue per passenger kilometres, load factor and average stage length. Flouris and Walker (2007:33) noted that "when using financial ratios to assess the overall financial stability of a company, more than one ratio should be considered when formulating an accurate opinion".

The study made use of interviews (direct interview with the CEO of Comair and a third party radio interview with the CEO of SAA). "A case study method focuses attention on one or a few instances of some social phenomenon" (Babbie, 2011). In conducting the case study, six key profitability drivers applicable to both airlines were compared. "The research established patterns, performed time series analysis and cross-case synthesis" (Yin, 2003:109). An example of a pattern established was that of profitability over five years from 2008 to 2012. This allows for observations, analysis and conclusions to be made.

3.2 Objectives of the research

Between 2008 and 2012, SAA made intermittent profits while Comair produced consistent profits. "What is efficient in the short term may not always coincide with what is efficient in the long term" (Ghoshal, 1996:15). The key question for the research is:

Why is Comair producing consistent profits compared to SAA?

The research hypothesis is:

Lower cost factors and higher revenue factors combined lead to better airline performance.

Airline performance refers to achievement of profitability, evidenced through results such as profits, market share and profitability. "Market share is a function of frequency, airfare, aircraft size, hub choice, value of time, and the decision variables of other airlines" (Adlera, 2005:69). The research question was better answered using quantitative methods. However, quantitative data can only be explained within the context of qualitative information hence the use of both quantitative and qualitative methods.

The aim of the research was to:

1. Analyse, identify similarities and differences of profitability drivers;
2. Establish how the outcome of financial measures was addressed;
3. Identify areas for future research.

The research was conducted within the context of the following literature. Antoniou (1992) developed a model that showed that profitable airlines have high passenger load factors, a relatively low proportion of capacity-related costs, newer and more efficient fleets. West and Bradley (2007) found that airlines should exploit direct point-to-point flight networks and short-cycle times as operational factors to improve profitability. Martin and Roman (2008) hypothesised fuel cost reduction implementation with four strategies: optimising fleet dispatch, reducing the dead weight of aircraft, improving aircraft fuel-saving performance, and conducting fuel hedging strategies and dispatching different types of aircraft to execute long-haul and short-haul flights. Toh and Higgins (1985) found that expanding the territorial coverage by encompassing distant cities on extended spokes only serves to increase the number of stages and stopovers, which will possibly lower profitability. Schefczyk (1993) studied the impact of productivity on financial performance in the airline industry. Hammesfahr et al (1993) found that capacity utilisation affects profitability. Tsikriktsis (2007) looked at longitudinal data to study operational performance and focus linked to profitability. Behn and

Riley (1999:29) found that customer satisfaction, load factor, market share, and available ton miles are contemporaneously associated with operating income and revenues.

The problem is that most of the studies looked at only one or two aspects at a time. The study by Tsikriktsis (2007) was better in that it was a longitudinal study which generated data and information that was consistent over time. This research focused on profitability drivers using the theoretical framework developed by Chopra and Lisiak (2006:2): number of employees per ASK; salary expense per employee; cost per gallon of fuel or fuel cost in relation to total costs; revenue per RPK; load factor; and average stage length.

These measures are widely used in the airline industry. "A multi-factor regression analysis was performed to verify that these factors have a statistically significant relationship with operating income. The result was that these six factors account for almost all of the variation in profitability by airlines over the past decade" (Chopra and Lisiak, 2006:2). This was the basis for selecting the six profitability drivers in this study. However, reducing costs alone does not necessarily increase profitability. Lower number of employees and salary may impact on productivity. Overstretched employees may compromise quality customer service. Similarly, higher revenue factors do not necessarily result in profitability. Higher load factors may actually increase the weight of aircraft and hence fuel costs.

Longitudinal performance from 2008 to 2012 was studied to establish patterns of airline performance where similarities and differences were observed. Since both airlines are public companies which are required by law to publish annual reports and make them available publicly, all annual reports were easily accessible.

This study made use of a combination of research techniques including desk research, internet research, one direct interview and one third party interview. "Not only is it perfectly possible to combine approaches within the same piece of research, but ... it is often advantageous" (Saunders, Lewis and Thornhill, 2003). Combining techniques ensures that information and data is triangulated for congruency. A 90-minute interview was conducted with the CEO of Comair on 24 October 2013. A third party interview (60 minutes) on 12 September 2013 between the CEO of SAA and the anchor of AM Live, Tsepiso Makwetla, was accessed. Both interviews were recorded for use in the research and for reference purposes.

3.3 Research paradigm

To establish valid truth through research, one has to choose an appropriate research paradigm. "A research paradigm is the fundamental model or frame of reference we use to organise our observations and reasoning" (Babbie, 2001). This ensures consistency in the application of methodologies and approaches. "Every research approach contains an implicit set of values that guide how the researcher understands the nature of reality and defines what constitutes knowledge" (Duffy and Chenail, 2008). In some cases research accepts reality while in others it takes a critical view of reality. This study elected to use the post-positivism paradigm and the ontology of critical realism because "it matches research methods to research questions" (Bisman, 2010:7). In doing so, theoretical literature is presented, accepted but critiqued.

Post-positivism believes that reality exists and to avoid bias by the researcher, an objective assessment of reality should be performed. "Critical realism is any doctrine reconciling the real, independent, objective nature of the world (realism) with a due appreciation of the mind-dependence of the sensory experiences about it (hence critical)" (Bisman, 2010:8). Reality is accepted as it is but a further step is taken to critique and understand the nature of that reality. The approach borrows from both the natural sciences and the social field where interpretation varies based on one's experience. Although critical realism leans towards ontology, it also accommodates an epistemological view of reality. "Critical realism uses perceptions of empirical events (those that can be observed or experienced) to identify the mechanisms that give rise to those events" (Zachariadis, Scott and Barret, 2013:857). The research not only provided the factual financial and accounting performance but provided a critical interpretation of the results using qualitative information.

The research paradigm allows ancillary information to be tested and generated to explain the financial results, perspectives and decisions of officials of the companies and other communities of practice. In this research, a few aspects of contextual issues were briefly explored such the principal-agency theory and governance which help explain the state of two airlines' cost and revenue performance. Top managers of the two airlines have a decision-making role hence the different results in financial and accounting performance over the five-year period. The six profitability drivers were researched within the context of factors such as airline value chain, policies, regulations and ownership in the industry. Consideration of profitability context was critical precisely because profitability is a function of all these factors.

Economic and accounting research is amenable to the use of the critical realism paradigm. This is because economic and accounting data constitute reality while interpretation of how that data was arrived at differs. "Economic and financial data are derived from human-made accounting systems which renders them non 'objective' in a physical or positivist economic sense" (Bisman, 2010:15). The starting point in conducting the research was therefore to look at quantitative data (cost and revenue data). Such data can be analysed using quantitative methods and interpreted with information from interviews, third parties and annual reports.

3.3.1 Case Study

Post-positivism allows exploratory, interpretative and explanatory work to be conducted. A case study has been chosen because the calculated profitability drivers can be explained while qualitative information is used to explore and interpret performance. A case study method allows multiple methods to be used in research. "Multiple methods and methodologies are likely to provide a richer understanding of research issues and questions" (Bisman, 2010:17). Longitudinal study from 2008 to 2012, comparative research, secondary literature review, quantitative and qualitative methods were all used to generate a valid picture of performance of the two airlines.

"Case studies are of value in refining theory and suggesting complexities for further investigation, as well as helping to establish the limits of generalisability" (Elliott and Lukes, 2008). In a case study, specifics are valued and context defined to shape a particular case. "In the case comparison approach, the analyst develops an explanation for one case or set of cases and then replicates this process with a similar case or set of cases and develops an understanding of why certain conditions did or did not occur, and then offers interpretations" (Cunningham, 1997:403). This is the why in the comparative case chosen for SAA and Comair, the same drivers were used to identify similarities and differences.

Descriptive and explanatory

The case study explained, described and explored profitability drivers at SAA and Comair. "In an explanatory research design the researchers start with the collection and analysis of quantitative data; after that, a qualitative phase of the study is designed so that it follows (or connects to) the results of the first quantitative phase" (Gelo, Braakmann, and Benetka, 2008:281). This allows themes and patterns to emerge for further inquiry. This study started with literature research which enabled themes to be developed and later qualitative information was generated. After quantitative data was obtained, qualitative research followed which served to support or disprove the quantitative findings.

Literature review, annual reports and other secondary sources were consulted to identify the focus of the study. With critical realism, virtually any relevant theories can be used to frame a critical research study (Bisman, 2010:15-16). Airline literature provided the basis for the study. Among other things "descriptive accounts summarise and synthesise the range and diversity of coded data by refining initial themes and categories while explanatory accounts identify and develop associations/patterns in concepts and themes" (Smith, Bekker and Cheater, 2011:43). This resulted in the research identifying six profitability drivers, themed under cost and revenue drivers.

3.3.2 Units of analysis

"Units of analysis are those things we examine in order to create summary descriptions of all such units and to explain differences among them" (Babbie, 2011). SAA and Comair have been selected because they are the major airlines in terms of volume and market share in South Africa. They both operate full-service and low-cost airlines which are described in section 2 of this report. SAA has been making losses while gobbling precious public resources. The airline has experienced management and governance instability. In contrast, Comair has witnessed regular profits and leadership stability. The two units of analysis are almost similar and comparable. These units were further decomposed into six profitability drivers. Although the two airlines are not exactly the same, Babbie (2011) is of the view that "when researchers can't create experimental and control groups by random assignment from a common pool, they can find an existing non-equivalent control group that appears similar to the experimental group". The openly observable differences are as follows: SAA is publicly owned and has a larger fleet and route network, while Comair is privately owned and has a smaller fleet and route network. They are comparable since they are almost equivalent in terms of function, industry and market. The study started with literature review in order to arrive at findings. However, cause and effect cannot be generalised unless at least 30 cases are studied.

3.4 Data collection methods, procedures and techniques

This study used a combination of qualitative and quantitative data collection strategies. Descriptive and explanatory methods were utilised to review and analyse reports. According to Bisman (2010:7) "a multiplicity of other structures, variables, behaviours or influences are also important in critical realism hence the need for multiple or mixed methods". Qualitative information was obtained through one direct interview and one third party radio interview. Mr Venter, the CEO of Comair, was interviewed on 24 October 2013 using a sub-topic guide. Questions were free-flowing to allow a rich interpretation of issues. A direct interview with the CEO of SAA could not be secured within the research period even though the CEO had initially agreed to being interviewed. A third party interview between the CEO of SAA (Mr Kalawe) and SAFM radio host (Ms Makwetla) was then accessed by the researcher.

"Qualitative research allows a detailed exploration of a topic of interest" (Harwell, 2013). This is supported by Ivey (2012) who noted that qualitative approaches extract feelings, perceptions, experiences and thoughts from participants about the research question. Although there is a natural preference for one method over another, Harwell (2013) argued that "the fundamental principle of mixed methods research is that multiple kinds of data should be collected with different strategies and methods in ways that reflect complementary strengths and non-overlapping weaknesses".

A quantitative comparative and historical case study method was used to research numerical data over a five-year period. Data was collected, analysed and compared quantitatively while the qualitative approach was used to augment data and information sourced from secondary literature. "Quantification often makes our observations more explicit and can make aggregating and summarising data easier" (Babbie, 2011). It also makes it easier to identify trends and form conclusions. This was done through the tables and figures for each of the six profitability drivers in section 1 of the report.

3.4.1 Secondary research

Annual reports of both airlines were sourced and analysed using quantitative methods. Secondary airline data from journals, newspaper articles, management reports, IATA and other internet sources were utilised to supplement the research. Issues of validity were addressed through the use of audited financial data of both airlines.

3.4.2 Interviews

CEOs of both airlines were identified for personal interviews *(Appendix A).* Only the interview with the CEO of Comair was conducted face to face. A third party interview was obtained for SAA after the direct interview schedule was unexpectedly cancelled shortly before the interview date. Subsequent efforts to secure another date were unsuccessful. "Case studies and unstructured or semi-structured in-depth interviews are acceptable and relevant within the critical realism paradigm” (Bisman, 2010:9). Views of industry observers and analysts were obtained through newspaper articles and personal communication.

3.4.3 Data analysis

The purpose of data analysis in this case study was to link literature to specific case findings. “Data was summarised and compared to findings from current literature for similarities and differences in the findings” (Ivey, 2012). This was designed to corroborate or refute theory or literature on particular issues. “As part of triangulation, comparisons of results and conclusions of a current research study with those of similar prior studies’ relevant findings from both prior positive research and interpretive research can be used” (Bisman, 2010:13). This was done to show the extent to which the two airlines compare with other international carriers. In section 1 of the report, reference was made to other airline performance data on similar study variables. Data analysis consisted of cost and revenue data centred on the profitability drivers as well as qualitative data from secondary and interview results.

Trend analysis was performed to show patterns of performance over the study period. “Trend tables are used in quantitative approach and ensure consistency of measures” (Patterson and Morin, 2012:37).

“Data presentation from the research was contextualised and interpreted” (Gelo et al, 2008). This was done within the context of applicable literature. Data was also presented in the form of graphs and tables. It is important to note that “in presenting the report, research findings in critical realism are considered indicative of tendencies rather than casual absolutes” (Bisman, 2010:16). The findings cannot be generalised to other airlines in any other context since the cases were too few to perform statistical tests. A similar study may yield slightly different results due to the effect of other variables.

3.5 Validity

Critical realism permits the generation of research findings that are credible and can be verified. Research that can be trusted and replicable in a different context is preferable to research that cannot be replicated. “Qualitative research tends to use ‘substitute’ validity and reliability criteria, including trustworthiness, credibility, transferability, dependability and confirmability for validity and generalisation” (Bisman, 2010:11).

Validity was addressed through the following:

Criticality, the researcher was neither an employee of SAA nor Comair which dispels some measure of bias and brings objectivity to the study. The literature and findings of the study were presented in a critical manner.

Critical multiplism, which reduces bias, was addressed through the use of various research tools. While a case study approach was used, both quantitative and qualitative methodologies were used in the research. Data was collected from sources including newspaper articles, journals, annual reports, relevant thesis, direct interview, third party interview and expert opinions. Multi-methods allowed triangulation and corroboration of information.

Trustworthiness of the research was addressed through the provision of letters requesting interviews, recording of the direct interview and third party interview. The base calculations on costs and revenue are also available and are attached as annexures. Extensive use of referenced quotations was also designed to create trustworthiness. This is in line with Bisman (2010:13) that "auditing can be performed by virtue of the database maintained and the use of quotations of research subjects and participants in written research reports thus promoting trustworthiness". The original data including correspondence with various officials has been kept. The research analysed data and information using tools aligned to the theoretical framework developed by Chopra and Lisiak (2006:2) for reliability and replicability.

Finally, *analytical generalisation and replication* was addressed by conducting a literature review and situating that literature to actual performance. The idea was to explain and explore the performance of both airlines using literature and theory in management accounting and managerial economics with special focus on airline management.

3.6 Ethics

Data and information was researched as objectively as possible. The researcher had no interest in promoting one airline over the other. The published research report will be publicly available for reference by anyone with interest in the case study. The researcher was aware that SAA was going through a transformation process and therefore treated all information with integrity.

3.7 Limitations

Establishing profitability drivers and how they are emphasised by airlines is a complex task requiring a comprehensive analysis. The research chose one profitability framework as one model of measuring profitability drivers. This was done within the context of other variables. Focusing on only a few drivers may be limiting but having too many may not allow similar variables to be found in cases under study. It may be necessary to look at other drivers such as fuel management criteria, type of aircraft in use, ticket distribution channels, and employee productivity. “Reductionism can occur when we use inappropriate units of analysis but is not altogether wrong: it is simply too limited” (Babbie, 2011). There was nothing wrong in the use of the six profitability driver model. “It is an error to universalise any specific mode of explanation a priori” (Moura and Martins, 2008:204). Not everything can be generalised but explanation of specific observations can be done with a case study.

At the time of the research, there was concern about the responsiveness of SAA and Comair, especially the former, in light of the difficulties being experienced by the airline. The timing of the research was concern but this was compensated by rich secondary data on both airlines. Moreover, Babbie (2011) contents that “lower response rates do not necessarily produce inaccurate estimates of the population being studied”. It all depends on the quality of information and other corroborative data and information. Therefore, the third party interview with SAA did not present any limitations to the study.

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Appendices

a. Comair and SAA framework of questions

#	Question focal area	Checklist	Method	Possible sources of information
A	**Strategy**			
1.	SAA and Comair characteristics – general information and statistics; compare with global airline industry	Aircraft types & #s; passenger #s; market share; etc.	Secondary study	Annual reports
2.	Profitability patterns at Comair and SAA over past 5 years - ROCE, Cost per available seat kilometres (CASKs); Revenue passenger kilometres per year (RPK); main revenue streams	Check cyclicality; fuel; labour	Secondary study Interviews	Annual reports
3.	Services offered	Passenger; cargo; mail etc.	Secondary study Interviews	Annual reports Management
4.	Business model	LCC, FS, Hybrid, Regional	Secondary study Interviews	Annual reports Management
5.	FS vs LC	Proportion of business	Interviews	Management
6.	Technology – inflight, reservation, scheduling , yield management, CRM, baggage tracking	Procurement – ICT; *E-tickets; self-check in; ease of reservation*	Interviews	Management
7.	Staff	Staff training costs; staff turnover	Secondary study Interviews	Annual reports Management
B	Revenue/ yield management			
8.	Revenue sources – Passenger service, scheduled freight service, mail service, non-scheduled service and other "incidental" services		Secondary study Interviews	Annual reports Management
9.	Yield – Average price the average price that an airline receives for the traffic which it handles		Secondary study	Annual reports
10.	Main revenue market/sources	Domestic; region	Secondary study Interviews	Annual reports Management
11.	Ticket distribution channels	Types; values	Secondary study Interviews	Annual reports Management
12.	Capacity optimisation	Criteria	Secondary study Interviews	Annual reports Management

#	Question focal area	Checklist	Method	Possible sources of information
13.	Ancillary revenue	Value & trends	Secondary study Interviews	Annual reports Management
C	**Revenue optimisation**			
14.	Revenue management systems in use: What do you emphasise? Revenue from ticket sales; network optimisation; price; seat control; fleet assignment; cost management		Interviews	Management
15.	Key financial focus	revenue generation or cost containment	Interviews	Management
D	**Cost/Expenditure**			
16.	Labour costs	Value; proportion	Secondary study Interviews	Annual reports Management
17.	Fuel and oil costs	Value; proportion	Secondary study Interviews	Annual reports Management
18.	Criteria for cost control measures / ranking – Fuel cost; flight operations; employee productivity; aircraft maintenance; operational procedure simplification		Interviews	Management
E	**Rewards System**			
19.	Reward system	Type of loyalty program; value	Secondary study Interviews	Annual reports Management
F	**Productivity /Turnaround time**			
20.	Turnaround time - inbound and outbound exchange of passengers, crew, catering services, cargo and baggage handling; turnaround times at hubs vs point to point		Secondary study Interviews	Annual reports Management
21.	Importance of turnaround times	Perspective of management	Interviews	Management
22.	Labour productivity	Value	Secondary study Interviews	Annual reports Management
23.	Aircraft productivity	Value	Secondary study Interviews	Annual reports Management
G	**Fuel Costs**			
24.	Fuel costs over past 5 years as a % of costs	Fuel costs; 5-year trend	Secondary study Interviews	Annual reports Management
25.	Fuel management - hedge (swaps, call options, futures and forwards contracts)	Fuel purchase strategy	Interviews	Management
26.	Fuel cost reduction strategies	Strategy to contain fuel costs; ranking - IATA methods	Interviews	Management
H	**Aircraft Type & Maintenance**			
27.	Aircraft type	Type(s) & #s; average age	Secondary study Interviews	Annual reports Management

#	Question focal area	Checklist	Method	Possible sources of information
28.	Maintenance	Approach & cycle; in-house/outsourced	Secondary study Interviews	Annual reports Management
I	**Flight schedule and assignment**			
29.	Flight schedules	System in use; priority determinants of scheduling; time of day with most schedules	Secondary study Interviews	Annual reports Management
30.	Emphasis of scheduling – revenue generation or cost reduction		Interviews	Management
J	**Employees**			
31.	Employee numbers : pilots, co-pilots and other cockpit personnel; cabin attendants; and all other personnel		Secondary study Interviews	Annual reports Management
32.	Employee as a proportion of total costs over past 5 years	Proportion of cost; trends over past 5 years	Secondary study	Annual reports
33.	Employee to airplane ratio	Labour to plane ratio	Secondary study	Annual reports
34.	Employee productivity ratio	Productivity ratio – trend; productivity strategies	Secondary study Interviews	Annual reports Management
35.	% unionised	% unionised; trend	Secondary study Interviews	Annual reports Management
K	**Capacity utilisation / load factor**			
36.	Aircraft utility – available seat kilometres – (ASK) which shows the number of seats available per active itinerary; strategy in situations of excess capacity.		Secondary study Interviews	Annual reports Management
37.	Load factor	Load factor	Secondary study	Annual reports
38.	Average hours flown per aircraft	Hours flown per plane	Secondary study Interviews	Annual reports Management
L	**Route network**			
39.	Network structure Network type	Hub and spoke; point to point; impact on customer booking selection	Secondary study	Annual reports
40.	Route selection/optimization strategy	Growth of other hubs	Interviews	Management
41.	Point to point vs. hub-n-spoke	Proportion of flights	Secondary study Interviews	Annual reports Management
42.	Total airport cost	Airport charges as proportion of total costs	Secondary study Interviews	Annual reports Management
M	**Leasing or buying aircraft**			

#	Question focal area	Checklist	Method	Possible sources of information
43.	Proportion of aircraft on operating lease vs full purchase	ownership / renting; acquisition orientation. Ratio – lease/ buy; future focus lease/buy?	Interviews	Management
44.	Aircraft in storage	Number of aircraft in storage; trend	Interviews	Management
N	**Air travel demand & passenger mix**			
45.	Air travel demand	Passenger growth; passenger vol p.a.	Secondary study	Annual reports
46.	Proportion of leisure passengers vs business passengers	Ratio: business vs leisure passengers	Secondary study Interviews	Annual reports Management
47.	Proportion of passengers carried on LCC	LCC growth vs. FS	Secondary study Interviews	Annual reports Management
O	**Alliances and Codeshares**			
48.	Alliance membership & codeshares – importance & benefits; types of agreements; criteria/ approach	Membership; codeshares;	Secondary study Interviews	Annual reports Management
49.	Importance of alliance(s) to customers – e.g. seamless air travel, wider route networks, lounge access and integrated frequent flyer programmes	Customer perception	Interviews	Management

Mainly secondary sources	
Mainly interviews	

b. Letter of introduction to the CEO of SAA

22 August 2013

RE: COMPARATIVE RESEARCH STUDY – PROFITABILITY DRIVERS OF SAA AND COMAIR

Dear Mr M. Kalawe (CEO, SAA)

My name is Herbert Batidzirai, an MBA student at the Rhodes Business School conducting research under the supervision of Professor Owen Skae. I am researching profitability drivers of full service airlines, comparing two full service airlines: SAA and Comair.

Literature has shown that airline profitability is a function of different emphasis on profitability drivers. The case study of SAA and Comair is designed to compare, explain and describe profitability drivers used by the two airlines. The two airlines have been selected primarily due to the fact that they represent the oldest and largest domestic airlines in South Africa, one privately owned and the other state owned. Lastly, both offer full service and each has a low cost airline division.

The study is in two phases: secondary research where all annual reports and other information are collected and analysed; primary research where board members, executives and key industry stakeholders are interviewed to confirm and corroborate information and data from published reports. A list of questions has been prepared which will serve as a guide to the interviews.

Participation in this case study project is voluntary and will add value to your airline and future research. You may choose the appropriate time for you and your team to be interviewed including the method(s) of the interview. The information that you will provide through the interviews will be kept confidential where this is required.

Should you require further information about this study, feel free to contact Professor Owen Skae at +27 (0) 46 603 7363 or myself at 082 57 54 534 or e-mail at Herbert.batidzirai@dedea.gov.za.

The study has already been reviewed and accepted by the University Academic Research Committee. Thank you in anticipation of your cooperation in this research.

My MBA study is financially supported by the Department of Economic Development, Environmental Affairs and Tourism where I work.

Yours sincerely,

Herbert Batidzirai
Director: Strategic Management

c. Letter of introduction to the CEO of Comair

23 August 2013

RE: COMPARATIVE RESEARCH STUDY – PROFITABILITY DRIVERS OF SAA AND COMAIR

Dear Mr E. Venter (CEO, Comair)

My name is Herbert Batidzirai, an MBA student at the Rhodes Business School conducting research under the supervision of Professor Owen Skae. I am researching profitability drivers of full service airlines, comparing two full service airlines: SAA and Comair.

Literature has shown that airline profitability is a function of different emphasis on profitability drivers. The case study of SAA and Comair is designed to compare, explain and describe profitability drivers used by the two airlines. The two airlines have been selected primarily due to the fact that they represent the oldest and largest domestic airlines in South Africa, one privately owned and the other state owned. Lastly, both offer full service and each has a low cost airline division.

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My MBA study is financially supported by the Department of Economic Development, Environmental Affairs and Tourism where I work.

Yours sincerely,

Herbert Batidzirai
Director: Strategic Management

d. Comair profitability drivers

COMAIR (BA and Kulula domestic and regional)

COST DRIVER	**2008**	**2009**	**2010**	**2011**	**2012**
Number of employees per available seat kilometres (ASK) (Millions)	0.415	0.419	0.394	0.341	0.328
Number of employees	1782	1781	1883	1953	1873
Labour to airplane ratio	77	77	75	78	75
Passenger available seat kilometres (Millions)	4,293	4,253	4,777	5,735	5,713
Employee costs (Millions)	333	404	467	501	559
Employee cost to total cost ratio (%)	13%	14%	16%	16%	13%
Fuel Costs (R billions)	0.880	1.046	1.122	1.297	1.330
fuel cost as a % of total costs	39%	35%	29%	34%	32%
REVENUE DRIVER	**2008**	**2009**	**2010**	**2011**	**2012**
Passenger revenue per ASK (Cents)	0.622	0.705	0.609	0.550	0.693
Passenger revenue (Millions)	2,670	2,998	2,908	3,152	3,957
Revenue Passengers	3,427,320	3,374,759	3,641,179	4,617,050	4,757,854
Load factor (%)	79%	80%	78%	79%	81%
Average flight stage length (kilometres)	996	1,003	1,024	976	977
Average block hours (hours) This is averaged over total fleet including spare (backup) aircraft over 365 days per aircraft.	5.59	5.74	5.48	6.34	6.13

e. SAA profitability drivers

SOUTH AFRICAN AIRWAYS

COST DRIVER	**2008**	**2009**	**2010**	**2011**	**2012**
Number of employees per available seat kilometres (ASK) (Millions)	0.252	0.266	0.269	0.311	0.341
Number of employees	8227	7989	8034	10057	11044
Labour to airplane ratio	125	123	155	165	201
Passenger available seat kilometres (Millions)	32681	29980	29850	32378	32423
Employee costs (Millions)	3387	3496	4095	4417	4711
Employee cost to total cost ratio (%)	14	14	20	20	19
Fuel Costs (R billions)	6.7	8.6	5.1	6.1	8.3
fuel cost as a % of total costs	30	35	30	28	33
REVENUE DRIVER	**2008**	**2009**	**2010**	**2011**	**2012**
Passenger revenue per ASK (Cents)	0.506	0.578	0.489	0.477	0.491
Passenger revenue (Millions)	16527	17343	14598	15443	15907
Revenue Passengers	8906	8230	8023	8053	8087
Load factor (%)	76	74	71	70	72
SAA average block hours (hours)	10.6	10.07	9.48	9.58	10.07