

**BUSY SKIES: A FOCUS ON SLOT-COORDINATION AND PERFORMANCE
MONITORING AT SLOT COORDINATED AIRPORTS**

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Abstract

Current growth trends in the South African aviation industry, as well as the expected passenger spike anticipated for the 2010 FIFA World Cup™ necessitate that South African aviation infrastructure, particularly slot co-ordination, have the ability to provide airlines with equal opportunity to access the three fully slot coordinated airports safely. Critical to the post-2010 strategic outlook of South Africa is reputational maintenance in that this is critical to survival and future growth of the aviation industry

In fact, the current system lends itself to the threat of anti-competitive behaviour on various fronts in that various role-players could benefit through the present process. The current system does not have the necessary fail-safes built into it such as transparency, a separation of functions and has no clear lines of accountability. Effective monitoring and an appropriate legislative framework, including a formal enforcement mechanism are not in place to ensure effective utilisation of airport and airspace capacity.

The study below aims to better understand of the impacts of slot coordination and performance on airline operations as highlighted by the insights drawn from processes followed by three of the leading aviation nations in the world. The researcher will offer recommendations based on the above.

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Chapter 1 ORIENTATION

1.1 Introduction:

South Africa's GDP as at December 2007, quarter-on-quarter was 5.3% (Stats SA, 2007). With the demands of an expanding economy, specifically certain high growth economic sectors such as tourism, the management and infrastructure development of key drivers of growth needs to be assessed with the view to their improvement, updating various systems and principles to exploit this growth surge.

Air travel is becoming the more popular and efficient means of transport. South Africa's air transport industry has traditionally operated in a manner that met local and regional demands with limited anticipation of growth and demand surges from the global environment. The unexpected success of the Low Cost Carrier phenomenon in South Africa and the added traffic expected during the 2010 FIFA World Cup™ will require that the air transport industry employs innovative measures to ensure effective operations on a sustained basis, but also during the six week spike. The eyes of the world will be watching to see whether South Africa will do this successfully.

Slot coordination is critical in that it is key to an airline's ability to obtain access to the airport of their choice which will allow it to exploit a specific market. Airlines require access to prime slots to meet their company's key strategic objectives. Unfortunately access to these prime slots in peak times is limited and as illustrated in the discussion that follows; these are not available to all because slots at peak times are increasingly becoming a scarce resource.

1.1.1 What is slot coordination:

In South Africa, a slot is time-bound. An airline must take up the slot 120minutes before and 120minutes after the scheduled time allocated for arrival at an airport.

The International Air Transport Association (IATA) defines a slot as “the scheduled time of arrival or departure made available for allocation to an airline by a coordinator on a specific date at an airport.”(IATA, 2005:11) The Airports Council International (ACI) states that airport capacity is a scarce resource. It is critical that the slot allocation system be efficient and effective, as this safeguards the growth of the aviation industry as a whole. (ACI, 2001:1) Linked to this will be the effective monitoring and enforcement function to ensure that airlines use the slots responsibly.

The function of slot coordination is important in that it ensures that aircraft are safely guided into an airport and at the same time it regulates the flow of passengers through the airport. There is also a commercial aspect in that slots secured during peak periods provide the airlines with superior connectivity to other destinations and cash-flush markets.

1.1.2 The Slot allocation process:

Airlines are allocated slots to facilitate the smooth operation of air traffic at airports which have capacity constraints at various periods eg. Peak periods during the morning or afternoon, all day, etc. The Coordinator must be sure that the slot allocated to an airline for departure at an airport of origin is matched by an arrival slot at the destination airport taking into account the duration of flight.

When allocating slots, the coordinator takes a variety of factors into consideration, including the availability of capacity in the air navigation system, the capacity declaration of the slot pool, the runway system, the air-bridge or remote parking on the apron and airspace design. IATA standards (2005:11) also require that the coordinator at each airport must be “neutral at all times, transparent and non-discriminatory” in allocating available slots to an airline.

IATA's advocates that a coordinator be operational for every airport, as the ideal. However, in their World-wide Scheduling Guidelines (WSG 2005:11), IATA

acknowledges that if a country has a system of coordinated airports, utilisation of the services of a single coordinator might be more cost effective. The researcher believes that this is also a safety imperative, in that a single coordinator would have access to the national picture. The co-ordinator's role is the allocation of slots to airlines, which should "prevent undue delays, diversions or cancellation of flights at a fully co-ordinated airport." (IATA, 2006:11)

Once the capacity declaration has been made which specifies both airport and airspace infrastructure availability, airlines are at liberty to apply for slots to land at or depart from an airport. Scheduled airlines will apply for slot allocations twice a year in line with the season change. The Bi-annual Slots Conference held by IATA, is attended by Slot Coordinators, international- and domestic airlines who are either members or non-members of IATA, to facilitate the process of slot allocation between slot coordinators and airlines. (See Annexure C). Once allocation has taken place, the airlines will operate according to the slots allocated to them, as mutually agreed. The operation of these slots is then monitored for compliance.

1.1.3 Concern with current system:

The concern with the current system is that it lends itself to the threat of anti-competitive behaviour on various fronts. It could be said that some of the current role-players could gain through the present process to the potential detriment of certain categories of airspace users. The current system, as demonstrated below, also lacks transparency and has no clear lines of accountability. It is imperative that a system be instituted which is independent, transparent and accountable. The appropriate steps must also be put in place which allows for the effective monitoring of slot allocation processes and operations. An effective enforcement mechanism and legislation is necessary to ensure the effective usage of airport and airspace capacity by the airlines, Airports Company of South Africa (ACSA) and the Air Traffic and Navigational Services Company (ATNS), at all times.

1.1.4 Requirements for 2010 FIFA World Cup™:

How do we, as South Africa, adapt our infrastructure and systems to meet the requirements of the future? While the final numbers of fans travelling to South Africa for this event are as yet unknown, we do know that the aviation community must ensure sufficient infrastructure to safely facilitate the efficient and streamlined movement of passengers both from international destinations to South African airports and in some instances from their accommodation to any of the different host cities around South Africa.

The current system of slot coordination and performance in South Africa is still evolving and not of the same scale as the co-ordination and performance systems of the UK, US or Australia. This will be illustrated in the interrogation of systems employed in these countries on a sustained basis. Deficiencies in the current system operating in South Africa must be addressed to ensure an efficient and streamlined process which will engender confidence in the South African system amongst industry and international airlines. Specifically, as it regards the 2010 FIFA World Cup™, it might also be helpful to interrogate what other host nations like Greece and Germany as part of the EU, as well as Australia have done with big events such as other World Cups and the Olympic Games.

The researcher has not found any independent reviews of the current South African system operated by the Civil Aviation Management Unit (CAMU) and consequently does not have verifiable information on how transparent, effective and fair the new system is. The Air Traffic and Navigational Services (ATNS) is, however, a member of the Civil Aviation Navigation Services Organisation (CANSO) and has access to information and benchmarking provided by member states which provides them with the opportunity to enhance service standards throughout the slot value chain.

The spike in air traffic expected during the 2010 FIFA World Cup™ necessitates that the lack of a legislative framework, which should underpin the enforcement of compliance with the rules and penalties, be addressed. Currently, the South African Competitions Commission has the mandate to ensure that restrictive practices, abuses of dominant position and anti-competitive behaviour reported in South Africa, are investigated. The Commission is however mandated to investigate general economic abuses and while it has adjudicated certain anti-competitive cases in the aviation industry, it does not specifically enforce abuse of administrative practices in aviation such as slot allocation and performance. With the evolvement of CAMU (ATNS) as the new IATA Coordinator, some monitoring and enforcement has taken place despite the lack of legislative framework that enables sanctions.

1.2 Purpose or objectives of this research:

The purpose of this research is to consider whether the current slot coordination and performance system as it operates in South Africa will meet the needs of the 2010 FIFA World Cup™ and to advise of possible improvements to address any gaps identified in the current system. Given the increasing demand in air traffic movements and the lack of a legislative framework, this research is critical to unpack the slot allocation and performance system to understand which improvements are necessary to facilitate effectiveness, transparency, safety and accountability.

1.3 Statement of the problem and sub-problems:

How should allocation, monitoring and enforcement of slot co-ordination and usage be performed ahead of the 2010 FIFA World Cup™, to ensure efficiency, safety and accountability?

1.3.1 Sub-problem one:

The CAMU has considerably improved the transparency of their slot allocation systems in the last year or two. However, a key area of concern is the perceived lack of equity and access within the allocation process, by Low Cost Carriers (LCCs).

1.3.2 Sub-problem two:

The South African Slot allocation and performance system is key to managing the flow of air traffic during an event such as the 2010 FIFA World Cup™. It is important to understand the strengths and weakness of the existing system. Currently, an important area of concern is that there is no separation in the oversight of the allocation and enforcement functions. This means that various abuses of slot allocation and utilization may continue unchecked to the detriment of the industry specifically and the economy in general.

1.3.3 Sub-problem three:

Another key area of concern is the lack of a comprehensive legislative framework to create an enabling environment which supports adherence to rules, allows for the establishment of the necessary oversight functions and makes provision for the application of sanctions as necessary.

1.4 Importance of the study and Potential Benefits:

Airlines have stated that access to airports at requested slot times is critical to facilitate standardised schedules, connectivity and adherence to legislative requirements both at domestic and international airports. These slots have value in that they provide airlines with access to destination countries which impacts on

their bottom line. Airlines were asked to specify their economic losses resulting from the allocation of slots not requested and also the financial impact of delays. It was interesting that Airline One and three did not calculate such losses although Airline three stated that they did keep record of cost of delays; but were unwilling to release these figures due to competitive concerns. Airline Two was also not willing to provide any figures; but stated that delays had a negative impact on connectivity resulting in loss of reputation and internationally, resulted in the imposition of fines which impacted negatively on their bottom line.

The study below aims to better understand of the impacts of slot coordination and performance on airline operations, the insights provided by studying the processes followed by three of the leading aviation nations in the world. The researcher will utilise this information to offer recommendations to further improve the South African system.

1.4.1 Slot coordination:

According to the International Civil Aviation Organisation (ICAO), an organ of the United Nations (UN), slots are important to air carriers for both operational, as well as commercial reasons in that they are able to match flights with times that are attractive to passengers. (ICAO doc 9626, p. 4.3.6).

1.4.2 Performance Monitoring:

How would one know whether monitoring has improved? While performance monitoring will provide information on the extent of non-compliance in slot allocation and usage, compliance will need to be enforced, to improve slot coordination and hold all stakeholders accountable. This research paper will seek to highlight the gaps found in the current performance system. An analysis of monitoring, enforcement and sanctions applied by the United Kingdom (UK), Australia and the United States of America (USA) could provide options leading to meaningful solutions to address the gaps in the current system.

1.4.3 Legislation and policy:

As previously stated, the legislative framework governing aviation in South Africa does not support the value chain of slot allocation. Slot allocation and performance is based on international precedence and currently operates on the goodwill of the aviation community.

The Bilateral Air Services Agreement (BASA) makes provision that foreign airlines, on landing at a South African Airport, will be subject to domestic law. However, South Africa does not have a legislative framework in place in respect of allocation and enforcement and as such foreign airlines cannot be held accountable. The lack of a legislative framework also impacts on the Slot coordinator's dealings with domestic airlines.

This paper will research the various legislative measures in place in a range of countries with more established aviation legal systems.

1.4.4 Institutional Arrangements

As compared with international norm, the system currently in operation is not the ideal. According to IATA's recommendation (2005:11), the appropriate authority should consult stakeholders, before appointing an independent co-ordinator who does not have a vested interest and is able to act independently. ATNS, the air traffic navigation services provider has been appointed to fulfil the role of the interim IATA Slot co-ordinator for South Africa for the next five years.

To strengthen the current arrangements, the researcher proposes to examine the different institutional models in place in the countries utilized as benchmarks to identify an appropriate institutional framework for the effective monitoring and enforcement of the airlines.

1.5 Outline of the research report:

As stated previously, slot coordination is subject to the possibility of anti-competitive behaviour on various fronts. The researcher proposes to present the research report as follows:

1.5.1 Chapter two:

The theoretical foundation of the study is offered, explaining the current situation around slot coordination in South Africa, as well as providing some history on how the process has evolved thus far. The researcher has also set the international context within in which South African aviation industry must operate and highlighted the pertinent policies and guidelines as it applies not only to aviation in general, but specifically to slot coordination.

1.5.2 Chapter three:

A literature review is presented of research and other technical documents which pertain to the field of slot coordination and performance. Different perspectives will be debated with a view to informing the recommendations made in this study.

1.5.3 Chapter four:

This chapter highlights the researcher's choice of research methodology which will be the grounded theory research methodology. It includes the necessary motivations why the researcher has chosen this methodology and states how the research has been conducted.

1.5.4 Chapter five:

The findings of the research conducted will be presented.

1.5.5 Chapter six:

The discussion will be detailed, resulting in conclusions and recommendations.

1.6 Hypotheses:

The following hypotheses will be tested to determine their relevance to the current and envisaged aviation industry.

1.6.1 Hypothesis One:

A transparent, stream-lined slot co-ordination and allocation process will enhance monitoring and enforcement of slot co-ordination to increase efficiency and safety.

The researcher will test the hypothesis set above that the process of monitoring and enforcement will be enhanced in terms of efficiency and safety, if the process is transparent and streamlined.

The slot allocation process can be regarded as transparent if:

- ✦ all relevant parties have the opportunity to interact with requests for the allocation of slots,
- ✦ if a standard procedure for slot allocation is followed for both domestic and international airlines,
- ✦ if the rules around the usage of slots is standard for all airlines; and
- ✦ penalties for slot abuse are known and equally applied with regard to all offending airlines.

1.6.2 Hypothesis Two:

A separation of functions through the appropriate placement of an oversight body and an effective legislative and institutional framework will encourage fair competition amongst all stakeholders. This implies that improved institutional arrangements will:

- provide airlines with the opportunity to take the co-ordinator up on review, if any airline felt justly aggrieved.
- ensure a separation of functions to provide clear levels of responsibility and accountability for all stakeholders. Each role-player would understand the framework within which the function of slot allocation, monitoring and enforcement takes place and their role and rights in this system.
- result in effective prosecution of offenders and application of sanctions against either airlines or the slot-coordinator.

1.6.3 Hypothesis Three:

Effective monitoring and enforcement of slot performance and usage by international and domestic airlines will increase the optimum use of capacity available at slot co-ordinated airports ahead of the 2010 FIFA World Cup™.

The abovementioned hypothesis postulates that there will be an increase in capacity and the level of safety at slot co-ordinated airports, due to effective monitoring and enforcement.

1.7 Demarcation of the terrain of study (assumptions, limitations and delimitations)

The study will be confined to Oliver R Tambo International Airport (ORTIA), Cape Town and Durban which are the three fully co-ordinated airports in South Africa.

These airports carry higher volumes of traffic than any other airport in South Africa as illustrated in **Annexure H**. The researcher has made the following assumptions and highlights the following limitations and delimitations:

1.7.1 Assumptions:

The assumptions are as follows:

- ORTIA, Durban and Cape Town will remain fully coordinated airports. This will allow for the management of access by airlines to scarce capacity (slots) at these airports and facilitate a mechanism to monitor airline performance.
- Some industry stakeholders will cooperate and provide information for the research
- In terms of meeting assumed capacity requirements for the 2010 FIFA World Cup™, slot coordination systems will have to be improved;
- Little enforcement of performance by airlines in respect of their compliance in the utilization of their slots, is currently taking place.

1.7.2 Limitations of the Study:

The following limitations impact on the study:

- This study will only focus on the transport of passengers.
- The focus of international benchmarking will be on countries who have experience in effective slot coordination and performance.
- No independent assessment report of the slot co-ordination and performance function currently employed in South Africa.
- No Legislative framework employed in South Africa.
- Lack of passenger forecast information for the 2010 FIFA World Cup™.
- The researcher has referred to the airlines interviewed as Airlines One, Two and Three. She has been expressly requested to maintain confidentiality.

- Inability to obtain statistical information on the privately-owned and provincial airports.
- Inability to obtain information regarding the cost of losses and delays experienced by airlines.

1.7.3 Delimitations of the Study

The following are delimitations of the study:

- The researcher is employed in the industry and is thus familiar with trends and challenges experienced in the industry.
- International benchmarking is available.
- Quality guidelines in the form of the IATA World-wide Scheduling guidelines are available.
- A policy framework is available in the form of local rules from the AIP, South Africa.

Chapter 2

FOUNDATION OF THE STUDY

2.1 Introduction:

IATA states that the slot coordinator is expected to “at all times be neutral, transparent and non-discriminatory”. (2005:11). As previously mentioned, the coordinator’s role is the allocation of slots to airlines which should “prevent undue delays, diversions or cancellation of flights at a fully co-ordinated airport.” (IATA, 2005:11). This involves the application of strict procedures as required by international norm. IATA advises that the allocation of slots can be managed by an individual co-ordinator at a specific airport or from a central location governing a system of airports, which the researcher believes promotes maximization of safety and improves capacity efficiency of the network.

The experience of congestion is a subjective one and dependant on the economic environment in each country and can vary from airport to airport. South Africa currently has three “fully coordinated” airports, which are ORTIA, Cape Town International and Durban International Airports.

2.2 Background: The Air Transport Industry:

Although the aviation environment in each country is unique, a strategic requirement of airlines is their need to grow market-share, to increase load-factors on route-networks to choice destinations and access to these airports at peak times. An ever-increasing commercial and competitive environment, require that to remain be sustainable, even successful, an airline relies on interconnectivity between countries and compatibility of technologies in their pursuit of greater load-factors and access to prime routes. The researcher elaborates on both the international, as well as the local environment, below.

2.2.1 International influences:

As mentioned previously, technological advancements and a proliferation of trade

due to globalization, have led to increased ease of movement between the continents as never before. South Africa's air transport industry does not operate in isolation; but forms part of a global network and is affected either beneficially or adversely by global phenomena experienced in different parts of the world. Global Events such as the attack on the World Trade Centre and the Pentagon, on the 11th of September 2001 and the transmission of highly contagious diseases such as Severe Acute Respiratory Syndrome (SARS) and Avian flu outbreaks in 2003, has led to a globally depressed aviation industry. Many prospective passengers believed that air transport was unsafe and looked for alternative destinations which they believed would be "safer". The South African tourist industry benefited from this phenomenon in that South Africa became a destination of choice.

2.2.2 The Regulatory Framework:

Various international instruments govern the aviation industry in a bid to ensure that a safe and efficient service is offered to passengers by airlines. ICAO provides Member States with recommendations and standard operating practices (SARPS) to facilitate that they offer safe, efficient, sustainable and reliable air services around the world. These SARPs are contained in the eighteen annexes of the Chicago Convention which include specific requirements for meteorological services for International Air Navigation, standardised units of Measurement used in Air and Ground Operations, Aeronautical Telecommunications, Air Traffic Services and Aeronautical Information Services.

The founding convention of ICAO, the Chicago Convention, provides for air services to be conducted between two countries providing an appropriate framework, such as the BASA, which governs various economic, legal and security issues. ICAO requires that countries negotiate a BASA to agree on the traffic rights allocation between two countries, before a foreign airline may land at a destination airport, while the Memorandum of Understanding focuses on operations as agreed. Air services should be operated on the basis of reciprocity.

The BASA, also requires that foreign airlines should be treated the same as domestic airlines and that domestic airlines should not receive preferential treatment in respect of tariffs, slot allocation, etc.

At the Eleventh Air Navigation Conference held in Montreal (2003), IATA stated that, "as an immediate benefit, a global implementation road map for ATM would result in the improvement of safety, efficiency and the environment in certain regions."(IATA Position Paper, undated: 3). Standardized communication, air navigation systems, aircraft technologies, training, interpretation of international law and procedures between countries are critical to facilitate that an aircraft can safely depart from its destination, to safely fly en-route on to its destination. (IATA, 2003:2). If these communication, navigation and surveillance systems are not compatible, and the correct procedures have not been followed, then an aircraft will not be able to land at an airport that does not support the technology operating on the aircraft. States, as sovereign nations, have the prerogative of managing their own national airspace and airport systems. These states, however, do not operate in isolation but are part of a global network of traffic rights between countries, linking cities across the globe.

2.2.3 The IATA Schedules Conference:

The bi-annual IATA Schedules Conference provides the opportunity to both IATA members and non-members to improve their operations by discussing their schedules and comparing these to the slot pools available at destination airports around the world. These airlines will reach consensus on slot allocation with slot coordinators, which will either meet their needs or as close as possible to their requirements. IATA is a commercial organization that looks after the interests of its member airlines from all over the world. Airlines pay a membership fee which allows them access to research, benchmarking etc which can improve their airline operations.

According to the ICAO Circular 283 – AT/119 (2001):15, IATA's Schedule Coordination Conferences and Procedures are currently the most widely-used mechanism for managing scarce capacity at airports, globally. A study conducted by Alan Stratford and Associates (2004:7) concurs, stating that "the allocation of slots and worldwide coordination of schedules takes place bi-annually at IATA's two international conferences" where most airlines follow the IATA slot allocation system. They highlight that IATA's process of allocation utilizes specific time-lines, as illustrated in **Annexure C**, leading up to the start of either season. This past year, the summer season is from the 24th of March 2007 to 27 October 2007 and the winter season is from the 28th of October 2007 until the 23rd of March 2008. This will be referred to as the administrative slot allocation system, when future comparisons between slot allocation systems are explored later in this research report.

2.2.4 The South African Environment:

The vision of the Department of Transport states that "Transport is the heartbeat of the South African economy (DOT Strategic Plan, 2006-9: p.8)". Transport in general and aviation, in particular, contributes to the South African Economy through tourism. In his speech at the Annual Tourism Conference on 29 October 2007, Mr van Schalkwyk, Minister of Environmental Affairs and Tourism stated that the "key to growth in the tourism industry is aviation, as 27,6% of all tourists arrive by air."

While this paper only focuses on the three airports currently classified as Schedule three operations. South Africa currently has 10 international airports. The information outlined below will also become important in the run-up for planning around the transport of spectators, players and the FIFA family during the Confederations Cup and the 2010 FIFA World Cup™. These airports were classified as international airports by Cabinet decision in 1988, which saw each province accorded one international port of entry and Gauteng, two international

airports. Six of these airports, namely ORTIA, Cape Town International, Durban International, Port Elizabeth International, Bloemfontein International and Upington International are owned and operated by ACSA. Subsequently to the initial cabinet decision of 1988, Mafikeng Airport in the North West Province has been accorded international status, with Pilanesburg Airport, which is operated by ACSA, relinquishing their international status. Gateway International in Polokwane and Mafikeng International Airports are supported their Provincial Governments and. Lanseria International as well as Kruger-Mpumulanga International Airport (KMIA) are privately owned and operated. Due to the limitation in obtaining data from provincial and privately-owned airports, the researcher will use data published by ACSA.

The ACSA network has received the bulk of scheduled air traffic movements, with passenger numbers increasing from 14848000 in 2006 to 16455000 in 2007 (ACSA Annual Report, 2007:108), as illustrated in **Annexure H**.

This is due to:

- ✦ A significant increase in departing passengers from 2006 at both the East London and Port Elizabeth Airports (ACSA Annual Report, 2007:108), could be attributed to the growth of Low Cost Carriers.
- ✦ Significant growth in the number of airline operations flying into ACSA airports has grown significantly.
- ✦ Sharp growth in the domestic airline market during 2007, where the number of airlines grows by almost 100% as shown in Table 2.1.

Table 2.1: Growth in air traffic, mainly in the Domestic Market.

Airlines	2007	2006	2005	2004	2003
International	47	50	48	39	41
Domestic	13	7	8	7	7
Total	60	57	56	46	48

Source: ACSA Annual Report, 2007

- The market has seen the birth of the Low Cost Carrier concept and it has taken off in South Africa, resulting in increased aircraft movements at the smaller national airports significantly, causing many smaller national airports to become sustainable.
- According to ACSA from 2004, the number of aircraft movements has consistently increased as illustrated in table 2.2. Airline operations fall into the categories of international, domestic, regional and non-scheduled operations.

Table 2.2: Aircraft movements for the different categories of air services.

Aircraft Movements					
	2007	2006	2005	2004	2003
International	29820	28144	24054	23683	22266
Domestic	140638	134103	123949	122105	119330
Regional	11027	11702	12231	11060	11299
Non-scheduled	88470	61920	58369	56087	64932
Total	269955	235869	218603	212935	217827

Source: ACSA Annual Report, 2007

Despite the significant growth in passenger numbers as illustrated above, South Africa still does not have the appropriate legislation to support the process of slot allocation, effective monitoring and the application of sanctions. A list of existing South African legislation is provided in **Annexure G**.

Other applicable legislation not directly focused on slot allocation and performance is the Competitions Commission Act 89 of 1998, which provides for the investigation and adjudication of prohibited practice and abuse of monopoly position, as well as for the establishment of the Competition Commission. This body is responsible for the investigation, control and evaluation of anti-competitive practice in business in South Africa. The Competition Tribunal was established in terms of this Act and is responsible for adjudicating complaints. While the fact that the Competition Commission does have concurrent jurisdiction

of monopolistic abuse in terms of economic performance by either airports, air navigation services and airlines, it does not provide leverage for the effective monitoring and enforcement of sanctions in terms of abuse of slot usage.

2.3 The role of Slot coordination in the South African Aviation Industry:

Slot coordination is an important cog in the aviation wheel. ACI states that a system of slot allocation must be put in place, taking into account various factors including “fair and effective competition, development of the route network and the effective use of scarce and new capacity” (ACI, 2001:2) Slot coordination alone does not enable either government, or airport management to substantially increase efficiency and capacity in isolation. The speedy and efficient turnaround of an aircraft is only achieved in conjunction with many role players including:

- aviation ground-handlers who must either clean the aircraft, load or unload baggage,
- caterers,
- air navigation services which relies on both human factors and advancing technologies to bring aircraft in safely to land and depart,
- the ability of an airport terminal to effectively handle passenger throughput without passengers experiencing congestion.
- Capacity within the various areas of customs, immigration, check-in and security.

2.4 History of Slot Coordination in South Africa:

Until recently the airline, South African Airways (SAA) acted as the IATA slot coordinator at the three fully coordinated airports. The slot allocation was done in consultation with two infrastructure providers, the Air Traffic and Navigation Services Company (ATNS) and the Airports Company of South Africa (ACSA) in terms of their infrastructure availability. IATA operational processes and time-lines were followed, but clear lines of monitoring, enforcement and accountability still needed attention. Various concerns, including the rapid growth within the

Aviation Industry, necessitated that this role be reconsidered and this function re-allocated to the Air Traffic Navigation Services Company. According to IATA's recommendation, the appropriate authority should, after consultation with stakeholders, appoint the co-ordinator who must act independently of any interested party. In October 2006, the Minister of Transport ordered that ATNS be the interim IATA slot coordinator for South Africa for the next five years. While ATNS certainly has extensive functional expertise (ATNS Annual report, 2006) in air services navigation, this is an add-on function.

Figure 2.1: ATNS

ATNS:

Their operations in South Africa includes a wide range of functions such as the implementing and maintaining terrestrial-based navigation infrastructure; support for special events, management of the flexible use of airspace through the CAMU and particularly, air traffic, navigation and training.

Source: ATNS Annual Report, 2006

2.5 Current Situation in slot co-ordination:

This function now resides in their Central Airspace Management Unit (CAMU) of the ATNS. According to the Manager of CAMU, this unit plans to employ a tactical slot management tool to re-allocate new slots, using collaborative decision-making between ACSA, the relevant airlines and the interim IATA slot coordinator. A Slot Coordinating Committee has been created to look at coordination and performance issues; but is as yet in its infancy.

These institutions currently collaborate with the airlines concerned, to effectively and safely manage the flow of air traffic to all these airports. The three fully slot coordinated airports in South Africa are owned and operated by the Airports Company of South Africa (ACSA). Each airport will confirm capacity availability to the IATA Slot coordinator, who will facilitate the smooth seamless flow of air traffic in line with the capacity declaration for each airport.

While late starts and calls for early departures still take place, ATNS has reported an increase in on-time starts at all three airports due to increased efficiencies in the system. A slot allocation system is really only efficient when an airline adheres to the slot time allocated to it and pilots do not request to leave early or start late. Graphs reflecting slot compliance of airline operators at each of the fully coordinated airports, is attached as **Annexure I**.

Another aspect of slot operations which impact on the efficiency of slots and subsequent capacity constraints will be delays. Delays are experienced in many different quarters, not only due to air traffic control. The researcher was not able to ascertain delays recorded in terms of the individual airlines concerned, but rather global figures which represent the industry performance regarding delays experienced, as at a point in time. The graph, as reflected in **Annexure J**, shows the average delay per flight for the period 2003 through to 2007. It clearly indicates a vast improvement in containing the delays. An example would be the 1 minute 09 seconds average delay experienced in March 2003 which has been whittled down to 4 seconds in March 2007. As stated previously, many factors as shown in **Annexure K**, such as weather, airlines, ACSA, neighbouring air traffic units and increased demand has a negative impact the ability to ensure on-time departure. Delays, as highlighted in **Annexure L**, show a steady decline at the three fully coordinated airports for the last quarter, ending August 2007 at Cape Town. There is an increase in the number of delays for Durban and some fluctuation for ORTIA. **Annexure K** reiterates the statement that stream-lining slot coordination at an airport will only be small component in the drive to increase airport capacity to successfully meet the increased demand for additional capacity.

2.6 Causes of Constraints in airport capacity:

Airlines must be able to land, park, disembark passengers, load passengers and depart from their airport of choice. If demand for slots required exceeds the number of slots available to airlines at an airport, then that airport can be deemed

to be capacity constrained. The IATA defines a coordinated airport as one where capacity has become constrained due an increase in aircraft movements resulting in high levels of congestion. (IATA, 2005: 11)

Airports however experience different constraints dependant on the traffic flow and passenger movements and this results in peak times occurring at different times of day, either early morning and evening, certain days of the week or specific months, linked possibly to seasonality or even all year. (ICAO Circular 283-AT/119, 2001: 4) Capacity constraints experienced can be due to a specific factor or a combination of factors.

South Africa will need to address a range of capacity constraints, as well as those which may occur in future, if the country is to successfully cope with the anticipated spike for the six weeks of the 2010 FIFA World Cup™. As mentioned previously, ATNS envisages improving their ability to increase their level of efficiency and service delivery to be in a position to safely move 800 000 air traffic movements per annum by 2010 (ATNS Annual Report, 2007: 141) to meet these needs.

Specific constraints at South Africa's fully coordinated airports could include:

- The airspace above ORTIA is constrained as it accommodates a varied aircraft mix in the Johannesburg Terminal Maneuvering Area from Grand Central and Rand Airports through controlled airspace;
- The Air Traffic Control human factor constraints could impact on capacity. These include mandatory leave for ATC's, training, and staff shortages;
- The aircraft mix at ORTIA contributes to congestion as separation minima between take-off of aircraft have to be staggered for safety reasons. A Cessna used in General Aviation cannot take off shortly after a Boeing 747 as it could be caught in the vortex caused by the take off;
- Construction at any of the three airports of either terminal buildings or rapid

exit taxiways will impact on the smooth flow of arriving and departing aircraft in that the time taken to taxi would possibly increase;

- The end-to-end processing of a passenger within the airport terminal could include blockages at any of a variety of stakeholders in the airport, especially with international travel which could include immigration, collection of baggage, check-in, security and parking;
- A negative impact of delays on long haul flights operations, where airlines miss their slots at an airport that has curfew in place, has a negative impact on operations. Curfews are enforced to control the noise pollution experienced by communities living on the periphery of airports. The airline could be refused the right to land if it lands outside of the scheduled landing-window. (ICAO, 2001: 3,8);
- The lack of access for some airlines due to competitor airlines hogging slots will impact negatively on the available capacity for other airlines (Forsyth, 2007:46).;
- Delays in the departure of aircraft at a specific airport, for whatever reason. This will impact on the arrival time at the destination airport and all subsequent flight departures and arrivals by other airlines at that airport of origin for the entire day, which causes congestion; and
- Impacts of delays can be due to a variety of factors, including weather, ATC-related incidents, breakdown in telecommunications, technology, etc.

2.7 Capacity Declaration:

While the capacity declaration is made assuming ideal conditions, the reality varies from airport to airport in that various constraints impact on operations. According to ICAO (ICAO Circular 283-AT/119, 2001:2) "airport capacity, terminal capacity, aircraft size, traffic patterns, environmental restrictions, air traffic control capabilities on tower, approach or area control, curfews or night limitations and political impediments can all impact on capacity available at an airport ."

While some countries do the capacity declaration per individual airport, South

Africa issues a joint declaration of capacity for the three fully coordinated airports.

Table 2.1: The current joint capacity declarations are as follows:

Airport	Capacity Declaration	Status
Johannesburg	28	Arrivals
	28	Departure
Cape Town	30	Combined
Durban	24	Combined

Source: ATNS, 2007

The above table clearly shows that ORTIA, with a capacity of 56 flights per hour, is the busiest airport in South Africa. The movement of aircraft is tightly controlled due to congestion experienced at the airport. Both Cape Town and Durban are not as congested as ORTIA and consequently a combined figure is declared, allowing flexibility for arrivals and departures dependant on air traffic movements on a particular day. It is found that the joint capacity declaration is not only more cost effective; but also facilitates safety as it provides a national picture of operations.

2.8 Challenges in the Slot Co-ordination process:

Although the ideal would be that the slot co-ordination process is transparent, fair and efficient; this is not always the case. Various challenges inhibit this process which includes a lack of transparency, anti-competitive behaviour, the lack of legislation and poor corporate governance.

2.8.1 Transparency:

IATA emphasizes the need for a transparent, consultative process. (IATA, 2006:25) Processes at the CAMU are still evolving and not yet fully transparent.

Transparent systems and processes are essential in dealing with stakeholders in

the slot-coordination process, to secure their co-operation, good-will and compliance. A process can be regarded as transparent when the process is not influenced in any way by expectations of gain by any of the various roleplayers who hope to achieve some sort of competitive advantage and is open to scrutiny.

2.8.2 Political Leverage:

According to ICAO, a Government may not address the inability of its airlines to secure prime slots at any of the airports within the country during a BASA, using this as a mechanism to leverage prime slots at the destination airport.

2.8.3 Anti-competitive Behaviour:

Coordinators may benefit by allocating slots to certain airlines that fly a certain size of aircraft and by airlines who abuse slots for their own financial and competitive gain such as hoarding slots (Forsyth, 2007:46) or putting an aircraft on rotation that is not authorized for that slot.

2.8.4 Lack of legislation and a separation of functions:

The lack of legislation and a suitable institutional framework does not support the effective enforcement of infringements committed by any of the role-players; much less hold repeat, intentional offenders accountable. Some monitoring of the local rules as specified in the Aviation Information Publication (AIP) as published by the South African Civil Aviation Authority is carried out by the CAMU. However, should airlines continue to offend, CAMU is not in a position to decisively end the practice.

The Coordinator cannot be judge and jury of the slot coordination function, hence the need for good corporate governance and transparency is critical to ensure that suitable levels of responsibility and accountability are built into the system. The current system does not afford airlines and their associations the opportunity to have infringements committed by the slot coordinator, brought up on review in a transparent, unbiased manner.

2.8.5 Mechanisms for monitoring and enforcement:

The concept of monitoring and enforcement should be explored, specifically to determine the type and placement of the enforcement body. It is critical that the coordination function, as well as the monitoring and enforcement function be located in such a manner that it can ensure that a transparent and unbiased service is offered to the Aviation Community.

A comprehensive communication strategy is key to this being a transparent process and could enhance the monitoring and enforcement function. To facilitate efficiency, ensure safety and manage capacity, a mechanism should be created within South Africa, which monitors performance of slot usage by airlines at fully-coordinated Level three airports (IATA, 2006:4). This body should have the ability to enforce compliance of the rules through the utilization of various mechanisms including the imposition of penalties on offenders. As stated previously, the Competitions Commissions Act provides recourse in terms of general abuse, as well as anti-competitive behaviour but not specifically on slot performance. It would be important to find innovative ways of motivating compliance by both domestic and international airlines, especially since non-compliance is lucrative for industry players in this highly competitive environment.

Chapter 3 LITERATURE REVIEW

3.1 Overview:

There is a diverse body of knowledge that deals with various aspects of slot coordination and the allocation of scarce capacity at airports. Different methods of slot allocation are applied around the world, each with different levels of transparency, advantages and disadvantages as regards the local conditions in that country. It must be borne in mind that the air transport industry, while very similar, is highly unique in that each country has its own environment which is dependant on the socio-economic, regulatory, legal frameworks prevalent in that country.

Different slot allocation systems exist throughout the world. IATA focuses on a purely administrative system utilizing transparency, collaboration and a rational approach to the allocation and monitoring of slots. Countries which follow this system include Australia and South Africa. The Worldwide Scheduling Guidelines are published bi-annually to inform processes internationally for all Schedule 3 airports that ascribe to this method of slot coordination. These guidelines currently form the basis of slot allocation and monitoring in South Africa.

However, because slots provide access to airports and have value, a market-based system has been debated by many countries and some forms of this have been instituted in some countries. This system acknowledges the financial value of slots and it becomes a tradable commodity.

Access to slots in both the administrative system as promoted by IATA and the market-based system supported by some countries, has advantages as well as disadvantages for various airlines. This is the foundation of the debate of the right to access by legacy airlines versus new entrants or Low Cost Carriers.

3.2 Analysis of the Literature:

This Chapter will interrogate these three predominant themes which are debated in the literature:

- ✦ use of the administrative slot allocation systems
- ✦ market-based or commercial allocation systems;
- ✦ rights of airlines with Grandfather rights vs the rights of new entrants;

This Chapter will also consider the following issues:

- ✦ Transparent, Streamlined Slot Allocation Processes:
- ✦ Enhancement of monitoring and enforcement;
- ✦ Institutional arrangements

3.2.1 Administrative Slot Allocation:

The Administrative Slot Allocation system is followed in the IATA World-wide Scheduling Guidelines and is clearly illustrated in **Annexure C**.

The Scheduling Guidelines highlight that the principles of transparency and consultation are fundamental to the IATA scheduling process. According to IATA (2006: v,11), the slot allocation process has been utilised since 1947 and has grown into a world-wide forum to provide airlines and coordinators the opportunity to consult and address scheduling problems around congestion at airports. They contain uniform procedures and schedules that provides both member and non-member airlines with information and clarification of their expected roles in the slot allocation and utilisation process. It also contributes toward the successful interaction between airlines and coordinators to coordinate schedules.

IATA believes that they have instituted a stream-lined and transparent process as highlighted in **Annexure C**, resulting in the bi-annual Schedules Conference. In

this process, they highlight the need for consultation between all roleplayers, including airlines, airport management and slot co-ordination. (IATA, 2006: v). However, the process specified by IATA, leaves very little room for the use of discretion by the Slot coordinator. It seems that Coordinators have some flexibility to ensure optimum use of available capacity during instances which include the changeover of season, daylight saving, disruptions to schedules, etc. This system is very prescriptive and rigid, providing the industry with a high level of consistency, quality and stability. This view is supported by the ACI, who in their policy hand book (2006:25) states that:

“Over a long period of time, IATA has developed and refined a process for schedule co-ordination and allocation of airport slots (defined as the scheduled time of arrival or departure allocated or available for an aircraft movement on a specific date) which has, to a large extent, maintained a degree of coherence and stability in international air transport. ”

As stated previously, this traditional system is the foundation for Slot allocation systems in Australia and South Africa. **(See Annexure C)**

While this traditional system does offer some advantages, certain of its rules does not fully take account of the competing interests and the important economic impact of slots. ACI agrees with the position when it states that:” with a few exceptions, the procedures and processes of slot allocation are still dominated by the interests of airlines, which may be contrary to the interests of airport operators and their local communities. It is possible that the direct control of slot allocation by the airlines could lead to anti-competitive behavior.” (ACI Policy Handbook 2006:25).

According to Forsyth and Neimeier (July 2004:5), the administrative slot allocation system advocated by IATA, is inefficient and compromises competition in the market. They advocate for innovative solutions as found in market-based

mechanisms to address the chronic constraints in capacity experienced at the bigger airports in the EU and the US. Forsythe and Neimeier (2004: 3,4) have identified an important feature of the above industries which is that growth and economic returns have become exponential and that these industries need to be more than administratively managed, rather strategically managed. The South African environment will need to move toward a more strategically managed approach which will enable more equitable access and facilitate fair competition amongst all airlines. This may improve transparency and congruence between policy, legislation and operations.

The various challenges currently faced by South Africa suggest that other aspects of slot allocation should also be considered.

3.2.2 Commercial Slot Allocation:

Evans (1999: 43) states that, "The most immediate barrier to entry has become the cost of owning a slot" Forsythe concurs in that he believes slot prices to be high and adds that slot pairs at London Heathrow have been sold for £10 m. (Forsythe, 2007:46). Evans also corroborates this from the US perspective and states that the General Accounting Office (GAO) estimated the cost of a peak time slot at a High Density Rule (HDR) Airport during 2006 to be \$2 million. An off-peak slot is estimated to cost \$500,000. (UNCTAD, 1999:48).

Research done by the EC in September 2004; found that any market mechanism applied should ensure the mobility of slots, efficient use of airport capacity and effective competition at EU airports. However, it also cautioned that the proposal had to remain compatible with world-wide procedures. While the EC Council Regulation 95/93 is mainly based on the administrative system (EC Working document, 2004:4), the new mechanism considered by the EC combines secondary trading of slots and also considers a mandatory withdrawal of a percentage of grandfather slots. Secondary trading is regarded as the transfer of the ownership of slots, which have previously been allocated to one airline, to

another for some form of payment.

Ewers (2001: 15-17), highlights this particular aspect of commercial slot trading. He comments on the proposed topic of phase two of the changes to be researched for EC Regulation 95/93, stating that in considering slot ownership, it was imperative that the existing allocation system had to be over-hauled to present equal opportunity for all air carriers to ensure that processes were transparent and even-handed. He cautioned that slot-trading would lead to disputes between parties in that airports had property rights to the air-bridges as they had invested in these, as a part of airport infrastructure. He highlighted that a dichotomy existed in that airlines regard slots as the basis on which they build their global networks while airports linked it to their infrastructure. He believed that the legal status of slots had to be clarified prior to it becoming incorporated in revised regulations.

The current system of slot allocation in South Africa does not allow for the trading of slots. This phenomenon, however, has been increasingly observed in aviation industries growing at a considerably faster pace than South Africa. With the impending FIFA 2010 World Cup™ and a substantial growth already experienced in the South African market, the allocation systems will have to recognize slots as being scarce commodities if the growth of the South African industry follows that of other countries.

The primary trading of slots is the process of initial purchase or allocation from either the government, slot coordinator or airport by airlines, whereas the secondary trade is the purchase, leasing, auction, or exchange of slots among airlines (NERA 2004: 68, 73).

Gether (1989:88) firmly supports commercial market processes rather than administrative processes stating that "the process is fair, efficient in every dimension." The UK government, in response to revisions made by the European

Commission to Regulations 95/93, supports those objectives of the EC which include both primary and secondary trading which they believe will increase competition, improve efficiency and support the EC's endeavour to establish a degree of transparency. NERA provides detailed outlines of primary and secondary slot trading stating that this will provide access to slots to those airlines who will value them most (NERA, 2004:65).

Should slots be awarded on a strictly commercial basis in South Africa, the market-based model of slot allocation should result in higher levels of efficiency and competition according to the proponents of market-based slot allocation. However, with the developing South African industry, a commercial method of slot allocation may hold a number of disadvantages, viz.:

- The larger airlines will be at a distinct advantage, considering prices quoted, as they will be able to purchase more slots, which could then be resold or leased at a later stage for higher returns.
- Slots could be still be hoarded. Forsyth (2007: 45) also mentions that: "More open trading need not work perfectly—it would still be possible for airlines to hoard slots."
- Monopolies may deepen and alliances or cartels may emerge which may cause market distortions and restrict access.
- Airlines may also purchase slots at peak times which they do not use which then effectively creates a barrier to entry for competitors. Such airlines cannot be forced to sell these slots. (NERA, 2004:74)

It is critical that the requirements of the individual aviation environments and economies are considered when determining an overall framework. As stated previously, various countries follow a hybrid of the administrative and commercial systems to best promote aspects of these systems to enhance operations and performance measures in their own unique environments.

In the US during 1969, capacity constraints were experienced at LaGuardia International, Washington International, John F Kennedy International airport and O'Hare International, which resulted in these airports being declared High Density Traffic Airports. (Gether 1989) According to NERA 2004: 269, the High Density Airports were successfully operated until deregulation of the domestic market took place necessitating that the Buy-Sell rule be established. NERA concurs with Starkie (1994:326) that the slot pool has been segmented but they also highlight that the airlines from the different segments negotiate bilaterally within their segments in the US slot market under auspices of the Air Transport Association. They trade slots on a one-for one basis at the five or six meetings per year which are hosted for all airlines. Other mechanisms for slot trading also exist in that slot lotteries are held, informal trading occurs between airlines as well as the informal utilization of airline slot brokers. (NERA, 2004: 270).

Starkie (1994: 325 - 329) highlights the differences between the commercial aspects of slot allocation systems utilized by congested airports, specifically those in the UK that comply with EC Council Regulation 95/93 and the US. The US system has instituted the Buy-Sell Rule which allows airlines to trade slots on a one-on-one basis.

The most notable differences between these systems are:

- that slot allocation policy is targeted at domestic air travel in the United States, while slot allocation policies in EC countries and in the UK are focused on international air travel. (OECD 1997:2)
- that EC Regulations do not make provision for the US style of slot trading; but allows for the straight exchange of a single slot.;
- that the slot pool is divided between the different classes of air services, each of which are ring-fenced. An example, commuter services of up to 110 seats may trade slots allocated to commuter aircraft. The same principle will apply to air carriers and general aviation.

- the “Use it or lose it” rule where a slot is returned to the FAA if an airline does not utilize the slot more than 80% of the time over a two month period, and not one month as with most other countries; and
- that any person in the US, is afforded the right to buy, sell, trade or lease a slot. Consequently, communities have bought slots and other airlines have mortgaged their slots to financial institutions. (Starkie, 1994: 325 -328)

These systems are on the opposite end of the spectrum from that utilized in South Africa. However, despite the concerns which one may have, there is a reality which must be considered in that the grey market already exists in South Africa where some South African airlines do “unofficially” swap slots either domestically or internationally to ensure that they meet their obligations.

NERA (2004:51) and Starkie (1994:329) do not agree with the EC statement that any market mechanism would ensure the mobility of slots, efficient use of airport capacity and fair competition and both refer to the anti-competitive concerns which exist particularly regarding the impacts on new entrants in US System. These arguments will be presented in the following section, along with the competitive concerns which surround both the administrative method- and the commercial method of slot allocation.

3.2.3 Grandfather Rights vs Rights of New Entrants

“Some Low Cost Carriers might choose to avoid congested airports, for both financial and operational reasons, but others would welcome the opportunity to compete directly with established carriers servicing congested airports.” (NERA 2004: 52). Access to the airport of choice at a time which most supports the strategy of the airline is critical to the performance of that airline in terms of its sustainability and ultimately profitability. It also affects the airlines ability to increase its market-share.

The debate surrounding grandfather rights as opposed to the rights of the new

entrant is deepening in both administrative and commercial slot allocation. Various authors expound radically different views on the impact of the level of fairness inherent in the different allocations systems as it affects both the more established legacy carriers and the new entrant who operates fewer frequencies and is relatively new in the market.

The OECD (2004:10) states that according to the principle of grandfather rights, an airline is entitled to have the same slot allocated to it, provided they have utilised the allocated slot at least 80% during the equivalent season. If, however, an airline does not utilise its slot appropriately, 80% of the time, it will lose the slot which will revert to a slot pool for re-allocation to new entrants.

ICAO, IATA and the OECD support the use of grandfather rights; but highlight that enforcement of the use-it or lose-it principle at the 80% threshold is critical for increasing available capacity to other air carriers.

ICAO) has stated that scarce capacity at airports require that the shortage of slots be addressed and advise of a number of long-term solutions which exist, including the building of new airports, upgrading existing airports and improving efficiency of air traffic flow management with new technologies and systems. (ICAO: 4-3:7) In the short-term, they concede that each country must innovatively apply solutions which effectively address the concerns contributing to the capacity constraints experienced at their airports. They suggest consideration of three alternatives currently used in a number of countries, which are:

- the maintenance of grandfather rights; but provide slots for new entrants by preserving a fixed percentage of the new capacity;
- the enforcement of the Use it or lose it rule which requires that an air carrier utilises the slots allocated to it appropriately, 80% of the time in equivalent seasons, or they will loose it; and
- Slot swapping which allows air carriers the opportunity to exchange slots on a one-on-one basis to facilitate effective slot-usage.

Revision of Council Regulation (EEC) 95/93, found that the administrative system was not robust in that the allocation of grandfather rights provided a guarantee of prime slots to large carriers should they comply with the Use it or Lose it principle. Incentives were not in place to encourage these airlines to 'give up' slots. They also found should these slots be released to the slot pool, the timing would be off and the quality unattractive. (European Commission Staff working document, 2004: 4, 5)

South African Low Cost Carriers have alluded to a similar barrier to entry at specific South African airports where the more established airlines in the industry have access to the more desirable slots at peak times based on grandfather rights, making these slots inaccessible to the smaller airlines. An article in the Copenhagen Post dated July 1998, raised a similar concern about Kastrup Airport in Denmark. It claimed that Low Cost Carriers were prevented from gaining entry to the airport, as they believed that the airport was apparently protecting the major carriers such as SAS, Lufthansa and British Airways.

Forsyth (2007: 46) does not agree with either the ICAO or the OECD positions and states that "The grandfathering of slots and the limits on slot trading in Europe lend credence to these criticisms. He says that from a commercial perspective, it is difficult for new airlines to obtain slots at busy airports even if they are prepared to pay for them. The slot-controlled airports have become the preserve of the legacy airlines—Low Cost Carriers (LCCs) have difficulties in accessing them, even when they would be willing to pay the price required. The lack of adequate slots makes it difficult for new airlines to enter with viable schedules, and it keeps the innovators out".

While South Africa does not operate a Commercial Slot Allocation system; but the more basic administrative slot allocation system; the concerns are systemic in

that Low Cost Carriers are not able to build up a consistent weekly flight schedule which provides consistency for their clients at attractive time slots.

Yet, concerns have arisen that the commercial aspects of the systems, as operated in both the UK and the US, could be anti-competitive. Dennis states that some airlines either lend or lease slots to alliance partners to increase efficiency. (Dennis, 2000: 81) Starkie (1993: 235) states that the UK Monopolies and Mergers Commission found the slot allocation system between legacy carriers to be problematic and that the system impeded fair competition as regards new entrants. He also stated that the US General Accounting Office believed that the US Slot Allocation mechanism had failed.

According to Starkie (1993: 325), the US system of slot allocation sought to correct the distortions created by grandfather rights through exploitation of the secondary market where domestic historic slots were traded using the Buy-Sell Rule. The criticism of this rule by the US General Accounting Office was based on the fact that:

- New entrants could not secure entry at congested airports;
- A small number of sales of air carrier slots took place; and
- Few new entrants negligible

Starkie (1993: 327-328) however, believes that the poor performance of this rule is due to the:

- inability of new entrants to acquire the full value chain required to operate the slot, such as gates, counter space and handling facilities which are usually leased on a long-term basis;
- consolidation of operations in the form of mergers and alliances led to the concentration of slots rather than purchases by new airlines; and
- the fact that equilibrium had been attained in the market

On closer scrutiny, it appears that despite the application of alternative processes and criteria to eliminate barriers to entry such as the impact of grandfather rights, impediments to equal and transparent access still exist in both systems of allocation.

In a staff working document by the EC, it was stated that "Even if the slot regulations provide for the allocation of 50% of pool slots to new entrants, the actual number and quality of these slots is too limited and dominant carriers easily retain their relatively strong positions at 'their' airports." (Evans, 2004:5)

Starkie has already alluded to concerns that the Buy-Sell Rule has not enabled greater access by new entrants due to the formation of mergers and alliances between airlines. According to UNCTAD, "the consequence of this phenomenon under EU competition law is that it has become more difficult for the competition authorities to approve alliances and mergers in the EU airline industry as, under the present slot allocation rules, such agreements only reinforce the position of the legacy carriers." (Evans, 2004:5) Again, it appears that attempts to remove a barrier to entry in one system, by implementing another system, have only resulted in that barrier to entry taking on a different form.

As a solution, NERA (2004, v) proposes that the secondary trading be implemented in conjunction with another mechanism, notably they recommend that "an auction of pool slots would address the problem of transparency, as secondary trading alone cannot be used to achieve an efficient initial allocation of new slots." They support that a primary allocation which would be akin to the administrative function where as the auction of new pool slots is the initial allocation eg. by government and will allow for equal access as everyone who can afford that slot, low-cost or legacy air carrier should have the right to bid for it. (NERA, 2004: 185)

The EC proposed that under the administrative rules, a 3% redistribution of slots took place to ensure slot turnover. In response, the UK stated that this was an arbitrary figure and was disadvantageous in that it would cause uncertainty in the system and would outweigh the benefit of the increased liquidity. It might also have a negative impact on smaller airlines in that they do not have access to slots of sufficient quality. The Dft recommended that the EC consider slot lotteries but warned that these could also result in distortions in the market. (DfT: Part 1:5 Part 2: 1, 2)

ACI believes that the 20% margin allowed for not use slots of in the 80/20 rule is too high and that this margin should be decreased, causing the level that airlines are required to utilize slots above the existing 80% figure. This will force increased compliance and those who do not use slots effectively will be expected to turn slots over to the slot pool. This should increase the turnover of slots in the slot pool allowing re-allocation of slots to airlines that could use the slots more efficiently. (ACI, 2007:3)

Ewers (2001:15, 16), in his assessment of proposed changes to EC Regulation 95/93, agrees with these concerns, stating that these changes should facilitate:

- Increased competition to prevent that dominant carriers be allowed to exploit their access to grandfather rights;
- Access on given routes for new entrants through the design of regulations with this as a focus; and
- At least 80% slot usage through enforcement of the Use it or lose it principle.

The South African market will have to conduct their operation of slot allocation and performance in such a way that it effectively manages issues such as those mentioned above, in a sustainable manner that it seamlessly handles the increasing volumes of passengers as preparations for the 2010 FIFA World Cup™ and beyond.

3.2.4 Transparent, Streamlined Slot Allocation Processes:

At the Conference of Economics of Airports and Air Navigation Services (2000), it was implied that a slot allocation and performance system was not transparent or streamlined, when the conference noted that issues such as denial of market access, discrimination, the principle for “fair and equal” opportunity, and inconsistency with Article 15 of the Convention on International Civil Aviation, existed.

According to the Australian National Audit Organization (ANAO), it is expected that “Regulators discharge their responsibilities efficiently and effectively, while displaying integrity, honesty and objectivity. They are also expected to adhere to high standards of propriety and probity. Sound governance arrangements enable a regulator to meet its responsibilities and be accountable for its decisions and actions. They also assist a regulator to meet many of the community’s expectations, which helps build stakeholder and public confidence.” (ANAO, March 2007: 2)

ANAO has conceptualized the culture that countries all around the world would believe to be the ideal for an impartial oversight or regulatory body. IATA agrees with the need for the slot co-ordinator to be “neutral, transparent and non-discriminatory in its dealings with domestic and international airlines.”(Scheduled Worldwide Guidelines, Dec 2005:11) This coordinator must fulfil both the coordination and scheduling function, using the IATA Principles of coordination. Various systematic and communication tools are built into the administrative slot allocation model such as:

- A bi-annual calendar for co-ordination of slots for both the summer and winter season;
- Industry standards for the exchange of slots and movement information in specific formats;

- A clear communication of roles expected of airlines and slot co-ordinators before, during and after the World wide slot conference;
- Roles and responsibilities of various committees and working groups at the conference

(Worldwide Scheduling Guidelines, 2005 12th Edition: 44 – 60)

While the co-ordinator, be it a person or a body, is expected to carry out duties in the manner prescribed above, various slot allocation models appear to have some inherent flaws which impact negatively on the transparency and streamlining of these processes.

Unequal access, imperfect communication systems and anti-competitive perceptions all contribute to a system that does not enjoy the confidence and collaboration of the airline community and is perceived to not be transparent and accountable. The South African industry experiences these concerns on a daily basis. The dynamic growth of the industry and the impact of the global industry on the South African environment necessitate that a clear understanding and action plan is developed.

Currently, the South African authorities are:

- still in the process of considering the alternative slot allocation and performance mechanisms prior to amendment of regulations;
- deliberating on the best system to ensure that proposed changes are relevant to the needs of the aviation community; and
- in consultation with aviation stake-holders through various forums.

Strategic considerations will need to include reputational maintenance as a critical component of South Africa's outlook post-2010 and certainly, as previously stated, in effectively maintaining its place in the global aviation industry, the allocation systems utilized should recognise slots as being scarce

commodities in accommodating the spike of both international, as well as domestic traffic during this period.

But, commercial allocation systems also have concerns regarding streamlining, transparency, access and anti-competitive behaviour.

The UK, despite supporting additional commercial aspects as outlined in the revision of EC Regulations 95/93, points to concerns around the degree of transparency of the market and equity, in the following areas:

- the opportunity cost of holding slots can not be sufficiently quantified by airlines as they do not have accurate information on the price of a slot
- the lack of information regarding slot trading volumes could result in airlines holding on to slots for fear of not acquiring similar slots at a later stage; and
- timing of publication of trades

Source: DTT, 2007: 1

They further state that the EC's requirement that airlines be transparent and publish commercially confidential information is restrictive which could have a negative effect on liquidity. A consequence, the DTT, believe that airlines will refuse to trade those slots. Should the EC then force airlines to sell and also specify how sales are conducted, airlines might choose not to trade at all. (UK position; 2004:2)

While many airlines are sensitive about providing their competitors with information which might jeopardise what they see as their "competitive advantage" and would prefer to keep financial matters confidential, NERA believes that this aspect of confidentiality could be exploited in that airlines might choose to pay a premium for slots at a particular airport because they:

- wish to maintain a presence at that airport for reasons of corporate or national prestige; and

- want to prevent a potential competitor from gaining market access and are willing to maintain a loss on those services. (NERA, 2004: 66).

Stakeholders, who are unequal in financial strength and infrastructure, do not compete on similar playing fields, making the possibility of fair and healthy competition very difficult to govern.

3.2.5 Enhancement of Monitoring and Enforcement:

It is important that the Slot coordinator has clear and transparent processes in place which includes:

- Clearly defined operational and monitoring strategies and processes;
- Documented information about the various types of abuses, gravity of abuses and proportionate responses in terms of sanctions;
- Documented rationale behind the various decisions thereby enhancing consistency and understanding; and
- Appropriate information management systems which reflect trends of incidences.

According to ANAO (2007); it is crucial that an oversight entity engender the confidence of the entities it serves by maintaining consistency, transparency, timeliness of decision-making and at the same time displaying appropriate processes and capability and employing fairness when dealing with industry. They also advise that formal notification of the findings and rationale behind it be issued. (2007, 60-61)

IATA, in their guidelines to airlines (13th Ed, Worldwide scheduling guidelines), highlight various responsibilities which airlines have and which if not carried out as prescribed, could be construed as abuse.

Figure 3.1 Abuses perpetrated by Airlines

ABUSES:

- Airlines that hold on to slots with no intention of using them, thus preventing the coordinator from being able to allocate the slot to another airline;
- Meeting the criteria for historical precedence lies with the airline;
- Shared operations;
- Intentional misuse of slots allocated to the airline, such as arriving at the airport at a time that has not been scheduled for that airline, or landing without having a slot allocated to it;
- Applying for a slot when the airline only intends using the slot for some of the season; and
- If an airline ceases to operate, it must return the slots immediately for re-allocation to another airline. Failure to do so will be withholding a scarce resource.

IATA, 2006

Airlines are also expected to operate using the allocated slot, on time, 80% of the time. If they do not use their slot allocation as prescribed, the airline should lose the right to use that slot. To be fair, however, this rule does not apply if the 80% if an airline is off-slot (outside of the window) due to unforeseen circumstances such as delays or cancellations due to bad weather. (IATA, 2006:28)

Should one take the advice of the Australian Auditor-General's office, it would be critical to ensure clear, standardized and easily accessible information, available to all stakeholders. With this in mind, the South African slot coordinator, must prioritize the infringements as per the IATA recommendations and then

communicate these so that industry clearly understands what definitions the slot coordinator accords as a standard for each infringement, the gravity assigned for each infringement and the commensurate penalties as well as procedures which will be followed in the adjudication of each instance. A clear communication strategy is also important in that various mechanisms should be employed to inform, clarify, reinforce and to obtain buy-in from the industry to minimize intentional transgressions.

Both the United Kingdom and Sydney Airport, Australia have eloquently used the IATA scheduling guidelines as a basis for their legislation and regulations. As previously mentioned, the slot-coordination function in South Africa which includes allocation, coordination, monitoring and some enforcement, does not have appropriate underpinning legislation which would give the entire process credibility and which will then be binding on both domestic and foreign airlines that choose to flout the rules. This is very important to ensure effective use of latent capacity. It is also important that the imposition of penalties be innovative and the impact on the airlines act as a deterrent.

Australia has a comprehensive legislative framework comprising of the Sydney Airport Demand Management Act of 1997, the Slot Management scheme of 1998, the Determination of Sydney Airport Compliance Scheme, 1998 and the Sydney Airport Demand Management Regulations, 1998 which comprehensively regulates the entire process from allocation through to imposing penalties on offenders. The Sydney Airport Demand Management Act of 1997 clearly outlines the rules of enforcement and specifies the civil penalties applicable, including the imposition of fines and clarifies the roles of the various institutional arrangements in place (Sydney Airport Demand Management Act, 1997). Such an arrangement is important in that it clearly communicates information to stakeholders, allows for the imposition of penalties for infringements and provides the opportunity for recourse should an airline wish to appeal a fine or have the decisions of the slot coordinator or the slot manager reviewed. It also leaves room for exemptions.

The United Kingdom have made regulations which have come into force on 01 January 2007 and makes provision in the same areas as the Australian legislation; but goes a step further with the provision for criminal penalties. (Civil Aviation, the Airports Slot Allocation Regulations, 2006 No 2665) The Airports Coordination Limited (ACL) manages slot coordination at 19 Airports in the UK and Ireland and has established a Misuse of slots enforcement code (2007) in terms of the Airports Slot Allocation Regulations. Definitions of words such as repeatedly, intentionally, beyond reasonable control and significantly are clearly spelt out as to ensure clarity and common understanding between airline, slot coordinator and the Slot Performance Committee.

Gorenc and Nicoletti (2000) have aimed their research at determining the impact of various market and regulatory features on the performance of the industry as well as at route-level. Their study illustrates the complexity around the need to effectively monitor and enforce the utilization of slots allocated to airlines. The appropriate institutional and regulatory frameworks are not only important to uphold the law; but also to create an ordered, consistent and simplistic environment in which airlines and coordinators can effectively plan and execute their functions safely.

The Auditor-General's Office, Australia states that the various regulatory methodologies practiced in different countries vary from the self-regulatory scenario at one end of the spectrum to explicit governmental regulation on the other. Quasi- and co-regulatory models involve a mix of public and private sector initiatives. (Administering Regulation: Better Practice Guide, March 2007: 3)

South Africa has, as previously mentioned, an interim arrangement in that the ATNS is currently the IATA Slot Coordinator. The Challenge of increased air traffic movements, as well as increasing capacity constraints has informed the slot-coordinator's recent operational and compliance monitoring improvements.

The current South African system is largely dependant on the goodwill of the airline industry and although some sanctions are imposed; these are only grounded in policy and do not have legislative backing. In essence, if this were to be categorised according to the Australian Auditor- General, it would probably be deemed to be a self-regulatory scenario. However, it is important that the South African Policymakers consider whether this system would manage risk sufficiently during a time of hypo-traffic, with the eyes of the world focused on the country's every action in terms of performance and safety. Another consideration would be the increasing value of the slot, as access to a scarce commodity and whether a system which does not hold airlines accountable would have a negative impact on optimum performance.

In a submission made by Aer Lingus (2006: 4) during the consultation phase on the introduction of sanctions under Article 14.5 of ER Regulation 95/93, they stated that in the interest of natural justice and fair procedures, it would be crucial that airlines could appeal the sanctions imposed by the coordinator. Any such process must, they said, be independent of all interested parties and should be concluded within a very short period of time.

At a conference on Airport and Air Navigation Economics, guidelines for the establishment of an independent regulatory body and mechanism were discussed. It was decided that the purpose of the regulatory body would be to oversee specified economic commercial and financial practices, and its objectives could be drawn or adapted from, but need not be limited to the following:

- a) ensure there is no overcharging or other anti-competitive or monopolistic practices;
- b) ensure non-discrimination in the application of charges;
- c) ensure transparency as well as the availability and presentation of all financial data required to determine the basis for charges;

- d) assess and encourage efficiency and efficacy in the operation of providers;
- e) establish and review standards, quality and level of services provided;
- f) monitor and encourage investments to meet future demand; and
- g) ensure user views are adequately taken into account.

(ANSCConf-WP/112, 23/6/00: 4-6)

Good governance, transparency and streamlining of functions dictate that levels of authority and accountability be clearly articulated. It would follow that an institution could not objectively audit its own functions. In the spirit of fairness and equity, Aer Lingus supports the separation of powers to ensure that the slot coordinator is held accountable for its decision-making processes.

The promulgation of certain Acts and regulations in Australia, the US and the UK specifically created independent Committees or Bodies to monitor and enforce utilization of slots and impose penalties on those who infringed on the law. According to McDonald (2006), both the US Department of Transport and the FAA used the 1958 Air Transport Act to unilaterally deal with congestion concerns as deemed necessary. Other countries followed a less formalized approach such as Korea which really only followed the first-come, first-serve rule and Poland which monitored their eight slot coordinated airports using the 80/20 principle as defined by IATA (OECD, 1997)

The United Kingdom has a Competitions Commission which is mandated with investigating and enforcing anticompetitive behaviour. It has also, in terms of Council Regulation, mandated the establishment of a Slot Performance Committee. "This body is constituted of representatives from the airlines, the air traffic service provider, the managing body of the coordinated airport and the coordinator to review slot performance and to deal with cases of misuse referred to it by the coordinator" (ACL, 2006:3). The UK's statutory instruments also include the Civil Aviation: The Airports Slot Allocation Regulations, 2006 No 2665 which succinctly outlines offences and makes provision for the appointment of an independent reviewer to be appointment by the Coordinator. The consolidated

EU 95/93 initially supported the concept of airlines having the right to appeal under national law committee that is tasked with assisting the European Commission; but seems to leave much of the enforcement as a responsibility of the appointed Coordinator.

According to Gether (1989), the Civil Aeronautics Board (CAB) in the United States ordered that Airline Scheduling Committees be formed at each airport to consider requests from airlines based on rules laid down by the CAB. Slot Committees were also formed dependant on the concern which they had to address. This was also done by order of the CAB. He highlights that the system of Committees in the US has no parliamentary rules governing the proposals heard or processes followed and resultantly it does not support an increase in the efficiency of the system. This system was subsequently rescinded as it did not respond to the dynamic needs of the industry, provided room for collusion and did not create more capacity within the system.

Australia has a two-tiered system fully supported by a legal framework as mentioned previously, which creates the position of a Slot Manager who is responsible for slot coordination and has limited powers to grant exemptions and a Compliance Committee, a statutory body responsible to the Minister of Transport. (The Sydney Airport Demand Management Act 1997 No 173 of 1997, as amended.) According to the Sydney Airport Demand Management Act (1997), both the Slot Manager and the Compliance Committee are not held liable for their decisions. In fact, it is unclear who the Australian government would be held accountable for erroneous decisions made by either the Slot Manager or the Compliance Committee, which could have financial implications for stakeholders.

These legislative frameworks allow for the institution of special provisions during events which will bring a substantial increase in air traffic which will ensure that slot co-coordinators are able to allocate slots in such a way that air traffic can be safely brought into and out of an airport in a controlled manner. Australia has

hosted various international events such as the Summer Olympics in Sydney, the Annual Melbourne ATP Tennis Grand Slam, and more recently World Youth day, which required that they put special provisions in place. These special provisions for such events will be outlined later in this document.

3.3 Slot Coordination for Special Events:

South Africa has won the bid to host the 2010 FIFA World Cup™ and its infrastructure will be expected to accommodate huge volumes of aircraft and people in a safe and efficient manner.

Various countries have put special measures in place during events of this magnitude to safely control the additional influx of aircraft. These countries include Germany, Greece, the United States, as well as Korea and Japan. Air Services Australia has provided special rules in respect procedures on their Website. The information provided for the 2000 Sydney Olympics, including the declaration of restricted airspace, hours of operation, parking times, penalties and the point of contact. They also reiterated that Airport Coordination Australia will assume full responsibility for slot coordination.

(<http://www.airservices.gov.au/news/2000fr.htm> 15042008)

Documented measures, put in place for the Summer Olympic Games in Athens during the period of 15 July 2004 – 30 September 2004, included:

- In-depth communications structures created to facilitated decision-making;
- Flexible structures to handle the unforeseen
- Communication strategies to ensure that air carriers were au fait with legal, operational and other requirements
- Sanctions, including substantial fines were put in place to deter offenders.

According to the Hellenic Civil Aviation Authority (2003:1-2), they implemented local rules for the duration of the Summer Games in 2004 to control the flow of air

traffic during this period and did not rely on general oversight of air traffic control by Eurocontrol. Their strategy to inform their slot coordination and performance was a three-pronged and included;

- The specification of local rules for the period of the games;
- Obtaining a ground-handling Company (GHC) number prior to authorisation of the allocation of a slot; and
- The procedures of the Slot Performance Committee for this period and clear stipulation of penalties.

H.C.A.A. – A.I.A. November 2003, Attachment B

Greece enforced their local rules and utilised their Slot Performance Committee to adjudicate instances of non-compliance by visiting aircraft.

Germany, however, utilised the umbrella requirements set by the European Oversight Body, Eurocontrol, as the basis for monitoring and enforcement during the 2006 Soccer World Cup. However, Dft instituted similar requirements of airlines; but specified that a flight plan had to be filed and authorised before a slot was allocated to an airline. CFMU and Dft information stated that Germany had accepted an additional 5000 to 6000 flights for the period of the FIFA Soccer world Cup between 7th June 2006 and 11 July 2006. (CFMU & Dft, undated: 1)

Australia also utilized special procedures during the 2000 Summer Olympic Games in Sydney. Air Services Australia declared a number of Temporary Restricted Areas within the Sydney Basin, as well as various interstate venues. They also promulgated special procedures which applied to a number of Sydney airports for the period of the Olympic Games. Arriving aircraft were required to demonstrate proof of parking at the time of slot allocation. Movement slots will be coordinated through Airport Coordination Australia.

(<http://www.airservices.gov.au>)

Each country invoked special procedures at big events which required a different compulsory anchor to determine whether a slot was indeed allocated, or not. Australia required proof of parking, Germany required proof that a flight plan had been filed and authorised while Athens required proof of Ground handling Company before the allocation of slot. While these anchors are an certainly area for consideration as part of the allocation and performance processes, policy makers might wish to consider an anchor unique to the South African environment which holds both domestic and International air carriers accountable. It will be important that these airlines are accountable in terms of South African legislation and can be taken up on review if necessary.

As illustrated above, the commercial mechanism is a dynamic and complex one, which some of the more mature aviation industries are still grappling with in an attempt to find the optimum solution. As a young industry, it will be critical that the learnings of these aviation nations contribute to a future system that meets the needs and requirements of the South African industry. In light of the unique requirements for the 2010 Soccer World Cup [™], additional aspects of best practise such as transparent, streamlined processes and the enhancement of monitoring and enforcement will also have to be considered in deriving a specific plan for South Africa. It will be crucial that these special procedures are done in conjunction with existing rules and do not replace existing rules.

Chapter 4

RESEARCH DESIGN AND METHODOLOGY

4.1 Problem and sub-problems:

As stated previously, the success of current slot allocation and performance process is dependant on the goodwill of airlines and all other stakeholders concerned. The expected spike in air traffic around the period of the 2010 FIFA World Cup™, necessitate that the question of “How allocation, monitoring and enforcement of slot co-ordination and usage should be performed to ensure efficiency, safety and accountability?” should be asked. The following sub-problems flow from this statement:

4.1.1 Sub-problem one:

While CAMU has considerably improved the transparency of their slot allocation process in the last year or two, a key area of concern that remains is the perceived lack of equity and access within the allocation process, especially from the point of view of the Low Cost Carrier.

4.1.2 Sub-problem two:

A shortcoming in the current South African Slot allocation and performance system is the lack of separation between the allocation, enforcement and oversight functions with the commensurate levels of accountability. This aspect is critical to effectively managing the flow of air traffic during an event such as the 2010 FIFA World Cup™.

4.1.3 Sub-problem three:

The absence of a comprehensive legislative framework to create an enabling environment which provides the mandate to enforce adherence to rules,

establishes the necessary framework for oversight and provides for the application of sanctions as necessary, is a fundamental flaw in the system. Consequently, various abuses of slot utilization may continue unchecked, to the detriment of the industry.

Based on the sub-problems above, the researcher has formulated the following hypotheses in bid to answer the above questions:

4.1.4 Hypothesis One:

A transparent, stream-lined slot co-ordination and allocation process will enhance monitoring and enforcement of slot co-ordination to increase efficiency and safety.

4.1.5 Hypothesis Two:

A separation of functions through the appropriate placement of an oversight body and an effective legislative and institutional framework will encourage fair competition amongst all stakeholders.

4.1.6 Hypothesis Three:

Effective monitoring and enforcement of slot performance and usage by international and domestic airlines will increase the optimum use of capacity available at slot co-ordinated airports ahead of the 2010 FIFA World Cup™.

4.2 The Sample:

The Researcher has chosen to employ theoretical sampling, based on the generation of concepts which have theoretical relevance to the outcome or evolving framework to be presented in this research. The different nuances

prevalent within the aviation industry, has informed the researcher's choice to specifically use Discriminate Sampling where the method of sampling is directed and deliberate (Strauss and Corbin, 1990: 187). In line with this method of sampling, the researcher chose specific South African airlines, foreign countries and documents which offered a greater probability of supporting the storyline or core category which in this case is slot performance. To test the information obtained from the sample against reality, the researcher constantly compared the data obtained against the hypothesis set in this research document.

During her research, the researcher interviewed representatives from three South African airlines which together, constitute a substantial representation of the aviation industry. Airlines One and Two between them currently hold the majority of slots at the three slot coordinated airports, while Airline Three is a privately-owned Low Cost Carrier and has increased their operations to successfully compete against other Low Cost Carriers. This selection was deemed representative in that the following concepts represent important aspects of the aviation industry:

- The different markets within the industry are present in that Airline Two operates domestic, regional and international flights, while Airline One operates domestic and regional flights and Airline Three operations are purely domestic.
- Airline One also provides a feeder service regionally for Airline Two and highlights requirements for interconnectivity which should be provided by the slot allocation system.
- Airlines One and Two are classified as established, legacy carriers while Airline Three is a Low Cost Carrier and while not a New Entrant in terms of the ICAO definition, it is still confronted by many of the inhibiting practices experienced by New Entrants world-wide.

4.3 Measuring Instruments:

The researcher continually tested the hypothesis against the reality as provided by the data obtained by the various parties interviewed and data obtained from questionnaires. To ensure that information was further validated, the researcher utilised information from three mature aviation nations who are regarded as the countries against which most countries benchmark themselves. In this way, the researcher was able to identify gaps and test these against the hypothesis.

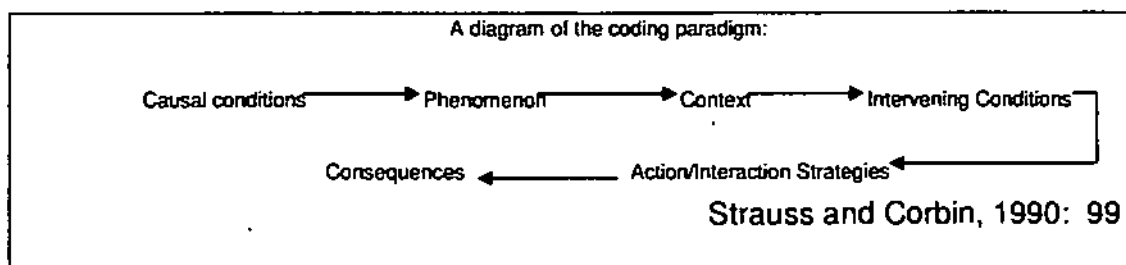
4.4 Data Analysis:

Grounded Theory techniques allow the researcher the flexible use of data collection, including perceptions and experiences of individuals in the aviation environment. The researcher was able to interrogate the problem statement through questioning to identify phenomena, invoke theoretical sensitivity in building categories until theoretical saturation had been obtained and identify labels leading to the development of relationships between categories in developing a better understanding the existing environments, both domestic and internationally, of slot allocation and performance.

Despite having chosen to utilise discriminate sampling, the researcher utilised all three methods of coding which are open coding, axial coding and selective coding during the course of this research. While not immediately visible, properties within the various categories of concepts and their location in a continuum become evident as the research progresses. Some of the categories identified in this research include transparency, capacity, efficiency, accountability, access, constraints and institutional framework. The process of Labelling has identified in respect of the category titled transparency include trust, co-operation, information, slot allocation tool, consultation and equity. Axial coding provided the researcher with the opportunity, through utilisation of the paradigm model advocated by Strauss and Corbin, to discover new linkages,

relationships and gaps between South Africa and international practise.

Figure: 4.1: Coding Paradigm



This resulted in debate between categories such as transparency in opposition to confidentiality, impacts of capacity vs. congestion and constraints, planning and adaptability against predictability. Although axial coding is deemed to be the next step in ground theory analysis, in reality, the different methods of coding occur interchangeably. The researcher endeavoured to verify the story-line and relationships between categories and building on other categories not as yet fully developed. The relationship between categories and the core category, slot performance was interrogated and validated through the paradigm which involves consideration of slot allocation and performance process and abuses (conditions), the domestic and international environments within which this takes place (Context), the frameworks employed in slot allocation and performance (strategies) and the consequences. (2000: 124)

Data obtained through Interviews with local airline representatives, as previously mentioned, were related to international practice, to benchmark current trends in South Africa. The researcher sent questionnaires to leading international slot coordinators who manage slot coordination in mature industries in Australia, the US and the UK. The companies chosen have continuously striven to improve on their research and development, utilising innovative measures to improve slot allocation and performance within their own unique domestic environment. The researcher received responses (See Annexures C – D) from both the CEO of Airport Coordination Australia (ACA) and the Director of Airport Coordination Limited (ACL) in the UK, who were able to provide both an operational as well as

a strategic perspective on Slot Coordination and Performance. The slot coordinator at the FAA in the US provided a slightly more operational rather than a regulatory perspective.

While the global industry is governed by international law and standards, each country has a unique aviation industry in that it is also influenced by its domestic market, industry trends, laws and the economy. This research focuses on ascertaining the best theoretical framework to ensure efficiency, safety, increased capacity and accountability in slot coordination, monitoring and enforcement.

The researcher proposes to provide a solution which is informed by international practice and norms, but conducive to the South African experience with its unique environment.

CHAPTER FIVE

RESEARCH RESULTS

5.1 Operational environment of the Aviation Industry in South Africa:

Three South African airlines were interviewed. These airlines are representative of the different airline models currently operational within the South African industry and they highlight the inter-play of the different strategies operational within the markets they serve. As part of the reality-check, it was critical to test the hypotheses against real-world experiences of both the airlines as well as the countries chosen as benchmarks.

The operation of air traffic flow management (ATFM) at these airports is dependant on the capacity declaration by ATNS and ACSA leading to the allocation of slots to airlines at the coordinated airports by the Interim IATA coordinator, the ATNS (CAMU). They utilize the operational processes of slot coordination recommended by IATA, and in a bid to ensure greater transparency; is in the process of procuring tactical allocations software. The current allocation process does not take place within a structured, automated framework and has no clear lines of monitoring, enforcement and accountability. Consequently, errors could be made during the slot allocation process by the coordinator's office which are not accounted for and will ultimately impact negatively on efficiency and result in wastage. The inability to source management reports of trends of infringements will impact negatively on the enforcement of transgressions and the imposition of penalties and leading to dissatisfaction amongst industry stakeholders if the organization who allocates slots, is not being brought to book.

5.1.1 Airline One:

This regional airline is currently in a growth phase, conducting a high intensity

operation involving increasing frequencies, a greater number of destinations, shorter turnarounds to prepare for the next flight and has increased its capacity to carry more passengers. It operates on domestic- and regional routes, targeting business as well as holiday travellers. It also acts as a feeder airline for Airline Two, an airline that flies international routes. Airline One holds the second highest number of slots at ORTIA, after Airline Two. It does not have access to air-bridges; but busses their passengers to the aircraft and back. The success of its scheduling is dependant on the planning and stability that access to grandfather rights provide and a scheduling tools as well as monitoring has enhanced flexibility of their system and provided greater predictability for them to optimise their high intensity operation further.

5.1.2 Airline Two:

Airline Two is a domestic airline which operates local, regional as well as international routes. Its networks are already well-established and unlike Airline One, their operations are not high intensity in nature. The target market of this airline includes foreigners, the business traveller and to a lesser degree, the holiday maker. It holds the highest number of slots at all airports in South Africa and utilises a scheduling tool to coordinate slots as well as to integrate technical and operational aspects into its planning of the value chain. Again, Grandfather Rights are critical to its planning and predictability of its schedule, especially in facilitating the necessary linkages to foreign airlines, with whom they have code-share agreements and with regional airlines that act as feeder airlines, such as Airline One. The airline must also meet slot arrival times at foreign destinations if they are to comply with regulatory and legislative requirements in those countries.

5.1.3 Airline Three

Airline three is a Low Cost Carrier which operates purely in the domestic market,

targeting a new market comprising of students and price-sensitive travellers who would previously have travelled by road. This airline also operates a high intensity operation in that turnarounds are quick. The airline offers cheaper rates and does not offer full-service, encouraging passengers to buy food on the aircraft. Passengers are usually bussed to their aircraft. Low Cost Carriers are regarded as New Entrants and do not enjoy the historical privileges that guarantee holding prime slots between 6am and 9am in the morning and again from 4pm to 7pm in the evening. Although not a new entrant in the sense of the IATA definition because it does operate more than a series of five slots per week, it is young in terms of the South African market and has not been able to make inroads into the market share of the more established carriers. They also do not have the depth of fleet available to them that both Airline One and Two has, curtailing flexibility in their operations. The airline does not have a dedicated scheduling tool and manage their slots manually.

5.2 Countries used as benchmarks for this study:

The researcher chose Australia, the United Kingdom and the United States as benchmarks, not only because they are regarded as leading and mature aviation nations; but they have also conducted significant research on slot coordination and performance both from an operations and an oversight perspective. On interrogation of the information provided by each country, the researcher found that the basis for coordination and enforcement was similar, with unique variations built into each of their frameworks to ensure efficiency in meeting the needs of each country's local aviation environment. While South Africa is still a young nation in terms of aviation, safety requirements, the impact of global trends as well as harmonisation of technological systems require that South Africa presents a framework which will allow it's industry to remain competitive internationally, to be regarded as safe and at the same time, to be flexible in addressing local needs.

The interrogation of the frameworks instituted by the countries below illustrate methodologies utilised to ensure that their environments remain competitive, are operated safely and at the same time remains adaptive to the needs of their local industry.

5.2.1 Australia:

According to Jeff Krolke, CEO of ACA, eight of their airports are coordinated. As mentioned in Chapter three, ACA is an independent slot-coordinator with the responsibility of coordinating slots for Adelaide, Brisbane, Cairns, Darwin, Goldcoast, Melbourne, Perth and finally Sydney. Each airport issues its own capacity declaration, as illustrated in **Annexure M**, which is determined after consultation with their local facilitation committees. He states that these airports, as shown in **Annexure N**, have constraints such as the environment, passenger flow in the terminals and also the parking constraint on the apron. The rationale used when declaring these airports as fully co-ordinated airports, he says, is to control possible delays and passenger discomfort. Australia, unlike South Africa that uses runway movement as a measurement, declares capacity in terms of seats (ie passengers) at the all the coordinated airports except Sydney. Mr Krolke specifically quotes the Sydney legal limit in terms of runway movements is 80 aircraft per hour. Australia's slot coordination and performance is fully based on the IATA world-wide scheduling guidelines which has been translated into legislation and operates in conjunction with local rules. This, he says, enhances the ability of the ACA to effectively monitor and enforce rules through the imposition of sanctions.

5.2.2 United Kingdom:

Peter Cole, Director of Slot coordination at ACL, the institution responsible slot allocation and performance in the UK states that it is an independent, non-profit Company with members from eleven airlines registered in the UK. ACL currently

serves twenty airports, of which five airports, London Heathrow, London Gatwick, London Stansted, Manchester and Dublin, Ireland, are fully coordinated. Mr Cole states that the capacity declaration is determined individually by each airport authority, after consultation with the airlines, air navigation services as well as ACL. All of the above airports experience runway and terminal constraints, while Heathrow also presents a stand (apron parking) constraint. He states that the runway occupancy will be the determining factor in determining a scheduling limit. According to ACL (2007), the current air traffic movement figures are as follows:

Table 5.1 : Air Traffic Movements at UK Fully Slot Coordinated Airports:

Heathrow	Dublin	Gatwick	Stansted	Manchester
473 000	198 000	257 000	193 000	141 000

Source: ACL, 2007

Mr Cole believes that their process is transparent. The UK has a comprehensive legislative framework, a strategic communication strategy, which includes publication of all relevant legislation and regulations and an effective website which provides operational processes and data. ACL, he says, also runs a process of naming and shaming those who commit intentional infringements of the legislative framework. Mr Cole provided documents illustrating the legislative framework, namely the UK Airport Slot Regulations (2006) and The Misuse of Slots Enforcement Code (Jan 2007). In terms of this legislation, ACL is empowered to fine offending Airlines between £1000 to £20 000, proportionate to the gravity of the infringements committed.

5.2.3 United States:

The Federal Aviation Authority (FAA) has instituted Federal Coordination of Slots at New York's La Guardia Airport (LGA), Washington Reagan-National (DCA) and Chicago O'Hare International Airport (ORD). As illustrated in **Annexure T**, New York's John F. Kennedy (JFK) International was also designated as a level three airport in October 2007, in an effort to reduce congestion and growing delays experienced at that airport. They state that US Slot regulations at ORD, LGA and DCA are based on the IATA Worldwide Scheduling Guidelines and operate in conjunction with local rules. The current slot allocation system is based on granting airlines any historic slots based on the previous schedule. However the system differs from the Australian, SA and UK Systems in that the availability of new slots or additional slots in the slot pool is distributed through a lottery system. The provisions of the lottery differ from airport to airport.

The Capacity Declarations are made available for each airport and are available on the internet. The FAA states that the authority to limit the number of flight operations is crucial, but as a first resort they do not apply limits to the movement of traffic and will rather add capacity (infrastructure) to an airport. To support this stance, the FAA provided the researcher with a recent study done by the FAA, to identify capacity needs in the US National Airspace System from 2007 – 2025. The sample-identification of this study was based on airports which recorded consistently high levels of delays. It was found that redesign of airspace, would not meet the increased capacity needs for the long term and that construction of new runways, congestion management and other infrastructure would be required to alleviate congestion. Of the four airports mentioned previously, the study confirms that LaGuardia Airport would again be capacity-constrained by 2015 and that LaGuardia and John F Kennedy International Airport would be capacity constrained again by 2025. (FAA, May 2007: 43, 45)

The 49 U.S.C § 40103 (b) makes provision that the FAA shall regulate National Airspace and also stipulates to a monitoring and enforcement program.

5.3 Findings per Hypothesis:

The following outlines the findings, per hypothesis, attained through the use of open, axial and selective coding.

5.3.1 Hypothesis One:

A transparent, stream-lined slot co-ordination and allocation process will enhance monitoring and enforcement of slot co-ordination to increase efficiency and safety.

5.3.1.1 South African Airlines

All airlines interviewed have stated that transparency, flexibility, accountability and equal opportunity for access are critical to the efficiency of this value chain and the sustainability of each of their airlines. A mixed perception exists amongst the airlines interviewed, as to the degree of transparency and efficiency that exists within the current system. Both Airlines One and Two have stated that the process has improved since the CAMU accepted the role as the IATA Co-ordinator for South Africa. Airline Three agrees that it is more transparent; but believes that it is still difficult to see the full picture. They all state that they have to accept slots which will not stimulate the growth of their market share. Although they agree that the slot allocation system is based on a first-come first-serve basis; they do not believe it to be an equitable system and question this because the allocation of grandfather rights or historical precedence is utilised which entitles the more established airlines to utilise slots that they operated previously. This impacts negatively on Airline Three's operations. (ICAO Doc 9626: 4.3 – 7)

Both Airline One and Two have many aircraft at their disposal, high load-factors and access to historic slots which provides them with greater flexibility. As stated earlier, ICAO has highlighted that the concept of grandfather rights is viewed as being very contentious. Both airlines support the continuation of historic rights in that it is critical to their ability to plan, enhance connectivity and flexibility to efficiently operate the slots at their disposal. In fact, both Airline One and Two admit that it would be difficult to schedule flights in a standardised manner without having access to grandfather rights. Both airlines have stated that they do not always get slots at the exact time that they require the slots. In fact, Airline Two maintains that they do not receive preferential treatment. Yet, Airline Three has stated that Airlines One and Two dominate the early morning slots during the peak hours of 06h00 and 07h00 which prevents them from gaining meaningful access to these slots and consequently access to the more lucrative market where they could offer passengers preferred travel times leading to connectivity with international airlines. They are of the view that the right to historic slots creates a commercial constraint for all Low Cost Carriers and is a barrier to entry. ICAO defines a scheduled air service as one that should operate with regularity according to a published time-table. While Airline Three is able to publish time-tables, they are not able to standardise their schedules to obtain any regularity, especially during peak hours.

Airline One subscribes to the novel concept that effective use of the capacity available to each airline is the responsibility of both the Slot Coordinator and that airline. He maintains that airlines cannot be effective if they do not have a slot allocation tool to administer their pool of slots and must allocate slots manually for their fleet. Airline One employs various initiatives to compliment to the streamlining of the system such as a dedicated slot allocation tool, interactions with ATNS to discuss scheduling and participation on industry fora where constraints are discussed and adjustments made. They measure their efficiency using on-time performance as the criterion. The slot allocation tool has increased this

airline's efficiency in that it provides a holistic view of the entire daily operation, adaptability and increasing efficiency, in that the scheduling department is able to:

- Look at route-specific info, choose extracts to monitor and plan target markets;
- Check connections to regional and domestic links,
- Have constant, twenty-four hour real-time monitoring;
- Run integrated processes for planning purposes, plan maintenance, crewing and other operations;
- Enhance flexibility to re-allocate aircraft on the various routes; and
- Plan their procedures on the ground to ensure the turnaround is short and that the time is effectively used to minimise cost.

Airline Two runs a slightly different operation. It has a large fleet of aircraft to manage, which fly to domestic, regional and international destinations. It has two schedulers who plan the rotations and facilitate that the required slots are available. One scheduler concentrates on the long-term planning for the airline, while the other concentrates on short-term planning that is the day-to-day planning in line with the IATA Season. They also have a similar slot allocation tool to that of Airline One which controls and monitors their daily operations, allowing them to plan for the various scheduled compulsory maintenance aircraft checks, offers them the flexibility to move aircraft around in the string in the event of an emergency and allows management reporting.

Airline Three, however, believes that the slot allocation system employed is not conducive to commercial aviation and is extremely labour intensive. This is in contrast to the Airline One and Two experience, who maintain that their interaction is based on consultation, open communication, co-operation and accessibility to CAMU staff.

Airline Two follows the procedure below when requesting a slot:

- An e-mail request is forwarded to CAMU quoting the date and time that the slot is required;
- CAMU responds with the closest timeslot available; and
- Airline responds and confirms if timeslot is accepted.

Airline One also states that the slots allocated to all airlines for the next day and available slots are communicated to the airline, the day before. This provides them with the opportunity to plan last-minute shifts within the string as they can see which slots are available before applying.

Airline Three states that they are not able to exploit this opportunity and while they have a snapshot of their fleet slot allocations, the manual system which they operate, does not provide them with the adaptability and flexibility to change fleets at the last minute, consequently they are not able to benefit from the abovementioned publication of slots, including prime slots.

The researcher also understands that Airline Three has flights scheduled at different time slots during the week, causing inconsistency in their operations and this has a negative impact on the subsequent sectors flown. The airline has also categorically stated that this prevents them from planning appropriately. This short-coming is a barrier experienced by the airline which ultimately impacts on its ability to access slots within peak hours with any sort of regularity and on its ability to have the flexibility to optimise utilisation of its fleet by organising its operations effectively, including scheduling maintenance.

According to the representative of Airline One, no one had really anticipated this sharp level of growth. The magnitude of this unforeseen growth required that alternative methods be employed to address constraints to access. Initiatives to be considered include the current construction taking place at various airports,

not just stream-lining slot allocation and performance. Airline One believes that various constraints, including the current construction, the left- and right hand turnout, as well as grandfather rights, impacts on an airline's ability to access slots, should be addressed. He concurs that grandfather rights have a more significant impact on the ability of the Low Cost Carriers to standardise their schedules and obtain prime slots. In this respect, however, both Airlines One and Two believe that they are more established and thus deserve access to prime slots. Airline Three, however, has clear views on the impact of grandfather rights on their business. They also state that the balancing of arrival and departure slots constrain their business.

CAMU has worked at streamlining the slot allocation and performance in that the compliance monitoring performed in terms of local rules, deals with infringements by airlines and in that way, access to slots has already become more equitable. Airline three agrees with this, in that they have already felt a positive impact since CAMU has enforced the 80/20 rule. Slots which are not utilised on-time, 80% of the time, are being returned to the slot pool and thus become available for request by other airlines. They in turn, are expected to adhere to the 80/20 rule when operating these slots. However, while this has already made additional slots available, the slots are not released early enough to be effectively utilised, resulting in minimum benefit to Airline Three. Both airlines Two and Three suggest that slot allocation practices should be done on the web. Airline Three believes that this would address their concerns in that they will have full access to the slots available and also streamline the allocation of slots from the slot pool, taken back in terms of the 80/20 rule. It would also increase transparency and reduce systematic turnarounds as well as time required to secure a slot at the time of choice. Airline Two also believes that the process would be more equitable as the technology would order the requests sequentially. Airline One, however, has reservations about the impact of an electronic system as he believes that it would remove the personal approach and contact which has worked so well thus far. It could also impact on confidentiality.

CAMU has confirmed that they use a software program produced by Prologue Development Centre called Score. This programme is used in about 22 countries and its functionality includes the ability to receive e-mails from airlines and process the requests automatically. They have also purchased an On-line Coordination System which will enable aircraft operators to apply for slots on a Web Page and send and the entire process will be automated. This system is not yet operational. It is believed that when operational, it will provide the independence, transparency and equity required by all airlines.

5.3.1.2 Benchmark Countries

These countries have conducted research to effectively address concerns experienced with aviation industries which are considerably more mature than our own, which could assist in better understanding the industry phenomena in South Africa.

5.3.1.2.1 Australia:

Australia follows the timelines and criteria specified in the IATA Worldwide Scheduling Guidelines (WSG) in conjunction with local rules. While each fully coordinated airport does its own capacity declaration, the ACA coordination function includes the publication of each capacity declaration on the ACA website. The ACA operates a website which allows airlines full access to apply for slots electronically. Standard procedures are used for international, domestic, regional as well as general aviation, ensuring that the ACA system offers access that is equitable and transparent. A separate guideline is made available which communicates the slot administration principles and procedures. It also outlines the following basic concepts:

- ← of slot administration;

- historical precedence including the use- it or loose-it test;
- the size of aircraft test as it applies to single slots or slot groups; and
- elaboration on the allocation process as well as the impact of slot swaps and the treatment of new entrants.

He has also stated that no money changes hands in terms of the slot swap; but that it is a straight swap of slots between airlines and is approved by the ACA.

The slot allocation and performance (compliance) functions are also separated in Australia. Data provided to the ACA is reviewed at regular meetings of the Compliance Committee. Slot allocation based on the principle of historic precedence requires that the airline operate 80% of a series of flights in a season. Slot performance is punctuality-related and again quoting the Sydney operation, he says that an airline will be fined for operating a flight for less than the 80% required of it. Performance is also evaluated in terms of the IATA delay standards. Unlike the South African system, the airlines do not lose access to their grandfather rights at Sydney airport. The researcher found that slot performance measurements also differ somewhat, in that if a flight into Australia takes under three hours, they have a tolerance of about 15 minutes to use that slot outside of the allocated time. Flights over three hour's duration have a tolerance of about 30 minutes. The capacity declarations will highlight the capability of each airport as shown in **Annexure M**. These are predominantly seat-based, except for Sydney airport which does specify 80 as the maximum runway movement occupancy rate. The criteria which they use is the actual time that an aircraft is scheduled to either arrive or depart against the time that they do arrive or push back from the gate.

Mr Krolke believes that ACA is effective in their monitoring of slot performance as they use persuasive measures to ensure that airlines adjust their schedules to ensure better industry performance.

As mentioned in Chapter three, the Compliance Scheme of the Sydney Airport Demand Management Act has severe penalties for non-performance as outlined in **Annexure O**.

5.3.1.2.2 The United Kingdom:

Mr Cole confirmed that slot allocation from the slot pool is done by ACL in accordance with the administrative rule of IATA Worldwide Scheduling Guidelines and EU Slot Regulation. A secondary market exists, particularly at Heathrow, where slots are traded between airlines. He, however, states that ACL is not directly involved with the secondary trading process, except to confirm the feasibility of the trade and facilitate the process. Each airport has a Coordination Committee to which all airlines operating to that airport has a standing invitation to participate in discussions on capacity and coordination. He emphasises that capacity constraints are mainly experienced on the runway, terminal and stands. Successful execution of the mandate of the Coordination Committee is expected to increase Government's confidence that capacity provided is used as intended. This Committee is expected to systematically review capacity required for each season, as well as the performance of operations at the airport in keeping with the framework provided.

As mentioned earlier, Mr Cole believes that the UK slot allocation and performance process is transparent. Like Australia, they make their regulatory and legislative frameworks readily available on an interactive website. He says that all airlines, domestic and international are treated equally. Their website also provides airlines with the relevant information on any of the twenty airports under the banner of the ACL. The interactive system on the web removes human involvement to a large degree from the primary slot request and links the arrival and departure time when allocating the slot. Confirmation is automatically generated to the airline concerned.

Mr Cole has provided various documents which ACL uses to facilitate common understanding of historic precedence, what constitutes an infringement and the consequential process utilised when imposing penalties as well as avenues for review of the Coordinator and the Airport Slot Regulations (2006). An example of this would be the Guide to determining slot historic focuses on issues such as how would an airline be eligible, how would the 80% target be determined, how operations are counted and what would be regarded as repeated and intentional slot abuse. In fact, airlines are encouraged to monitor their own slot performance using the ACL website which measures performance against the 80% rule.

As previously mentioned, slot performance is measured based on intentional misuse of slots. This includes airlines operating outside of the official allocated slot time or without a formally authorised slot. This, of course does not include delays due to weather, etc. Mr Cole further states that misuse of a slot is regarded as intentional when an aircraft arrives either 20 minutes before or 30 minutes after the scheduled slot or requests an early start 10 minutes before the departure time allocated.

5.3.1.2.3 The United States of America:

Ms Smith of the Federal Aviation Authority (FAA) has stated that slot allocation and performance process as conducted by the FAA, is transparent and streamlined and geared to increase efficiency and safety.

Any air carrier she says, either an incumbent air carrier or a new air carrier, is able to participate in a lottery which provides equal access to the allocation of slots. These procedures are clearly explained in the Special Federal Aviation Regulation no 60.

While the FAA policy leans toward providing additional infrastructure to ensure that required capacity will effectively meet increased demand for slots, rather than stream-line the allocation process through enforcement and penalties, such

projects are long-term. Consequently, in areas such as LaGuardia, where they are unable to expand capacity further, it has become necessary to place slot restrictions to limit the level of congestion and delays experienced at these airports. In such cases, Ms Smith states that the FAA position is that slot limitations allow for more efficient aircraft movement in airspace surrounding slot-constrained airports.

The parameters and oversight mechanisms of federal coordination of slots as they have been implemented at LaGuardia Airport, Washington-Reagan National, as well as Chicago-O'Hare International Airport have been provided in **Annexure R and S**. These slot regulations are intended to increase efficiency and monitoring. They are built, she says, on the general framework provided by the IATA WSG, along with US local rules for each airport as specified in the Special Federal Aviation Regulation no 60. The FAA utilises the web as a communications tool and provides information easily accessible to airlines through the internet. Such information includes detailed information on issues such as capacity declarations at airports, processes such as completion of the correct forms and management of the deadlines as well as trans-border operations with Canada, procedures for the transfer of slots, slot withdrawal and the return of slots and Slot use and loss. Ms Smith states that legislation in the form of 49-U.S.C § 41722 has been promulgated which facilitates consultation with all stakeholders. To illustrate this, she stated that JFK International Airport was designated as a level 3 airport in October 2007, due to capacity constraints as highlighted in by the air traffic movements in **Annexure T**. To ensure transparency in this decision, the FAA consulted industry through forums such as the Scheduling Reduction Meeting where they discussed whether a Federal cap should be implemented to regulate arrivals and departures at JFK. A similar process was held at LaGuardia, Washington-Reagan and Chicago O'Hare, to address capacity constraints. The FAA proposed that operational limits be upheld, encouraged use of larger aircraft and the implementation of time-bound access at La Guardia airport. As these proposals have not enjoyed much support

from the aviation community, Ms Smith stated that the FAA is in process of having to review alternative congestion management options. Similar processes have been used in the imposition of Level 3 status at Washington-Reagan and Chicago-O'Hare where the air traffic movements show the capacity constraints in **Annexure T**.

Although the effects of some rules have been more successful than others, Ms Smith believes that the imposition of the latest rules have had a positive effect. The new AIR-21 flights into LaGuardia during the fall of 2000 totalled 300. A lack of additional infrastructure impacted negatively on the on-time performance of air traffic resulting in flight delays soaring to 25%. She specifically quotes the success at LaGuardia where the need to limit capacity resulted in the declaration by the FAA limiting traffic to 75 movements per hour, as well as 6 general aviation movements per hour and exemptions were limited to a total of 159 flights per day. This resulted in a substantial reduction in delays during April 2001, from 330 per day to 98 per day (FAA, 2006).

5.3.2 Hypothesis two:

A separation of functions through the appropriate placement of an oversight body and an effective legislative and institutional framework will encourage fair competition amongst all stakeholders.

5.3.2.1 South African Airlines:

In light of the hypothesis above, it is the Researcher's contention that to encourage compliance and fair competition, various principles are critical. These include:

- Clear definitions of roles expected of all stakeholders;
- Open communication and transparency;

- Prevention of anti-competitive behaviour; and
- Encouragement of consistency and fairness

As previously stated, the legislative framework governing aviation in South Africa does not support the value chain of slot allocation. Consequently, the current system of slot coordination and performance is based on international precedence as encouraged in the IATA WSG and is dependant on the goodwill of the aviation community. CAMU has instituted several initiatives to encourage effective usage of slots allocated to airlines and to hold airlines accountable if they intentionally violate the local rules. These measures, however, have not been formalized and should an airline contest a decision taken by the CAMU, the IATA co-coordinator would be vulnerable as it would not have the legal backing to enforce the decision. Should an airline choose to appeal a decision taken by the CAMU, or choose to report anti-competitive behaviour on the part of the IATA Co-ordinator, which they believe has a negative impact on their revenue, it is the researchers belief that the current institutional framework would not allow for impartial consideration of the airline or any other stakeholders complaints. The absence of effective legislative support prevents CAMU from imposing meaningful sanctions on airlines anti-competitive behaviour as well as holding international airlines accountable in terms of the provisions of BASA.

On interrogation of the interview material, the researcher found that the categories on which airlines had focused were accountability, impartiality, institutional framework, legislation, funding, competition and sanctions. The researcher tested the perceptions held by the airlines around accountability and impartiality, which would be the cornerstone of legislation and institutional governance as it specifically pertained to slot allocation and performance. The researcher found that the airlines interviewed displayed ambivalence on whether national legislation governing slot coordination will benefit their operations. The airlines consulted, had clear perceptions of their current environment, as this is a topical area of aviation due to the increased capacity experienced as well as the

fact that as an industry, it needs to be in a position to seamlessly transport guests to South Africa for the 2101 FIFA World Cup™.

According to Airline One, some airlines consistently infringe local rules as specified in the AIP, which impacts negatively on access to available slots by other airlines. Despite this, the representative of Airline One stated that the airline is comfortable with the current system in place in South Africa. He believes that the Slot Coordinating Committee which has been established to monitor both slot allocation and performance and consists of various stakeholders including the Department of Transport (DOT), the IATA Slot Coordinator, South African Airlines and ACSA suffices as it involves material role-players and is transparent. Airline Three had already attested to the fact that the additional capacity generated by the punitive measures taken by CAMU was of benefit to the airline, in that they could gain access to slots not previously available to them. They do, however, state that these measures are not enough to make them competitive against the more established airlines as some of these slots are not made available to them in time to be beneficial.

Airline Two believes that domestic airlines lack discipline and do not operate within existing local rules. The representative of Airline Two stated that as an airline that conducts international operations, they understand the value of monitoring and adherence to legislation. They found that the CAMU conducts their business in a mature and equitable manner. This sentiment is shared by other airlines. In fact, the researcher finds that they seem not to understand that the same unit might not control slot allocation or performance in future, which could have a different impact on the aviation industry and that a legislative framework might provide them with some consistency making the actors in this scenario irrelevant.

According to Airline One, airlines would not appreciate additional regulation. He felt that the need for transparency and accountability could be best served by

communicating with all stakeholders and that CAMU might be best served by getting everyone into the same room to discuss problems. The consequence of a restrictive legislative framework, he believed would create a negative environment amongst airlines who are put on notice for being non-compliant and this could result in airlines being very difficult to control. In fact, in response to questions on the legislative framework, he stated that both the EU and the US regulatory frameworks were too legalistic and that these systems had created other concerns, such as increased delays at airports which put further strain on the system. The researcher will be interrogating the frameworks currently operational in the UK as well as the US, below to better understand the composition, linkages as well as the impact on each respective industry. The representative of Airline One also expressed concern that there are many sets of legislation currently in South Africa, some of which are flawed. If this is a precedent, then he is concerned that new legislation will not adequately address the existing and anticipated problems around slot allocation and performance. Promulgation of legislation is a long-winded process and could negatively impact on the process. There are, apparently, many avenues of recourse available to airlines which included the media and other pressure groups. Airlines should also be able to approach the Department of Transport, who would hold the co-ordinator accountable According to the interviewee; the system is not broken and should not be tampered with. He believes that airlines might be willing to fund the functioning of CAMU as part of the user-pay principle provided that ATNS adjusts their tariffs. He admitted that at some time it would be necessary to consider putting tighter controls in place; but that time was not now which again re-iterated the fact that the concept of an alternative framework has not been considered.

While Airline three also believes that the current system, specifically the Slot Coordinating Committee, provides the mechanism to take the CAMU up on review, they still feel that a comprehensive legislative framework is critical to support the monitoring and enforcement function.

The existing Slot Coordinating Committee (SCC) referred to by Airlines one and three, monitors both slot allocation operations as well as slot performance and because there is no separation of functions, it runs the risk of being seen to be both judge and jury. CAMU also plays an important role in those proceedings. In fact, Airline Three has stated that they would appreciate more access to statistics, which implies that the system is not as transparent as it could be.

While it is important to provide the slot coordinator with the means to enforce local rules, it is also important that IATA Coordinator is held accountable should they infringe on the rights of the airlines. The researcher asked the airlines who they believe would be best place to provide impartial oversight of slot allocation functions to constantly improve efficiency, safety, accountability and consistency in the system and how should this be done.

The researcher highlighted to Airline One that should coordination or even oversight be placed elsewhere, it would not necessarily be the responsibility of ATNS to accept a reduction in their tariffs to accommodate this functionality. As an alternative, he suggested that the slot coordination function should then be performed by an entity that is government-funded. The interviewee additionally stated that the coordinator should be held accountable should they commit any infringements and that the Department of Transport should act as a referee, should either the airlines or the slot coordinator, not comply.

The airline believes that having a formal review mechanism would impact negatively on the relationship which airlines currently enjoyed with CAMU, who encourages an open door policy and this provides a lot of flexibility in the system. He also stated that there were alternative channels available to air issues of concern, such as going to the press. Ostensibly, he believed that airlines should understand that the exact slot required would not always be available and this fact should be accepted.

As previously mentioned, both Airlines Two and Three firmly believed that legislation governing this aspect of legislation was critical. Their reasons for supporting this initiative, however, were quite different. The representative of Airline Two believes it is important that South Africa should follow the world trend and enact legislation, as airlines will lapse in their adherence of local rules, if not held accountable. Additionally, it is important that the IATA slot coordinator should be an independent statutory body, where legislation and regulations specify that certain functions and standards are specified and clear penalties outlined should airlines not adhere to certain efficiencies and standards. Airline Two is concerned that officials serving on an independent body would receive a small salary and this would make them susceptible to bribery and suggests that it would be important that appropriate performance-based incentivisation is put in place to encourage impartiality and transparency. Airline Two proposes that a body be put in place that allows for fair representation of all airlines, to illustrate this. The interviewee proposed that it could be on a one airline-one vote basis. She also stated that it would be imperative that airlines are able hold the slot Coordinator accountable should they be found to be infringing on the provisions of the Act. In fact, she stated that the responsibilities of the coordinator, appropriate sanctions and potential recourse should be outlined in the Act. Gross infringement should result in the coordinator losing its licence to do coordination and ATNS-CAMU should then take over the function as a back-up.

Airline Three, while believing that legislation was important for current and future operations, did not have a specific institutional arrangement or funding model in mind. They were however, the only airline that stated that the rules should be applied equally to all airlines.

Another aspect that the researcher believes supports the need for legislation is the fact that foreign airlines are obliged to adhere to domestic law through the BASA concluded with the foreign country. It will become critical to minimize any sort of infringement by both domestic and foreign airlines when looking at the

scenario for the FIFA 2010 World Cup™, where a plethora of international airlines will enter South African Airspace. Airline Two highlighted that currently, foreign airlines cannot enter the country unless the Government has granted them permission in the form of the BASA and a Foreign Operator's Permit. According to Airline Two, the current practice internationally, is that the coordinator cannot refuse entry to an airline if the country of origin does not have an agreement in place. The airline is allowed to hold the slot; but they are expected to inform the coordinator that they do not have access to a valid operating permit. She mentioned that Ghana has taken a different stance in that if an airline does not have a permit; they are not allowed to obtain a slot at Kenyan airports. Ultimately, it will be important to understand what would be the correct choice for South Africa. The researcher believes that control is critical if airports are congested. In the run-up to 2010 FIFA World Cup™, safety of the skies will be of utmost importance and it will be important to ensure that foreign airlines adhere to local legislation and rules.

To be effective and efficient, any institution must be adequately funded to support any activities required of it in the performance of their strategic objectives. As stated previously, Airline One supports that either government subsidise such an institution or the user-pay principle should apply provided that other tariffs required by ATNS from airlines are reduced. Airline One assumes that such an institution will be a natural monopoly and believes that this should be a non-profit Organisation, similar to the institution current in operation in Australia, funded on the user-pays principle. Mechanisms should be put in place to ensure that the entity does not abuse its position as the sole service provider and that excess profits are then plowed back into the industry.

5.3.2.2 Benchmark Countries

Each country has outlined their respective legislative frameworks, stating that the placement of their institutions and governance systems provide oversight that is

fair and efficient.

5.3.2.2.1 Australia:

Mr Krolke has categorically stated that Australia's system which includes an independent slot coordinator, the Compliance Scheme of Sydney Demand Management Act is very effective. There is a clear separation between the Slot co-ordination function and that of the management of Compliance which is done by a statutory body called the Compliance Committee. This Committee has seven members, including persons nominated by the airlines or an organisation representing the airlines, the Airport Operator and the Air Traffic Navigation Services Company. The Slot Coordinator (referred to as the Slot Manager in the Act) acts as an observer in Committee proceedings. Each member has a vote.

The Act includes severe penalties which are outlined in **Annexure O**. Mr Krolke states that these penalties act as a deterrent as airlines do not want to pay such fines and face the accompanying media exposure. As a result, they have 88% compliance of airlines that operate within the tolerances listed in the respective Capacity Declarations. They also have extremely heavy penalties applicable to airlines which travel without an authorised slot available. In terms of the 80/20 rule, airlines do not lose their right to utilise the slot; but are penalised financially for the transgression.

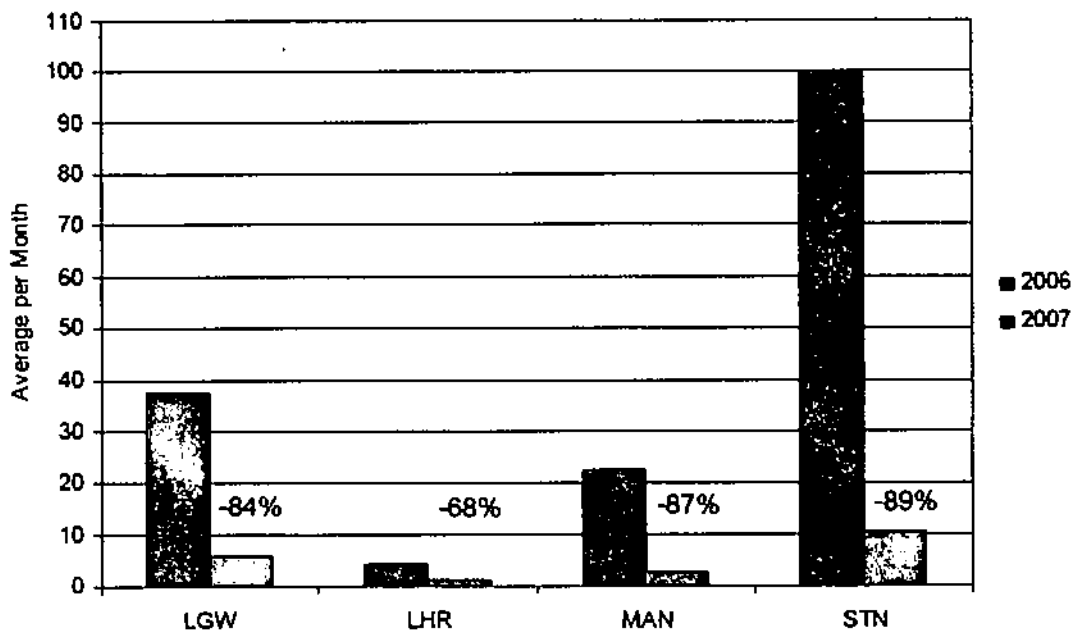
As ever, funding of such a system is critical to the survival of the entity. Mr Krolke highlighted that the Australian government had not wanted to burden the Airline industry further than they already are. The Australian Transport Minister requires that the body is an independent and transparent one, which would enjoy credibility amongst all the relevant role-players. With this objective, ACA has been set up as a non-profit organisation and is funded by the domestic aviation community in that an administration fee is charged per movement to Australian Airlines. The ACA also works to ensure that fees charged are always reasonable.

5.3.2.2.2 The United Kingdom:

Like the ACA, ACL also does both slot allocation and enforcement. The advantage of this, Mr Cole believes, is that it enables ACL to deal with concerns timeously. The supporting legislative framework allows the Coordinator to institute penalties of up to £20 000, depending on the trend of infringements and the gravity of the infringements. These penalties have been included in **Annexure O**.

After the first year of enforcing the Code, Mr Cole believes the system to be effective and efficient. The penalties, he says, are significant enough to be a deterrent. Unauthorised flights without slots have reduced by about 90%. This is substantiated by information provided in the ACL Annual report on the [“Misuse of the Slot Enforcement Code (2007): 12] which shows a clear reduction in infringements from 2006.

Figure 5.1: Reduction of infringements from 2006 to 2007



Source: Annual Report on Misuse of Slot Enforcement Code, 2007:12

Discipline amongst airlines, he says, has improved in that both ticket times published and schedule publications are in line with the slot times allocated to airlines

Funding to ensure the effective application of operations, monitoring, and enforcement, is critical to the success of this Organisation. Similar to the ACA of Australia, ACL is a non-profit Organisation; comprising of 11 UK airlines. However, this Organisation is not funded according the traditional users-pay principle. Mr Cole states that airline members contribute about 20% of the costs, the airports contribute about 70% and the remaining 10% is generated from commercial activity.

ACL does not conduct its operations in isolation. He states that the slot sanction scheme has a mechanism built into the overall framework which provides airlines with the opportunity to take the coordinator up on review, if it is warranted. Such circumstances would include:

- Concerns that the decision made was flawed;
- The belief that the decision-making process was unfair;
- New information which would impact on the decision made, comes to the for at a later stage; and
- Punishment is deemed not to be proportionate to the infringement.

According to Mr Cole, ACL has only been taken up on review once and this process in ongoing.

5.3.2.2.3 The United States of America:

According to Ms Smith of the Federal Aviation Authority (FAA), 49 U.S.C § 40103 (b) provides the FAA broad authority to regulate the use of the navigable

airspace of the United States.

Many rules have been implemented by the United States over time, which chronicle the learning curve that they have undergone in the process of creating a dynamic and efficient environment in which the value of their slots are recognised and at the same time; they have tried to ensure equitable access for all carriers. The unique characteristics of the air traffic market at each airport required that the FAA implement various rules ensure efficient and effective air traffic movements.

As debated in the literature review, the United States have not always been successful in achieving their goal of effective implementation of their legislation. According to Ms Smith, the FAA, manages both the operational aspects of slot allocation as well as the management of slot usage and performance. She believes that the FAA has created an enabling environment where they match supply and demand, while maintaining transparency and consistency through the institutionalisation of various rules and regulations. Ms Smith highlighted the various rules and regulations, as provided in **Annexure R and S**, which have been implemented by the FAA, to control airport capacity and the allocation of slots at US airports. Some of these rules are articulated in the Special Federal Aviation Regulation no. 60 which governs procedures, capacities and operations for slot allocation and performance.

Ms Smith believes that they certainly operate a transparent and streamlined process. Various mechanisms such as 49-U.S.C § 41722 which mandates the FAA to engage in consultations on flight schedule reductions at airports that experience congestion during peak periods, clear and easy access to information regarding rules and regulations, as well as the lottery system which provides equal access to all airlines ensure this transparency.

In terms of Title 49, Section 106, the FAA is also held accountable by an independent body appointed by the President of the United States called the Air

Traffic Services Committee. While this body is not solely responsible for slot allocation and performance, it is mandated to oversee the efficiencies of operations and management of the FAA. It must also consider the conduct as well as strategic plans of the FAA, requiring that the Committee does due diligence concerning the entity's performance on service standards, safety, efficiency, productivity and CAPEX procurement for modernization of infrastructure to meet increasing air traffic and technological demands. The remuneration of this Committee is legally stipulated.

Ms Smith states that slot co-ordination is a Federal function, conducted by the FAA. The oversight body, the Air Traffic Services Committee, functions and is funded differently from that of both Australia and the United Kingdom. This is legislated through Title 49, Section 106 which stipulates that the FAA be funded in partnership between government and industry. 60% of revenue required by the FAA is funded through a user-pays system to be deposited into an Airport and Airway Trust Fund. The difference is funded through a general fund from the US fiscus. This funding however, does not apply to slot allocation and performance alone; but to US air traffic management in its entirety. (<http://law.justia.com>)

5.3.3 Hypothesis three:

Effective monitoring and enforcement of slot performance and usage by international and domestic airlines will increase the optimum use of capacity available at slot co-ordinated airports ahead of the 2010 FIFA World Cup™.

The three airlines interviewed, stated that many other constraints at South African airports impact on the availability of capacity. Such constraints include construction at ORTIA, Durban and Cape Town, the alternate left-and right hand turn, airspace design, aircraft mix and congestion at holding points before take-off. All of the airlines have expressed the view that monitoring and enforcement was critical to minimise infringements and enhance performance and to

contribute toward streamlining capacity requirements. However, they had different views on the how this should happen, types of sanctions that should be applied, as well as the impact of various types of sanctions.

5.3.3.1 South African Airlines:

Airlines one, two and three have all stated that infringements of local rules are sometimes unintentional; but are many times intentionally done. Whether intentional or unintentional, they have a negative effect on the operations and financial performance of their airlines. However, all airlines have advised that streamlining slot allocation and performance plays a small role in the drive to increase capacity ahead of the 2010 FIFA World Cup™.

The various infringements or abuses highlighted by IATA are illustrated in Chapter three and are common to airports around the world. Other infringements include the 80/20 rule which has also been explained. Unintentional “infringements” which cause delays and prevent other airlines from having access to slots include weather, roll-on impact from delays at the airport of origin, physical limitation due to construction at an airport, curfews and terminal and ground crew constraints. **See Annexure L.** Infringements, however, can be intentional and perpetrated for commercial gain resulting in anti-competitive behaviour and impacting on capacity in that some airlines are excluded due to their inability to access their slots.

Infringements with an anticompetitive connotation include:

- hoarding of slots by airlines to prevent other airlines from gaining access;
- intentionally arriving at the tail-end of the slot window;
- Using bigger aircraft than that declared on the schedule

Airline One and Two differ on the effectiveness of the application of sanctions.

The representative of Airline One believes that airlines might find it commercially more cost-effective to pay a fine than to stop offending. He believes that collaborative decision-making will go a long way to build buy-in amongst airlines which will minimise infringements. Airline Two, however, advocates that imposing fines might not be the solution as cash-flush airlines would be in a position to afford the fines. It would also be detrimental to new entrants in that they are still building up their operations and cannot afford to “waste” money. She believes that if airlines perpetrate infringements consistently, airlines should lose the slot. This would impact on their operations fundamentally as it would affect their rotations and subsequent sectors.

5.3.3.2 Benchmark Countries:

These countries have different frameworks in place to conduct monitoring and enforcement, yet each of them have stated that these functions have had a positive impact on their slot coordination process, as illustrated below.

5.3.3.2.1 Australia:

Airlines are liable for to pay fines which are linked to the various transgressions committed. The Compliance Scheme of the Sydney Airport Demand Management Act outlines compliance required and consequences of non-compliance. It also provides recourse should any airline feel aggrieved with the application of the act as it applies to their interpretations of the Act.

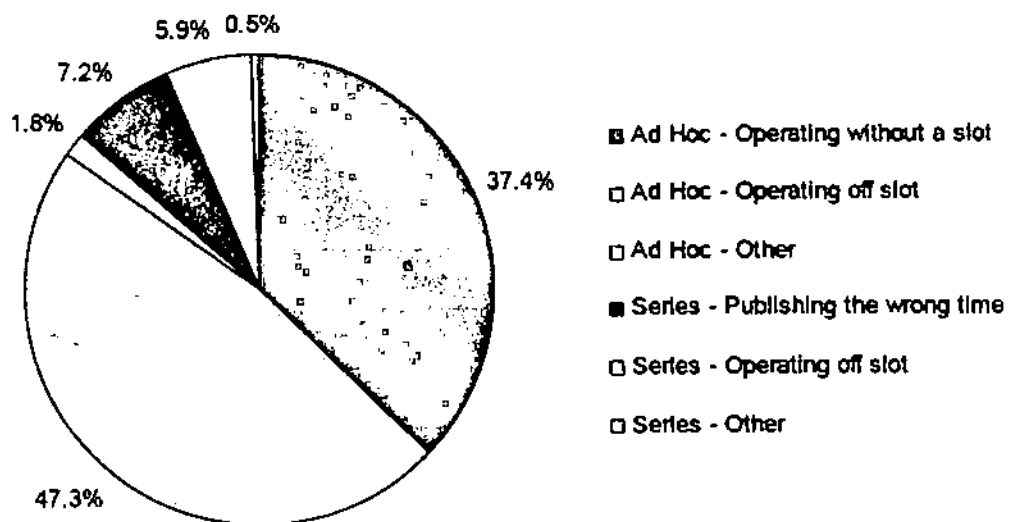
In clarification on Australian policy regarding slot coordination during the Olympic Games, Mr Krolke referred to a more recent event stating that Special coordination procedures have been put in place for this hosting of the World Youth day in Sydney from the 15th of July to the 20th of July 2008, which includes the following special procedures:

- Requests for supplementary, re-routings and charters will only be allowed during 11h00 and 22h00, local time;
- The normal curfew will be maintained (**See Annexure M**);
- The maximum allowable ground time will be two hours and any aircraft wishing to park would have to request re-routing to either Brisbane or Melbourne airport; and
- Authorisation and confirmation of slots would require proof of special ground arrangements and a special authority number quoted on the flight plan filed with the ACA. The slot filings will only be confirmed after December 2007.

He stated that when coordinating special events such as the Olympic Games, the Soccer World Cup and the World Youth Day, special procedures which are similar to those quoted above. Their comprehensive legislative framework, in conjunction with special co-ordination procedures allows the ACA to effectively facilitate increased volumes of traffic.

5.3.3.2.2 United Kingdom:

The most common types of non-compliance found in the UK, according to Mr Cole, are:



Source: Annual Report on the Misuse of Slots Enforcement Code 2007: 7

ANAO has suggested that in line with good corporate governance and transparency, the Coordinator should clearly outline their strategy and procedures to be followed when holding airlines accountable. The UK have done just this in their Code on Misuse of Slots (2007) which clearly clarifies various definitions to ensure common understanding and it outlines the different steps followed in the imposition of penalties (2007: 5-7).

The UK Legislative framework provides that both civil and criminal action can be taken in terms of various slot infringements for which airlines could be held accountable.

5.3.3.2.3 United States of America:

Ms Smith stated that enforcement is done through regulation and that an enforcement programme formed part of 49 U.S.C. § 40103 (b). The researcher could not find this programme on the internet, which is concerning in that all information, might then not be easily accessible to all airlines

Ms Smith does say, however, that the FAA measures slot utilization at LaGuardia, Chicago and Washington Reagan through the minimum use of the "Use it or lose it" rule which she says is similar to the IATA requirement and that FAA utilization standard is consistent with international guidelines. They do require that operators utilize their slots 80% of the time over a two month period, and not one month as specified by IATA. She states that the FAA does not impose fines for non-compliance; but withdraws slots from airlines should they fail to comply with minimum requirements of the above rule. These slots are then returned to the slot pool and re-allocated through the lottery system. Lottery provisions, she says, differ from airport to airport.

According to the FAA, Section 10 makes provision for the establishment of Special procedures to accommodate an abnormally large influx of traffic for

events such as the Indianapolis 500 Race and the Kentucky Derby. It also provides measures to respond to a significant reduction in airport capacity for an extended period due to unforeseen events such as airport runway and taxiway closures at an airport due to construction or an accident. These special procedures may remain in effect until the event is over or until alternative local Air Traffic Management procedures are operational.

CHAPTER SIX

DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

The research into how slot-allocation, monitoring and enforcement of compliance should be performed to ensure efficiency, safety, increased capacity, and accountability ahead of the 2010 World Cup, has been an interesting one. Interviews conducted with the three airlines provided information which was found to be broadly in line with widely-held views expressed in the literature examined by the researcher. These included an unexpected finding that the depth of the divide between the experiences of the New Entrant (Low Cost Carrier) in opposition to those of the established airline in the South African environment highlights the inequity as well as the lack of transparency that exists in the system. It is uncanny how closely the South African experience mirrors the international experience. Another finding was the confirmation by airlines, after interrogation of international practice that a definite legislative gap exists. While the airlines have been ambivalent about the impact of legislation on the industry, the literature suggests that communication, transparency, uniformity, accountability are improved through mechanisms such a legislative framework, separation of powers and due diligence. Questionnaires obtained from the US, UK and Australia also suggest that monitoring and enforcement improves due to the support of clear legislative framework.

6.1 A transparent, stream-lined slot co-ordination and allocation process will enhance monitoring and enforcement of slot co-ordination to increase efficiency and safety:

Access to an airport has value to an airline in that it impacts on the sustainability and profitability of an airline. This necessitates that slot allocation and performance must be efficient to ensure that the available capacity is optimally

utilised, benefiting all airlines.

6.1.1 Discussion: An analysis of South African Airlines

The airlines interviewed have stated that slot co-ordination in the South African Aviation Industry has improved considerably with the transfer of duties of the IATA slot coordinator from SAA to the ATNS (CAMU). They believe, however, that further improvement is still required. The researcher utilised the following questions to further discuss the findings of this research:

6.1.1.1 What are the differences in perceptions of the slot allocation process between the more established airlines and low cost carriers and how does the impact of grandfather rights exacerbate these differences?

Certainly, retention of slots at possibly peak times, it will be of enormous benefit to an airline. All airlines consulted talk about predictability, standardization of time-tables, scheduling, etc and highlighted that these are all properties required for an efficient operation. They also believe that this will not be achieved unless the required load factors are attained to make a flight profitable. The benefits that accrue to such an airline include all of the above and provide the ability to plan and optimise fleets within the network, rationalise rotations and enhance connectivity. This is clearly illustrated in that both Airlines One and Two have through time, secured a wide-ranging network of destinations based on careful maintenance of their historic slots. These airlines have leveraged additional benefits and have implemented customer retention schemes to generate

customer-loyalty by offering incentives to customers as the airline can exploit their ability to provide consistency, increased connectivity, attractive arrival and departure times and seamless and efficient linkages with other air services. As stated previously, Airline Three has not been able to attain this due to their inability to secure grandfather slots in peak times. They claim that their schedules are distorted by six sectors due to the lack of standardised slots and their inability to provide consistent linkages to other airlines.

6.1.1.2 How technology plays an important role in increasing efficiency and adaptability and the fact that airline three is being prejudiced because it does not have access to the slot allocation tool?

Both Airlines One and Two have a dedicated slot management tool which gives them the ability to constantly monitor real-time performance, to analyse route-specific information and connectivity, to optimise flexibility within their fleet, and effectively plan maintenance requirements around their flight rotations. Airline Three does not have a dedicated slot allocation tool to allocate and monitor slots and utilises a manual computer programme to allocate slots which impacts negatively on its ability to see the big picture and to plan future operations effectively. While Airline Two has stated that the CAMU does not give preferential treatment to the bigger airlines, it could appear as if the financial and technological gap between the airlines does impact negatively on an airline's ability to compete effectively. While the slot of choice is not always available to an airline, as the representative from Airline One stated, it is a matter of

compromise. It would seem that some airlines are expected to compromise more than others.

Based on the above, the researcher believes that both technology and communication certainly assists efficient planning of schedules and acquisition of the slots. The impact is evident when Airline three state that while they do have a holistic view of their fleet, they do not have the ability to manipulate their system on a tactical and strategic level as Airlines one and two are able, as illustrated in **Annexure V**

6.1.1.3 Interaction/perception of CAMU and how does this contribute to transparency and efficiency:

A further requirement to enhance efficiency is constant, clear communication between CAMU and the airline industry. This finding is supported by information obtained through the interviews as well the literature. The data obtained purports that efficiency is enhanced, provided that scheduling, planning and communication is a two-way street between the airline concerned and the coordinator. The airlines also highlighted that both airlines and the coordinator should accept responsibility for ensuring efficiency in the utilization and performance of the slots. Airline One also highlighted that it was the responsibility of the airline to monitor the situation on the ground and ensure that they had all required services available to facilitate a smooth turnaround within the allotted time. An example cited was, that if there was only one ground crew available to

service one aircraft and the airline brought a second aircraft in, it would impact on the block time available to them, it would result in a delay in the departure and impact on the arrival slot at the airport of destination.

Airlines were asked about their perception of slot coordination as is currently executed in the country; Airlines One and Two praised the openness and accessibility to the CAMU. Airline One believes that communication is essential to facilitate collaboration between the CAMU and the airlines. CAMU has created various means of communication which include e-mails that communicate the slots allocated for the next day which allows airlines the opportunity to access those that are available, industry meetings such as the ATFM and OPSCOM encourage interaction between the ATNS and industry, as well as ad-hoc meetings where the CAMU provides information on the slot pool and airlines debate and swap slots. Airline One stated that Airline Operations Departments of various airlines got together on a weekly basis to swap slots with airlines that could better use them.

Both Airlines Two and Three believe that utilising the internet would ensure objectivity, transparency and it would facilitate better response times. Airline One, however, has a concern that such a system will impact on the airlines' right to confidentiality. He also is of the opinion that the removal of the human element removes some adaptability within the system.

6.1.1.4 Administrative slot allocation vs Commercial slot allocation?

While some believe that South Africa is ready for commercial slot allocation, the researcher believes that the various concerns highlighted in both Chapters three and five, as well as the argument below, support that South Africa should maintain the administrative slot allocation system as is operated by Australia. The researcher believes that in considering what is right for South Africa, one should look at international market trends. As stated in paragraph 3.2.3, the cost of slots both in the US and in the UK is exorbitant. Using the scenario in the United States, airlines pay these costs as part of their operating costs to ensure stability of their networks. Airline operations are capital intensive and require huge operating costs to be spent monthly. Bankruptcy law in South African does not offer the level of protection offered by US bankruptcy law. US airlines have the option of filing Chapter 11 bankruptcy should they not be in a position to honour their debt and can petition the court to rule that the Company be reorganised which allows that airlines continue operating while holding creditors in abeyance. This is very different to their Chapter 7 bankruptcies, which is similar to the law in South Africa where the court will rule that a company is to be liquidated and both creditors and debtors commitments are met through available liquidated assets. (Wikipedia, 2008) Airlines in South Africa are already experiencing rising fuel prices; increasing ticket prices, airport and air traffic tariffs as well as other cost commitments. If South African airlines are to be expected to pay the going rate for slots as highlighted in Chapter three, the additional burden could cause economic hardship and result in bankruptcy. South Africa does not have the

same leniency in the legal system to provide an airline the opportunity to safely operate while reorganising operations. Another finding highlights that barriers to entry still exists in both systems of allocation.

6.1.2 Gaps:

Both the UK and Australia utilise a web-based system and advocate the benefits of such a system. These include direct and instantaneous access for airlines, full visibility of the available slot pool to airlines, linkage of origin-destination availability, shorter timelines in the value chain allowing for planning and streamlining of resources. While the technology does not remove the barriers presented by historic rights in its entirety; the UK and the US have complemented this with alternative means of allocation to better spread the right to access for Low Cost Carriers. The UK has a secondary trading mechanism which provides airlines with the opportunity to trade slots for a fee. Low Cost Carriers, if they can afford the fee, can purchase these slots. As stated before, the US has ring-fenced their different classes of air services to allow for fair competition amongst like markets when bidding for slots during the slot lottery.

Although the South African Coordinator intends acquiring a web-based a system, the lack of the appropriate slot tool at its disposal has a definite impact, particularly for Airline Three, who has admitted to having technological challenges. However, the researcher is concerned, that the airline, believes that such as system would minimise the deficiencies in its own system and result in a more equitable and transparent process which would then level the playing fields. The researcher believes that these are complementary mechanisms which perform different functions and should be used simultaneously to maximise efficiencies in the slot allocation process. The airline system will allow it to better monitor and arrange their internal operations in terms of aircraft size, slots, planning of maintenance, and ground time. It is also unclear at this stage,

whether the CAMU system will operate directly on the web or be linked to an e-mail system and if it would require some augmentation of systems operated by the airlines.

Despite the above, the various classes of air services will still find that the playing fields are not level and that the Low Cost Carrier will still be competing against the established airline for access and markets.

Existing bankruptcy legislation does also not provide an airline the leeway to continue operations should it be overextended. The Commercial slot allocation system will considerably increase airline operation costs which again will favour airlines that are cash-flush who can afford additional costs causing in a barrier to entry for poorer, less established airlines.

6.1.3 Conclusions and recommendations:

Knowledge of the hindrances within the allocation process, barriers to entry and abuses of utilisation of slots enable the coordinator to put appropriate measures in place to hold airlines accountable and enhance access for all airlines.

The researcher concludes that the research supports the hypothesis that a transparent, stream-lined slot co-ordination and allocation process will enhance monitoring and enforcement of slot co-ordination to increase efficiency and safety. The appropriate application of technology and concurrent systems should enhance communication, slot allocation, identification of gaps which could be optimised and monitoring of processes for both the CAMU and the various airlines. Industry fora such as the Operator's Committee (OPSCOM) and the Air Traffic Flow Management Forum (ATFM) should be maintained to afford the aviation industry the opportunity to communicate their needs and concerns to ATNS regarding the service they provide.

As regards level playing fields, South Africa could consider following the US model and ring-fencing the various classes of air services. This could be tailor-made to accommodate local conditions and ring-fence allocations for international flights, the established domestic airlines and the low-cost domestic airlines. While implementation of such a recommendation would entail a re-configuration of the slot allocation system, it would provide Low Cost Carriers the right to compete with each other for equitable access to peak and non-peak slots. While CAMU will do their utmost to ensure equity through the use of technology, all airlines should be encouraged to utilise their own systems in collaboration with that of the slot coordinator. The coordination process should still be based on the administrative system as the international trends have proven that the commercial system is expensive with no guarantees of removing existing constraints. The South African industry also does not have supporting legislation to ensure continued operation of cash-strapped airlines who cannot afford the slots it needs which could have a devastating impact on the competitive landscape of the aviation industry. While some believe that this could be a correction in the market, it could, the researcher believes, only result in curtailing fair competition.

6.2 A separation of functions through the appropriate placement of an oversight body and an effective legislative and institutional framework will encourage fair competition amongst all stakeholders.

The hypothesis contends that an oversight body backed by an effective legislative and institutional framework will encourage fair competition amongst stakeholders and have a positive impact on the system.

6.2.1 Discussion:

The findings of this area of research supports the above hypothesis in that such a body will act as a deterrent in conjunction with the spectre of a stringent penalty

system. The Slot coordinators consulted have all stated that an oversight body has been a deterrent through the support of an effective and flexible legislative framework. However, rather than guarantee zero infringements, they highlight that infringements will still occur and have some negative impact on the system. The researcher believes that an effective split in the responsibilities accorded to the various institutions should be clearly stated in legislation as it is important to prevent conflicting concurrent roles and responsibilities that leads to confusion and creates room for unfair competition.

The reality is a formalized legislative and institutional framework will only minimize the propensity of the various infringements committed by airlines and will put CAMU and the government in a stronger position to manage slot coordination and performance in a streamlined and transparent manner. An independent body will foster a sense of accountability in that not only are airlines held accountable; but the CAMU or any appointed coordinator, will also be held accountable. Airline Two specifically stressed that the legislation should mandate the parameters of oversight which should act as a deterrent of anti-competitive behaviour preventing airlines from intentionally flouting the rules and the CAMU process from prejudicing any of the airlines.

As stated previously, the South African industry is a self-regulatory one in that the functioning of the slot allocation and performance system is dependant on the goodwill of the airline community. Local rules, containing the capacity declaration and outlines standard operating procedures for slot allocation and performance, form the basis of current slot coordination and performance. Interestingly, when the researcher asked airlines to elaborate on their view of ideal legislative framework, as well as the placement of an oversight body, each of the airlines proposed a scenario offering different levels of oversight and accountability.

Airline One stated that while compliance with the rules are important; they did not subscribe to over-regulation and believed that the current system which included

ATNS/CAMU as the IATA Coordinator should continue allocation and monitoring as they are currently doing and that the Slot Performance Committee should continue in its oversight role. Airline One also cited concerns with existing legislation, stating that coordination and cooperation would be more fruitful to ensuring effective and streamlined operations. This stance was in contrast to the view expressed by both Airlines Two and Three, who supported the promulgation of a legislative framework which they believed would be beneficial to their operations. Airline Three supported the current system, stating that it should be more transparent. Airline Two believed that a future independent, non-profit coordination function was critical and that the Department of Transport should promulgate legislation which clearly communicated its mandate, performance measures and provisions of accountability. Non-performance should result in a suspension of the co-ordination services and DOT would transfer this function back to ATNS (CAMU) until the problem had been addressed.

Australia and the United Kingdom have stated that an appropriate legislative, institutional and regulatory framework is essential to facilitate a transparent and effective slot coordination function and effectively support the monitoring and enforcement functions.

6.2.2 Gaps:

While the UK, US and Australia all state that they have not separated their allocation and performance functions; their legislation clearly provides a mandate for an independent oversight body to regulate the performance of the coordinator and the utilization of slots by airlines. As stated in Chapter three, the UK through the ACL, is charged with slot allocation and performance and believe that this arrangement offers certain efficiencies which benefit the airlines such as quicker turnaround times for solutions.

The Australian legislation as explained in Chapter three allows for the imposition

of penalties for infringements committed. It also provides airlines the opportunity for recourse should they wish to appeal a decision made by the Slot Coordinator or the Slot Manager, reviewed. The United Kingdom have made similar regulations which makes provision in the same areas as the Australian legislation; but goes a step further by making provision for criminal penalties. (Civil Aviation, the Airports Slot Allocation Regulations, 2006 N0 2665) Unlike US and UK legislation, the Australian legislative framework provides the flexibility to consider exemptions.

These are not concurrent functions; but separate that encourages transparency, and accountability. Slot performance in the UK is considered by the airlines have the Slot Performance Committee; Australia utilizes their Slot Committee in the same way. The US has very unique rules as highlighted in Chapter five. Instead of having a dedicated Committee regulating Slot performance, such as the Slot Performance Committee in the UK and the Slot Committee in Australia, oversight of the slot allocation and performance in the US is done by the Air Traffic Services Committee charged by Government to oversee all its facets of air traffic including slot allocation and performance. These bodies all provide stakeholders the opportunity to hold the coordinator accountable through the separations of functions to ensure impartiality should a stakeholder feel aggrieved by any decision taken. It also allows stakeholders to understand that the coordinator is also accountable.

Each respondent to the questionnaire stated that an effective legislative framework and the appropriate separation of functions are important to the transparency, credibility and effectiveness of slot allocation and performance function. In fact, Mr Krolke of the ACA in Australia was adamant that there were no shortcomings to the Australian system.

However, during 2006, the Slot Coordinator at ACA and the Slot Manager, were put on notice when results of an audit conducted by the Australian National Audit

Office, an independent body, assessed the implementation and administration of the Slot Management Scheme at Sydney Airport as well as slot compliance and the determinations made, based on the mandate of the SADM Act. The findings of this report state that:

- legislation is not interpreted by stakeholders as intended, resulting in ineffective operations .
- Allocation and management of slots did not comply with prescripts of the SADM Act. Some instances of unauthorised aircraft movements were found that resulted in the movements per hour being higher than the legislated threshold of 80 movements.

This has necessitated that Airport Coordination Australia had to issue a clarification of all the rules surrounding slot coordination and confirm sanctions which would be applied should airlines not comply.

6.2.3 Conclusions and recommendations:

In light of the above, the researcher believes that a sustained communication programme, coupled with a comprehensive legislative framework should be instituted which will effectively address the concerns of transparency and accountability experienced by the local aviation industry. While it is critical that slot allocation and performance be a statutory function with a comprehensive legislative framework providing legislative support for the slot coordination function, a separation of functions to ensure fairness, transparency and accountability, as well as statutory support to the enforcement function, it is even more important that all stakeholders have a clear understanding of the legislative framework. Airlines, particularly, must understand their roles and responsibilities in this environment as well as the impacts of these on their business, both positive and negative.

International Slot Coordinators have stated that they successfully perform the

allocation and performance function, despite some concerns regarding open communication. They also state that an independent body ensured the due provision of due diligence and good governance in that airlines were offered recourse and could appeal sanctions set. Of the countries used as benchmarks for this study, the US is the only country where air navigation and slot co-ordination is provided by the same entity. Slot allocation is performed by an independent slot coordinator in both the UK and Australia.

Air Navigation is wide-ranging as highlighted in chapter two. The researcher believes that the separation of these functions from the slot coordination function is important in the South African context due to the possible conflict of interest highlighted previously. It is important that legislation supports the establishment of an independent slot coordinator which will separate the physical air traffic control function from that of slot coordination and provides the framework for allocation, monitoring and enforcement. It is important that there is recourse and the Slot Coordinating Committee which is already in existence should be provided with the legislative backing to review sanctions imposed by an independent Slot Coordinator.

The researcher believes that an independent oversight body will minimise infringements, it will not prevent both the airlines and the co-ordinating body from committing infringements. The separation of functions and appropriate legislative support will further enhance transparency in that accountability is clearly outlined to all role-players and recourse should be provided for airlines who feel justly aggrieved in terms of the allocation or enforcement procedures.

6.3 Effective monitoring and enforcement of slot performance and usage by international and domestic airlines will increase the optimum use of capacity available at slot co-ordinated airports ahead of the 2010 FIFA World Cup™

The above hypothesis postulates that effective monitoring and enforcement should indirectly facilitate optimum capacity utilization at these airports. A supportive legislative framework, combined with an increased ability to monitor slot usage fairly with better consistency and the ability to enforce local rules flouted by repeat offenders will create certainty and increase credibility in the system. It will also ensure that slot time used by offenders will be redistributed fairly to airlines who could better utilize the slots.

6.3.1 Discussion

This hypothesis is not supported by the research in that monitoring and enforcement will increase capacity to the extent that infringements will be reduced resulting in better utilisation of existing capacity and consistency in a process that is efficient and streamlined. Capacity cannot be increased significantly ahead of the 2010 FIFA World Cup™, unless additional measures are utilised. Rather finding support competing hypothesis One which says that effective monitoring and enforcement of slot co-ordination and usage will not contribute to a significant increase in capacity and levels of safety. This statement has been supported by the interviews held with the airlines as well as the statement made by the US, where they contend that they deal with capacity constraints by first building additional infrastructure before limiting flights into an airport. Implementation of a legislative framework including a monitoring and enforcement programme ahead of the 2010 FIFA World Cup™ will allow the industry the opportunity to familiarise themselves with the environment and to routine their operations.

6.3.2 Gaps:

As stated previously, the current system of monitoring and enforcement is not a formal one and should the coordinator be taken up on review, the IATA Slot coordinator would be vulnerable in that a legal decision taken without supporting

legislation would set a precedent which might not support the oversight function effectively. Each country strives to optimise capacity usage at their airports provided that safety is maintained. The South African industry, in comparison to that of the US, UK and Australia, is small and the existing system has been effective in that most parties have been compliant. However, as stated previously, unprecedented growth has been experienced in the industry and future growth as well as the spike of traffic during the 2010 FIFA World Cup™ might result in anarchy with new airlines entering, both domestic and international entering the market. In this altered environment, it would be critical to communicate the slot allocation and performance systems, as well as sanctions.

The UK and Australia have stringent legislative frameworks which provide consistency. In fact, Mr Krolke states that the ACA has imposed heavy penalties which have resulted in compliance of over 80%. This, he believes has had a positive impact in that the penalties have acted as a deterrent. The UK also state that the Code on Misuse of Slots (2007) which include sanctions has led to a substantial reduction in infringements and increased discipline by airlines as shown in chapter five. The US system of rules has supported the regulation of capacity to streamline, limit or increase capacity at their fully coordinated airports.

6.3.3 Conclusions and recommendations:

While the impact of monitoring and enforcement alone will not increase the available capacity substantially, it will facilitate that the available capacity be optimised through increased efficiency and transparency. Possible infringements could include the 80/20 principle, on-time performance, hoarding of slots, utilisation of aircraft size not authorised. Sanctions which are relative to the gravity of the infringement, should be applied consistently. Again, communication is important and the coordinator should test the airlines understanding of the legislation as it applies to monitoring and enforcement. Regular communication, possibly on the web, of the airlines performance should be made available to

assist them to improve performance and the trends should inform the application of sanctions as required.

Building a legislative programme is a lengthy one as consultation and the necessary parliamentary processes must be followed. The Researcher would recommend that a Memorandum of Understanding be concluded with the Competition Commission to ensure that in the interim, anti-competitive behaviour within the slot performance environment can be addressed.

6.4 Recommendations: The new framework – The South African Proposal

As previously stated, as this is a young industry, it would be important to maintain an administrative slot coordination system. The current economic conditions as highlighted in Chapter three and harsh bankruptcy laws do not support the application of the commercial slot allocation system. From a strategic perspective, Airlines should utilize technology to compliment that employed by the IATA Coordinator to enhance flexibility and transparency as well as to optimize utilization of allocations from the slot pool and enhancement of the strings of aircraft. Equity and transparency could be further enhanced in following the US example of ring-fencing the different classes of aircraft, so that like compete against like for a set pool of slots.

A legislative framework which is flexible, building on some of the options provided by the frameworks investigated during this research would be important. The support provided by such as framework should improve slot utilization and performance as highlighted by the UK in Figure 5.1. While building the support for monitoring and enforcement into legislation will not substantially increase the available capacity prior to the 2010 FIFA World Cup™, it will facilitate that the available capacity be optimised through increased fairness, efficiency and transparency. It is important that the degree of sanctions applied should be

commensurate to the level of infringement perpetrated. Legislation, in conjunction with a communications programme to ensure buy-in, understanding and clarity of roles, should provide the necessary support to ensure accountability on all fronts. It should also assist the Coordinator in creating consistency, routine and simplicity within the slot coordination environment. Provision for regulations dealing with special events such as the FIFA 2010 World Cup™, as well as the closure of a coordinated airport for ad-hoc reasons such as an accident at the airport

As stated previously, enacting legislation is a lengthy process. The Competitions Commission of South Africa has the necessary legislation to enforce, not the entire operational spectrum highlighted in this research; but the ability to legislate in terms of anti-competitive behaviour. To build consistency and accountability within the system in the interim, a Memorandum of Understanding between the various levels of slot coordination institutions and committees with the competition authorities will be an option to build some legislative support in this system.

Oversight of the slot allocation and performance process by an independent entity that engenders transparency and credibility is important in the value chain. Airlines will be held accountable; but they will be subject to the same rules as coordinator. As highlighted by the Australian experience where ANAO audited the ACA and had them effect changes to ensure transparency and consistency in terms of the legislation. Airline Two's suggestion that clear articulation of the responsibilities and expectations of the coordinator must be enacted in legislation as well as consequences of non-performance is important in ensuring that this is an accountable and transparent process. It also reiterates the fact that independent auditing of such as system is important in maintaining credibility and effectiveness and goes a long way to optimizing the system.

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ANNEXURE A: ACRONYMS

ACSA	Airports Company of South Africa
ATNS	Air Traffic Management Company
ACL	Airports Coordinated Limited
ACI	Airport Council International
AIP	Aeronautical Information Publication
ATC	Air Traffic Controller
BASA	Bilateral Air Services Agreement
CAB	Civil Aeronautics Board
CAMU	Central Airspace Management Unit
EC	European Community
FIFA	Federation Internationale de Football Association
FAA	Federal Aviation Authority
LCC	Low Cost Carrier
IATA	International Air Transport Association
ICAO	International Civil Aviation Organisation
OECD	Organisation for Economic Co-operation and Development
NERA	National Economic Research Associates
SADM	Sydney Airport Demand Management Act (1997)
SARPS	Standards, recommendations and Practices
WSG	Worldwide Scheduling Guidelines

ANNEXURE B: DEFINITIONS

As policy of ICAO, Article 15 of the Chicago Convention focuses on airport and air navigation services charges based on three principles, which are:

- o Equal access and use of airport and air navigation facilities for both domestic and foreign aircraft;
- o Equal charges to be imposed for domestic and international aircraft for the use of airports or air navigation facilities to aircraft performing similar international operations; and
- o Charges should not be imposed only for the right to obtain authorisation to fly into, over or out of a country; as each country has the right to recover charges in terms of the services provided to an aircraft

Axial Coding provides the opportunity to build the data differently, using the existing categories and sub-categories.

Bilateral Air Services Agreement (BASA) is an economic regulatory tool where countries reach agreement after negotiations on the frequency and rules governing air services between the two countries.

A Coordinated Airport (Level 3 Airport) is one where there are capacity constraints and the level of congestion is such that the demand for facilities exceeds availability. Utilisation of voluntary schedule changes between airlines has not succeeded and slots must be allocated to ensure that airlines can access the airport safely.

A Coordinator is either a natural person or a legal entity that has the responsibility to schedule slots at airports and to coordinate access to airports by airlines. This function should be conducted in a neutral, transparent and non-discriminatory manner.

Code-Share Agreement operations are flights operated by an airline that has a commercial agreement with one or many other airline operators to transport their passengers on the same aircraft

Discriminate sampling which is directed, requires that the researcher chooses sites, persons and documents which have a greater probability of supporting the storyline or core category, the linkages, relationships and gaps which must still be filled.

Domestic Airlines provide air transport for passengers and cargo between domestic points within the country in which the aircraft is registered.

A feeder service is a service offered to passengers on regional routes that feeds traffic to major domestic and international services.

A Full-cost airline offers a full service that includes pre-seating and meals.

Also called Grandfather Rights, Historical Precedence refers to slots operated by an airline where at least five flights have been operated as allocated scheduled at the same time every day of the week. This is core to the IATA system of World-wide scheduling guidelines. It applies to equivalent scheduling seasons, ie summer to summer, provided these are allocated for scheduled services and at least 80% of the slots allocated were operated and cleared by the coordinator.

Grounded Theory techniques allow the researcher the flexible use of data collection, including perceptions and experiences of individuals in the aviation environment.

A Hub Airport is an airport, which has many inbound and outbound flights which are coordinated with connecting flights. The aim is to provide passengers with

seamless and convenient access to various destinations. An airport usually serves as a base for one airline, although in exceptional circumstances, it will serve more than one airline.

International Airlines are authorised to conduct scheduled air services to transport passengers and cargo from the country of origin to the country of destination.

New Entrant refers to an airline which, if the request for slots has been accepted by a coordinator, would hold a series of slots which totals less than five slots a day. In terms of this research, this refers to the Low Cost Carrier that offers a no frills service at reduced airfares.

Non-scheduled Airlines conduct non-scheduled operations. Regional Airlines Short-haul scheduled passenger services connecting small and medium-sized communities with major cities and hubs. In South Africa, Regional flights are flights to neighbouring states in Africa.

Open coding is the breaking down of information into bite-size bits which should better inform the researcher's understanding of the problem statement and primary data.

Scheduled airlines conduct scheduled services which are a series of flights between two or more points, operated according to a published time table, with regularity according to a published time-table or a recognisable systematic series.

Secondary trading is regarded as the transfer of the ownership of slots, which have previously been allocated to one airline, to another for some form of payment.

Selective Coding is the process in which the story is built around the core

phenomenon or category in the study. It entails the systematic linking of categories on a dimensional level, validation of those linkages and then further refining and developing of categories as required.

A slot is the scheduled time of arrival or departure on a specific date, allocated by a coordinator to an airline for the arrival and departure at a specific airport.

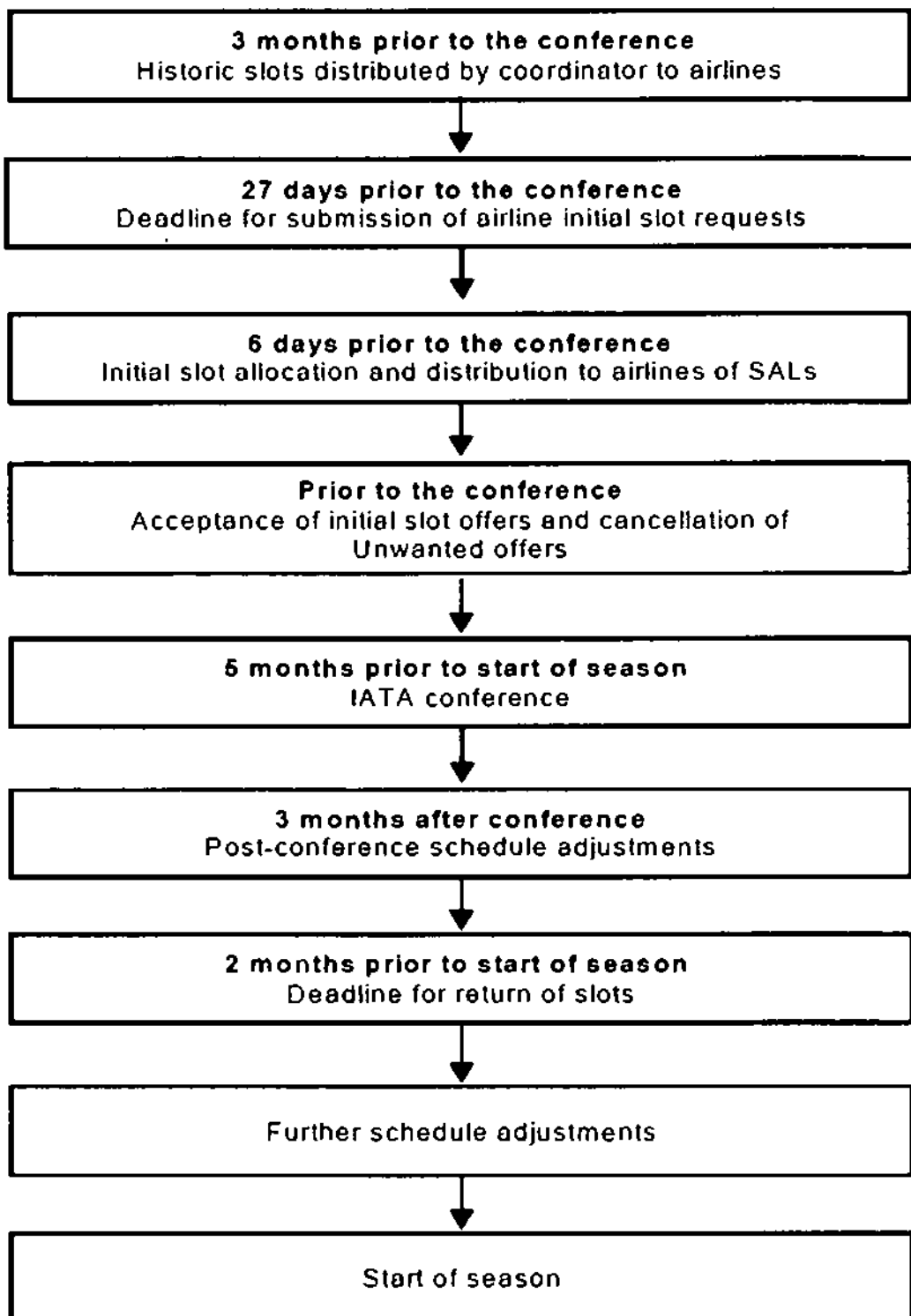
Slot monitoring is the ability to compare planned and actual use of slots for calculation of historic rights and identification of abuse of slot usage by airlines.

The Slot Pool consists of slots available for allocation to airlines. These slots are available after the historical slots have been allocated and any schedule changes have been secured.

Theoretical sampling is based on the generation of concepts, which have theoretical relevance to the outcome or evolving framework to be presented in the research.

The Use it or Lose it Principle refers to a requirement that airlines utilize their allocated slots on-time or lose historical rights for those slots in the next equivalent period.

ANNEXURE C: IATA SLOT ALLOCATION PROCESS



Source: Draft report of the Dublin Airport Capacity Study, June 2004: 8

ANNEXURE D: PROPOSED QUESTIONNAIRE – SLOT CO-ORDINATORS

Slot Allocation Process:

- 1. Which airports are fully coordinated in your country?**
- 2. Is the capacity declaration for fully coordinated airports done per airport or is it a joint capacity declaration?**
- 3. Please specify the current capacity declaration or joint capacity declaration at each airport**
- 4. Please elaborate on the capacity limitations experienced at the individual co-ordinated airports in your country?**
- 5. What are the current air traffic movement figures at Level 3 airports in your country, per annum?**
- 6. Does your institution administer an administrative slot coordination process such as the IATA Coordination process or a commercial slot allocation process such as slot trading?**
- 7. Please elaborate in detail on the slot allocation process followed in your country?**
- 8. Do you believe that all stakeholders are given an opportunity to interact with respect to requests for slot allocation?**
- 9. Is a standard procedure used for both domestic and international airlines?**
- 10. In light of the above, do you believe that the slot allocation process followed is transparent and streamlined?**
- 11. What would the Slot Allocation Authority regard to be a capacity-constrained airport?**
- 12. Please elaborate on whether any of your airports are capacity constrained and elaborate on how each airport is constrained.**
- 13. Do you believe that the slot allocation process increases capacity at each of your fully-coordinated airports?**
- 14. How is your slot allocation process utilised to increase available**

- capacity at each of your fully coordinated airports?
15. Is the slot allocation and slot performance mechanisms separate from each other and why?
 16. How is slot performance measured in your country?
 17. What criteria are used by the slot coordinator to measure slot performance?
 18. Do you believe that slot performance is successfully measured and why?

Legislative and Regulatory Framework:

19. Is there a legislative framework mandating enforcement of non-compliance. Please elaborate.
20. Do you believe that the legislative framework is sufficient to enforce compliance?
21. Please specify why you believe that the legislative framework is ineffective?
22. What are the impacts of this on slot usage?
23. What are the most commonly-found forms of non-compliance perpetrated at your fully-coordinated airports
24. Please provide specific information in the form of statistics on the nature of the transgressions experiences, how these are monitored and and what sanctions and penalties are applied?
25. What sanctions are applied for non-compliance and deemed to be penalised?
26. Do you believe the sanctions applied are a deterrent and why do you believe this?
27. Please elaborate on the regulatory framework currently governing slot allocation in your country
28. Please provide information regarding the legislative framework as it applies to your local rules.

Sanctions:

29. Please specify the various fines imposed for the various transgressions by airlines
30. Which avenues are in place to allow that the slot coordinator's processes and non-compliance can be taken on review by industry stakeholders?
31. Has such an occurrence happened previously? Please provide details.

Funding:

32. How is slot-coordination funded in your country? Please elaborate.

ANNEXURE E: QUESTIONS FOR INTERVIEWS WITH AIRLINES:

1. What is your perception of the manner in which slot coordination currently takes place in South Africa?
2. Do you believe that the current slot allocation and performance system is a transparent and equitable system and elaborate on your answer?
3. Do you support the continued allocation of grandfather rights and why is this?
4. How does the allocation of grandfather rights at South African fully coordinated airports affect new entrants?
5. If so, what opportunities should be created to facilitate easier access for new entrants?
6. Do you currently experience any capacity constraints in obtaining slots at either of the Level 3 airports?
7. How does this impact on your business?
8. What types of non-compliance is currently experienced at the various slot coordinated airports to which your airline operates?
9. What are the most common forms of non-compliance?
10. How does this impact on your airline?
11. What types of sanctions do you believe should be applied in the event of non-compliance?
12. What would you envisage as the optimum form of slot allocation for South Africa and how would you see this unfolding?
13. What do you believe would be the ideal legislative framework application for South Africa?
14. How do you believe the monitoring of slot performance should be carried out?
15. Do you believe that a mechanism should be put in place to allow an airline to take the slot coordinator up on review, if necessary? How would you see this unfolding?
16. How should slot coordination and performance be funded?

17. What mechanisms, do you believe, would facilitate the increase of competition at these slot coordinated airports?
18. Do you support administrative slot allocation versus commercial slot allocation and why?
19. How would this facilitate an increase in available capacity at Johannesburg, Cape Town and Durban?

ANNEXURE F:

Leedy and Ormond (2005) propose that the following questionnaire be interrogated in determining whether a proposed research project is realistic and practical. The researcher has answered these questions to ascertain whether the research was realistic and practical; but also to have a better understanding of the data available to guide the research process further.

THE PROBLEM:

1. With what area(s) will the problem deal:
 - a. **People**
 - b. **Things**
 - c. **Records**
 - d. **Thoughts and ideas**
 - e. **Dynamics and Energy**

2. Are data that relate directly to the problem available for each of the categories you've just checked: **Yes** or **No**.
3. What academic discipline is primarily concerned with the problem.
Operations and Strategy
4. What other academic disciplines are related to the problem.
None
5. What special aptitude do you have as a researcher for this problem?
 - a. **Interest in the problem**
 - b. **Experience in the problem area**
 - c. **Education and/or training**
 - d. **Other (specify)**

THE DATA:

6. How are the data available to you?

- a. Readily available
 - b. Available, with permission**
 - c. Available with great difficulty
 - d. Unavailable
7. How often are you personally in contact with the source of the data?
- a. Once a day
 - b. Once a week
 - c. Once a month**
 - d. Once a year
 - e. Never
8. Will the data arise directly out of the problem situation? **Yes or No.**
If you answer no, where or how will you secure the data?
9. How do you plan to gather data?
- a. Observation
 - b. Questionnaire**
 - c. Tests or inventories
 - d. Photocopying of records
 - e. Interview and tape recording**
 - f. Other (explain):
10. Is special equipment or are special conditions necessary for gathering or processing the data? **Yes or no.** If your answer is yes, specify:
Tape recorder
Computer
11. If you will need special equipment, do you have access to such equipment and the skill to use it: **Yes or No.** If the answer is no, how do you intend to overcome this difficulty.
12. What is the estimated cost in time and money to gather the data?

13. What evidence do you have that the data you gather will be valid and reliable indicators of the phenomena you wish to study?

CRITERIA-BASED EVALUATION:

14. Does the research project meet the four criteria applicable to all research:

Universality: Yes or no

Replication: Yes or no

Control: Yes or no

Measurement: Yes or no

15. As you review the responses to this checklist, might any of the factors just considered, or any other factors hinder a successful completion of your research project.

Yes or No. If yes, list those factors.

ANNEXURE G: SOUTH AFRICAN LEGISLATION

The current aviation legislative framework in South Africa includes:

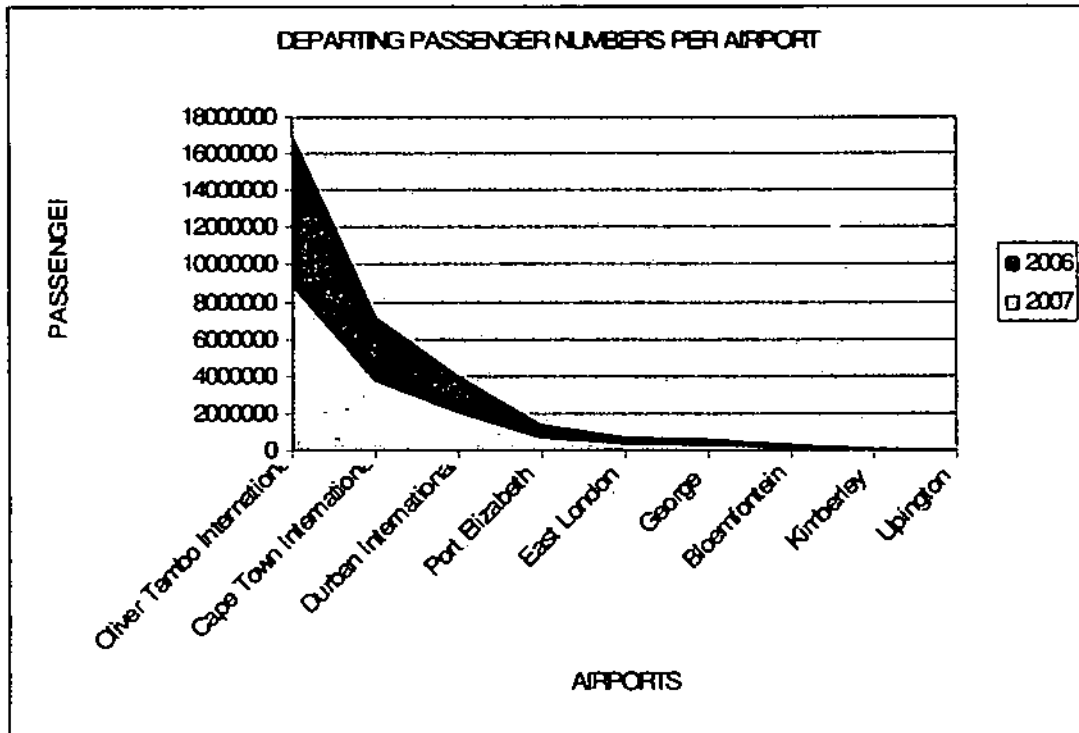
LEGISLATION	DESCRIPTION
Convention on International Civil Aviation, 1944	Commonly known as the Chicago Convention. Formalised in 1944, it set the basis for the regulation of Global Civil Aviation.
Aviation Act, 74 of 1962	Each country is expected to give effect to the Chicago Convention by promulgating its own legislation. This act gave effect to the above within South Africa
Air Services Licencing Act No 115 of 1990	This act mandates the establishment of the Air Services Licencing Council which oversees access to the domestic market by ensuring an airlines ability to provide safe, secure and sustainable air services. It also provides a framework within which this council operates. The domestic market is deregulated.
International Air Services Act, No 60 of 1993	This act mandates the establishment of the International Air Services Council which accords South African carriers the licence to operate international flights on a specific route to a foreign destination in terms of the Bilateral Air Services Agreement in place between South Africa and the foreign country concerned.
ACSA Act 44 of 1993	Mandates the establishment of the Airports Company of South Africa. It provides clear guidelines to the operational requirements of the ACSA airports. The statutory body called the Regulating Committee of ACSA and ATNS is established in term of this Act and mandates the Regulating Committee to: <ul style="list-style-type: none"> • Ensure that both ACSA and ATNS employ fiscal restraint and make a reasonable return; • That both Companies maintain services standards; and • Adjudicate complaints in terms of the above company.
ATNS Act 45 of 1993	The ATNS Act mandates the establishment of the Air Services and Navigation Services Company. It specifies the requirements for establishment and

Airlift Strategy, 2006 DOT

ANNEXURE H:

AIRPORT	DEPARTING PASSENGER NUMBERS		
	2007	2006	DIFFERENCE
Oliver Tambo International	8911000	8099000	812000
Cape Town International	3768000	3433000	335000
Durban International	2136000	1860000	276000
Port Elizabeth	724000	656000	68000
East London	349000	299000	50000
George	300000	299000	1000
Bloemfontein	181000	128000	53000
Kimberley	66000	58000	8000
Upington	20000	16000	4000
TOTAL	16455000	14848000	1607000

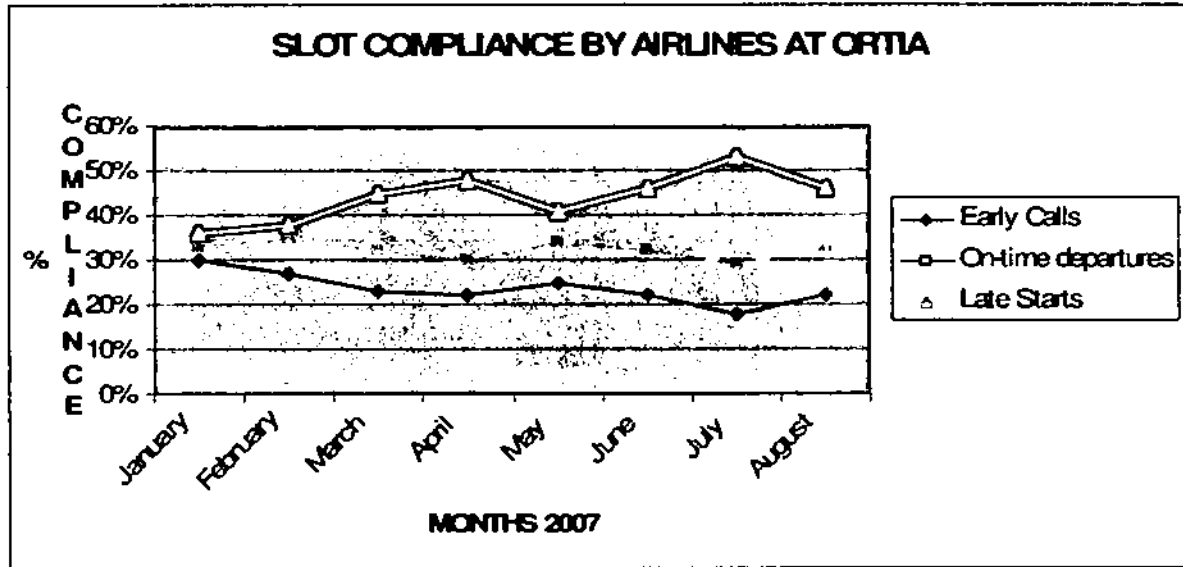
Source: ACSA Annual Report, 2007



Source: ACSA Annual Report, 2007

ANNEXURE I: SLOT COMPLIANCE BY AIRLINES PER AIRPORT

1. OLIVER TAMBO INTERNATIONAL AIRPORT:

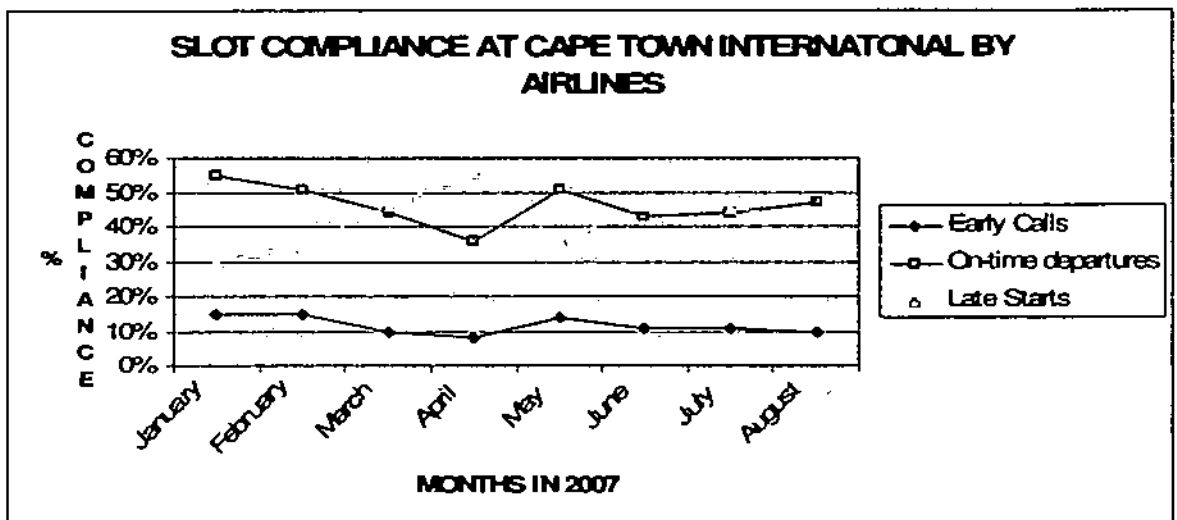


SLOT COMPLIANCE BY AIRCRAFT - ORTIA

Compliance	% COMPLIANCE in 2007							
	January	February	March	April	May	June	July	August
Early Calls	30%	27%	23%	22%	25%	22%	18%	22%
On-time departures	33%	35%	32%	30%	34%	32%	29%	32%
Late Starts	36%	38%	45%	48%	41%	46%	53%	46%

Source: ATNS, 2007

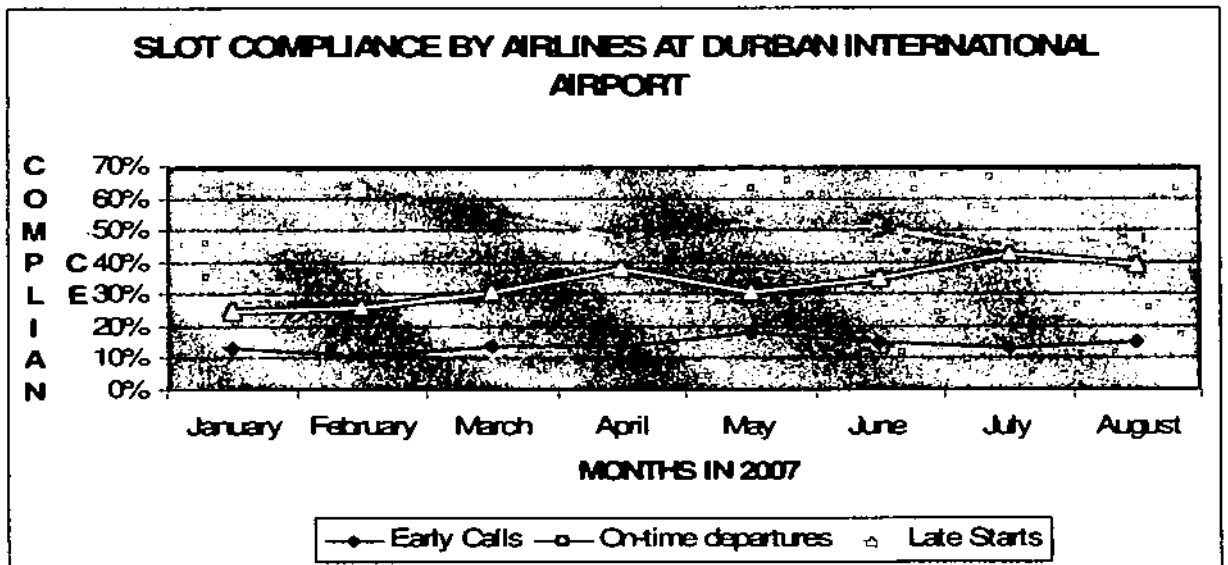
2. CAPE TOWN INTERNATIONAL AIRPORT:



SLOT COMPLIANCE BY AIRLINES AT CAPE TOWN INTERNATIONAL								
Compliance	% COMPLIANCE in 2007							
	January	February	March	April	May	June	July	August
Early Calls	15%	15%	10%	8%	14%	11%	11%	10%
On-time departures	55%	51%	44%	36%	51%	43%	44%	47%
Late Starts	30%	35%	46%	56%	36%	46%	45%	43%

Source: ATNS, 2007

3. DURBAN INTERNATIONAL AIRPORT:



SLOT COMPLIANCE BY AIRLINES AT DURBAN INTERNATIONAL								
Compliance	% COMPLIANCE in 2007							
	January	February	March	April	May	June	July	August
Early Calls	13%	11%	14%	14%	18%	15%	13%	15%
On-time departures	62%	63%	55%	48%	52%	51%	44%	47%
Late Starts	25%	26%	31%	38%	31%	35%	43%	39%

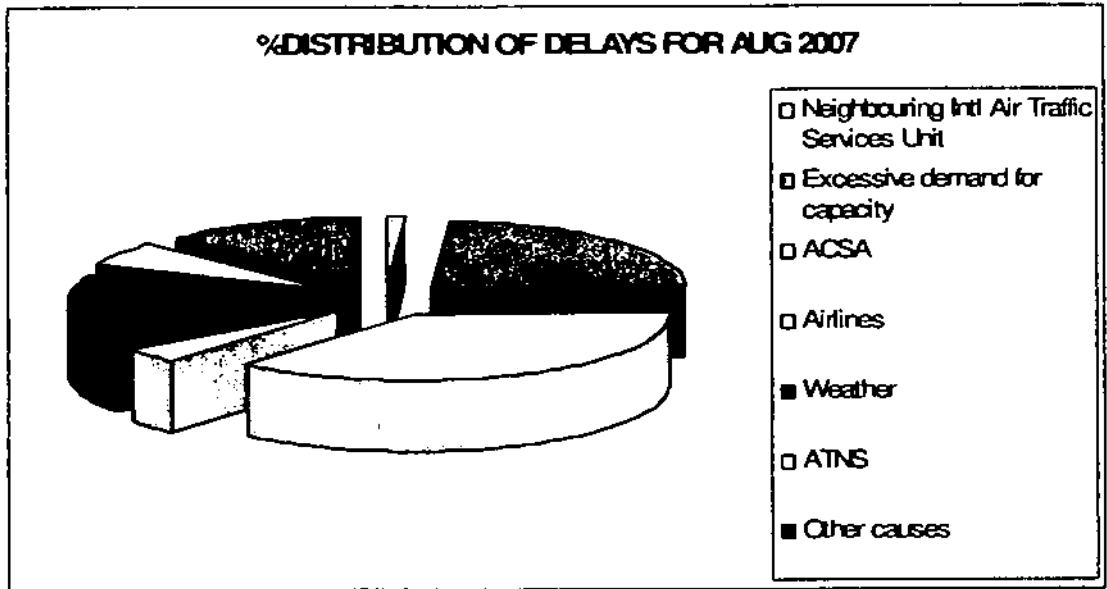
Source: ATNS 2007

ANNEXURE J: DELAYS OVER FIVE-YEAR PERIOD

YEARS	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUN	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
2003	00:02:31	00:07:34	00:07:48	00:01:41	00:02:30	00:07:50	00:04:14	00:01:17	00:01:52	00:02:18	00:00:55	00:00:42
2004	00:01:39	00:01:13	00:01:45	00:00:43	00:01:18	00:00:47	00:00:37	00:00:44	00:00:29	00:00:19	00:00:28	00:00:27
2005	00:00:22	00:02:19	00:00:18	00:00:27	00:01:14	00:00:12	00:00:39	00:00:23	00:00:24	00:00:21	00:00:43	00:00:11
2006	00:00:21	00:00:27	00:05:45	00:00:43	00:00:43	00:00:36	00:00:34	00:00:32	00:00:29	00:00:48	00:00:22	00:01:17
2007	00:00:19	00:00:37	00:01:36	00:02:24	00:01:34	00:00:48	00:00:42	00:00:21				

Source: ATNS, 2007

ANNEXURE K: DISTRIBUTION OF DELAYS FOR 2007



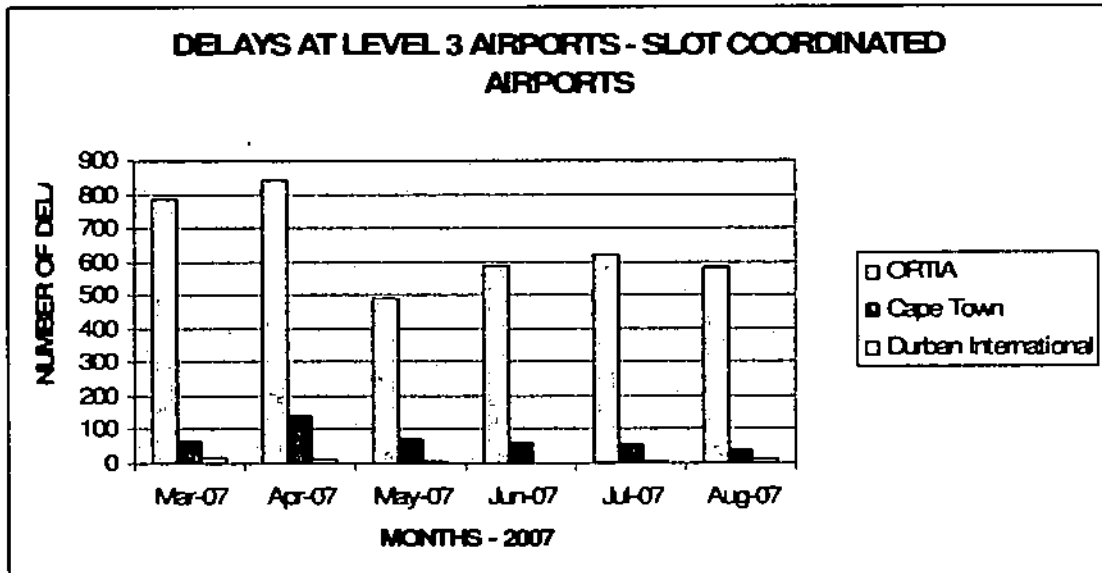
AREAS OF DELAY

%DELAY

Neighbouring Intl Air Traffic Services Unit	1%
Excessive demand for capacity	23.50%
ACSA	36.90%
Airlines	3.70%
Weather	16.30%
ATNS	5.70%
Other causes	12.90%

Source: ATNS 2007

ANNEXURE L: DELAYS AT THE THREE SLOT COORDINATED AIRPORTS



Airports	Mar-07	Apr-07	May-07	Jun-07	Jul-07	Aug-07
ORTIA	786	842	488	585	622	581
Cape Town	65	140	69	60	53	40
Durban International	15	13	8	2	5	13

Source: ATNS 2007

ANNEXURE M: CAPACITY DECLARATIONS OF AUSTRALIAN AIRPORTS FOR NORTHERN SUMMER 2008 (April 2008 – October 2008)

Infrastructure	Sydney	Melbourne	Perth	Adelaide
Runway movement rate	80 planned movements per hour			
TERMINAL ONE: Apron Parking at International Terminal Area	Parking for 26 passenger aircraft: 22 747-400; 1 777-200; 1 767-300 and 1 737 – H	Parking for 10 passenger aircraft: 8 744-400; 1 767-300 and 1 737 – H.	Parking for 6 747-400 aircraft provided one aircraft was to do a layover	Parking for 4 747- 400 aircraft, provided on aircraft is to do a layover.
Apron Parking at International Freight Area	2 747- 400 aircraft			Occupation of position at gate: Arrival: 747 400 – 60 minutes Departure: 747 -400 – 75 minutes (if flying longer than eight hours – 90minutes)
Maximum International Passenger Arrival rate (Seats)	3500 arriving passengers landing within 30 minutes or 6210 arriving passengers within 60 minutes	2615 arriving passengers in a 30-minute period; and 4430 passengers arriving within 60 minutes	1100 Passenger Seats per hour , subject to various separation minima by the full aircraft mix for both international and domestic arrivals	International Arrivals: Minimum separation between aircraft with the following seat configuration: Up to 180 seats – 15 minutes Up to 250 seats – 20 minutes Up to 325 seats – 25 minutes Up to 400 seats – 30 minutes and 400 + seats – 45 minutes International arrivals with domestic connections:

				<p>Up to 180 seats – 10 minutes</p> <p>Up to 250 seats – 10 minutes</p> <p>Up to 325 seats – 15 minutes</p> <p>Up to 400 seats – 20 minutes and</p> <p>400 + seats – 25 minutes</p>
<p>Maximum International Passenger Departure rate (Seats)</p>	<p>3000 outbound passengers within 30 minutes or 5400 passengers departing within 60 minutes</p>	<p>2400 passenger leaving within a 30 minute period and 4000 passengers departing within 60 minutes</p>	<p>900 outwards passengers per hour, subject to various minimum separations for the full aircraft mix; both international and domestic.</p>	<p>International Departures: Minimum separation between aircraft with the following seat configuration:</p> <p>Up to 180 seats – 15 minutes</p> <p>Up to 250 seats – 20 minutes</p> <p>Up to 325 seats – 30 minutes;</p> <p>Up to 400 seats – 40 minutes and</p> <p>400 + seats – 50 minutes</p> <p>International arrivals with domestic connections:</p> <p>Up to 180 seats – 10 minutes</p> <p>Up to 250 seats – 10 minutes</p> <p>Up to 325 seats – 15 minutes</p> <p>Up to 400 seats – 20 minutes</p>

				400 + seats – 25 minutes
TERMINAL TWO: Common User Domestic Terminal				
Apron Parking	Parking 23h00 to 06h00 local time daily except for 24 international flights which depart between 05h05 to 06h00. for 26 aircraft 3 767-300; 15 737-H; 3 BAe 146; 2 DH (De Havilland) and 3 SF 3 aircraft			
Maximum Passenger Arrival Rate	430 passengers within 30 minutes 675 passengers within 60 minutes			
Maximum Passenger Departure Rate	430 passengers within 30 minutes 675 passengers within 60 minutes			
Curfew	No take-offs to the North after 22h45.	No curfew	No curfew	23h00 to 06h00 local time daily except for arriving international flights which may land between 05h05 to 06h00 provided they adhere to special conditions. No other movements between 05h00 -06h00.
Local time	Daylight saving periods will affect Eastern Australia in	Daylight saving periods will affect Eastern	UTC + 8hours No international flights	Daylight saving periods will affect Eastern

	Summer 2008 and will be confirmed for filing in October 2007	Australia in Summer 2008 and will be confirmed for filing in October 2007	between 0h01 and 06h00	Australia in Summer 2008 and will be confirmed for filing in October 2007
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Adapted from the ACA Website: www.coordaus.com.au

ANNEXURE M: CAPACITY DECLARATION AND AUSTRALIAN AIRPORTS CONTINUED:

Infrastructure	Brisbane	Calrns	Goldcoast	Darwin
Runway movement rate				
TERMINAL ONE: Apron Parking at International Terminal Area	10 aircraft up to a 747 – 400 aircraft as well as two remote parking spots for 747 and 767 aircraft.	8 wide-bodied aircraft, including 4 747-400 aircraft. Apron separation between aircraft occupancy is 15minutes.		10 parking positions on the apron for both international and domestic flights. Aircraft mix allowed: 2 747-400, 1 767 -300, 1 767-200, 3 737 –H and 3 737 – 400 aircraft
Apron Parking at International Freight Area				
Maximum International Passenger Arrival rate	2250 seats within a 30-minute period. 3700 seats within a 60-minute period.	International Arrivals: Minimum separation between aircraft with the following seat configuration: Up to 150 seats – 10 minutes Up to 310 seats – 20 minutes 310 + seats – 30 minutes International arrivals with domestic connections: Up to 150 seats – 05	Aircraft with the following seats – arriving: 180 seats – 30 minutes before next aircraft arrives 400 seats – 60 minutes before next aircraft arrives. Departure: 180 seats – 30 minutes before next aircraft departs 400 seats – 60 minutes before next aircraft	International Arrivals: Minimum separation between aircraft with the following seat configuration: Up to 150 seats – 25 minutes Up to 300 seats – 50 minutes Up to 400 seats – 70 minutes and 400 + seats – 80 minutes International arrivals with domestic connections: Up to 150 seats – 15 minutes

		minutes Up to 310 seats – 10 minutes 310 + seats – 15 minutes	departs	Up to 300 seats – 25 minutes Up to 400 seats – 35 minutes and 400 + seats – 40 minutes
Maximum International Passenger Departure rate	2075 seats for outbound flights within a 30-minute period. 3350 seats within a 60-minute period.			International Departures: Minimum separation between aircraft with the following seat configuration: Up to 150 seats – 50 minutes Up to 300 seats – 95 minutes; Up to 400 seats – 130 minutes and 400 + seats – 150 minutes International arrivals with domestic connections: Up to 150 seats – 25 minutes Up to 300 seats – 50 minutes Up to 400 seats – 65 minutes 400 + seats – 75 minutes
TERMINAL TWO: Common User Domestic Terminal				
Apron Parking		10 minute runway separations between domestic flights		20 Minute runway separations between domestic flights
Maximum Passenger Arrival Rate				
Maximum Passenger Departure Rate				
Curfew	No curfew applicable	No curfew applicable	23h00 – 06h00.	

			No movements are planned between 02h30 and 06h05.	
Local time	UTC + 10hours	UTC + 10 hours	UTC + 10hours	UTC + 9h30

Adapted from the ACA Website: www.coordaus.com.au

ANNEXURE N: CONSTRAINTS AT AUSTRALIAN AIRPORTS

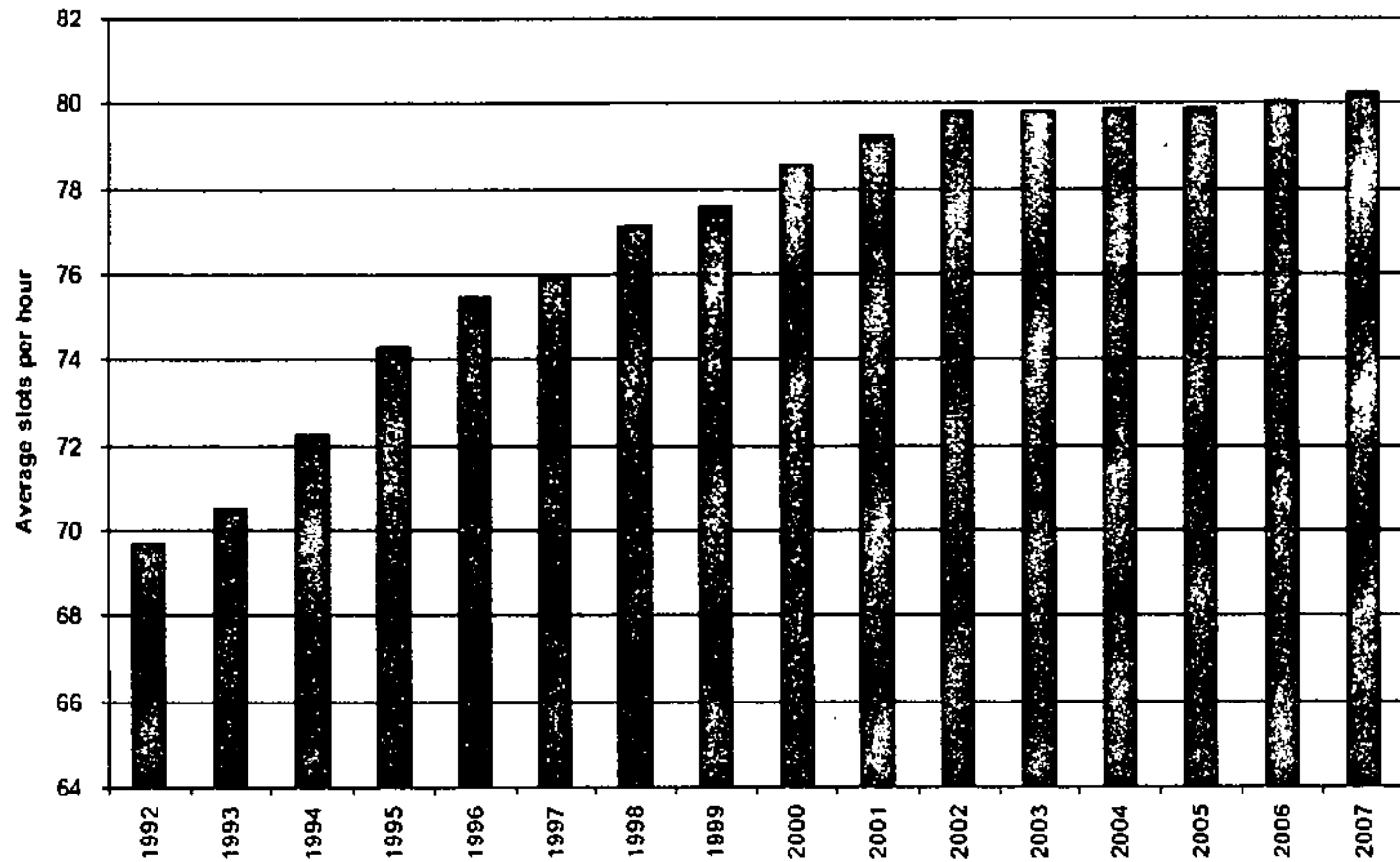
Elaboration of constraints at Australian Airports as provided by Airports Coordination Australia:

Airport	Type of Constraint	Description
Adelaide, Brisbane, Cairns, Darwin, Goldcoast, Melbourne, Perth	Apron	There must be sufficient apron space available to accommodate aircraft at any time.
	Arrival Terminal Capacity	Constraints include immigration counters, customs inspection, baggage reclaim or secondary quarantine inspections. The most limiting physical factor (not manpower) becomes the arrival passenger flow constraint.
	Departure Procedure	Check-in facilities, baggage sorting, emigration or boarding facilities.
Sydney	Environmental	Aircraft Noise, Engine emissions

	airline for that day on which it takes place	<p>↖ The pecuniary penalty payable by an individual operator is 400 penalty units and 2000 penalty units for a body corporate.</p> <p>Determination of Sydney Airport Compliance Scheme, 1998</p>
Infringement of 80-20 Rule	An airline operates on-time less than eighty percent of the time	The airline does not lose the right to operate its grandfather slot,
Uses slots differently from that specified on the application for slot allocation that prejudices either the airport or air traffic operations	<p>↖ Uses an aircraft bigger than that specified on the application for a slot.</p> <p>Determination of Sydney Airport Compliance Scheme, 1998</p>	Penalty of up to £20 000

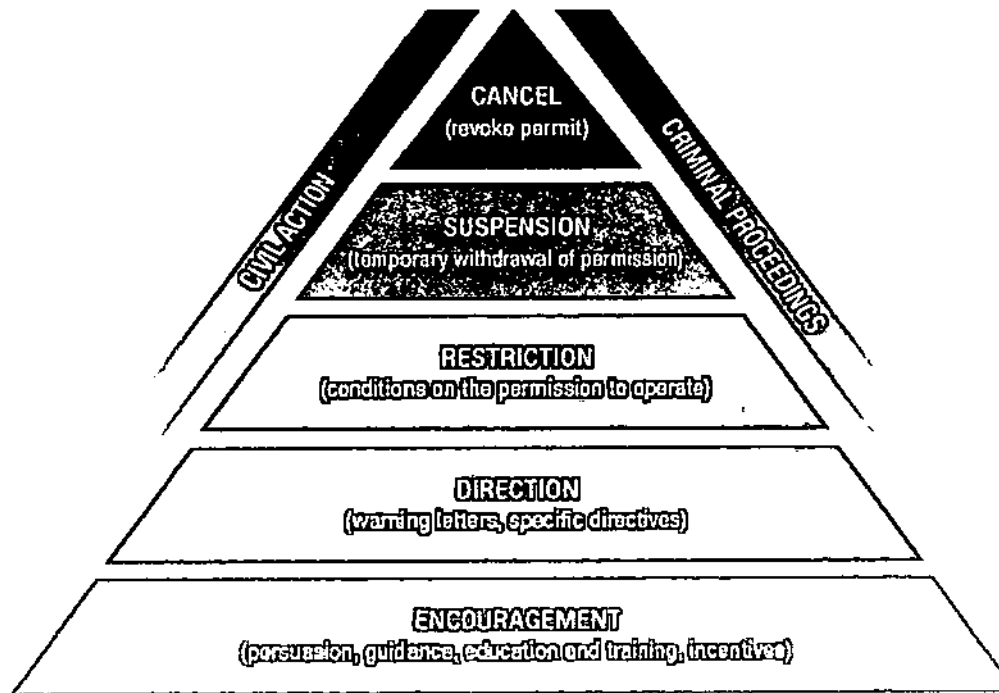
Determination of Sydney Airport Compliance Scheme, 1998

Heathrow Runway Capacity
(Summer seasons, 0600 – 2259 local time)



ANNEXURE P:
Runway movements for Summer Seasons at Heathrow, taken from the briefing document EU-US Open Skies and access p. 1

ANNEXURE Q :Graduated response to non-compliance



"Flexibility in responding to non-compliance is enhanced when a regulator has a range of responses. A set of graduated responses enables a regulator to: impose a response that is proportionate to the risk escalate regulatory action de-escalate regulatory action minimise costs associated with a response".

Source: ANAO: "Administering Regulating" p. 64

© Commonwealth of Australia 2007

Source: ANAO. Based on the enforcement pyramid in Ian Ayres and John Braithwaite, *Responsive Regulation: Transcending the Deregulation Debate*, Oxford University Press, 1992, p. 35.

ANNEXURE R: US LEGISLATION FRAMEWORK:

The Perimeter Rule:

A Federally instituted rule, the Perimeter Rule allows an airport to offer a non-stop service to destinations within a 1250 mile perimeter from Washington D.C.

The High Density Rule:

Established limits on the number of all take-offs and landings during specific hours. In 1969, in an effort to reduce congestion at five high-density airports, while encouraging growth at other nearby airports.

The "Congestion and Delay Reduction at Chicago" Rule:

Established in 2006, the Congestion and Delay Reduction at Chicago Rule will expire on the 31st October 2008 and includes provisions to manage congestion and delay until the City of Chicago's O'Hare Modernisation Project provides additional capacity in the form of a new runway and an extended runway scheduled to be operational on 20 November 2008.

The Buy-Sell Rule:

A mechanism created to re-allocate slots to airlines, including Low Cost Carriers, over time.

AIR-21:

US Congress enacted AIR-21 in 2000, aimed at relaxing slot restrictions at O'Hare, John F Kennedy Airport, LaGuardia. This was done through the issuance of slot exemptions for new entrants and air carriers who operated a certain size aircraft into small hub and non-hub airports. This legislation led to the ultimate phase out of slot controls at the following airports:

- O'Hare – July 2002;
- LaGuardia and JFK: January 01, 2007

Consequently, slot exemptions were issued resulting in capacity being authorised per airport without regard for actual capacity declarations. In response, slot exemptions were limited to 159 a day and these were issued through a slot lottery.

49-U.S.C § 41722:

Authorises the FAA Administrator to request airlines to meet with the aim of discussing flight schedule reductions at severely constrained airports during peak periods.

49 U.S.C § 40103 (b):

Provides the FAA with the mandate to develop plans and policy for the use of navigable airspace and by order or rule, to regulate the use of the airspace to ensure efficient use. An enforcement process is also included.

14 CFR part 93 (rule):

Chicago O'Hare is slot controlled
Washington National Reagan Airport is slot controlled.

DOT Docket No FAA-2006-25755 (order):

Notice of Rule-making:

Provided by the FAA, 2008

ANNEXURE S: HISTORY OF SLOT ALLOCATION FRAMEWORK IN THE UNITED STATES

Initial legislation aimed at limiting capacity (take-offs and landings) at specific hours, was enacted in 1969 in the form of the High Density Rule (HDR) at Chicago, LaGuardia, Reagan National and JFK and at the same time encourage air traffic to utilise adjacent airports. In a further effort to control domestic capacity and linkage to Canada, Ms Smith states that the Perimeter Rule was specifically instituted at Reagan National and stipulated that destinations served would be within a perimeter of 1250 miles. Daily flights from Reagan National to Denver, Las Vegas, Los Angeles, Phoenix, Salt Lake City and Seattle were six destinations exempted from this Rule. Ms Smith claims that O'Hare, with the worst on-time performance of 57% on-time performance. This was due a dramatic increase in flights since the expiration of the HDR in 2002. Federal Authorities obtained separate voluntary agreement from both American and United Airlines (resident hub carriers) to reduce their air traffic movements. Despite this gesture, Ms Smith states that movement levels at the airport were still deemed to be unacceptable, forcing the Federal Government to invoke 49-U.S.C § 41722 which mandated to engage in consultations on flight schedule reductions at airports that experience congestion during peak periods. The result was the reduction of scheduled US and Canadian arrivals to 88 during specified hours of operation intended to be a stop-gap until the Congestion and Delay Reduction at Chicago O'Hare International Airport Rule was implemented in 2006. This rule will be in force for the duration of the City of Chicago's O'Hare Modernisation Project which includes the construction of a new runway and the extension of an additional runway, yields the additional capacity required in November 2008.

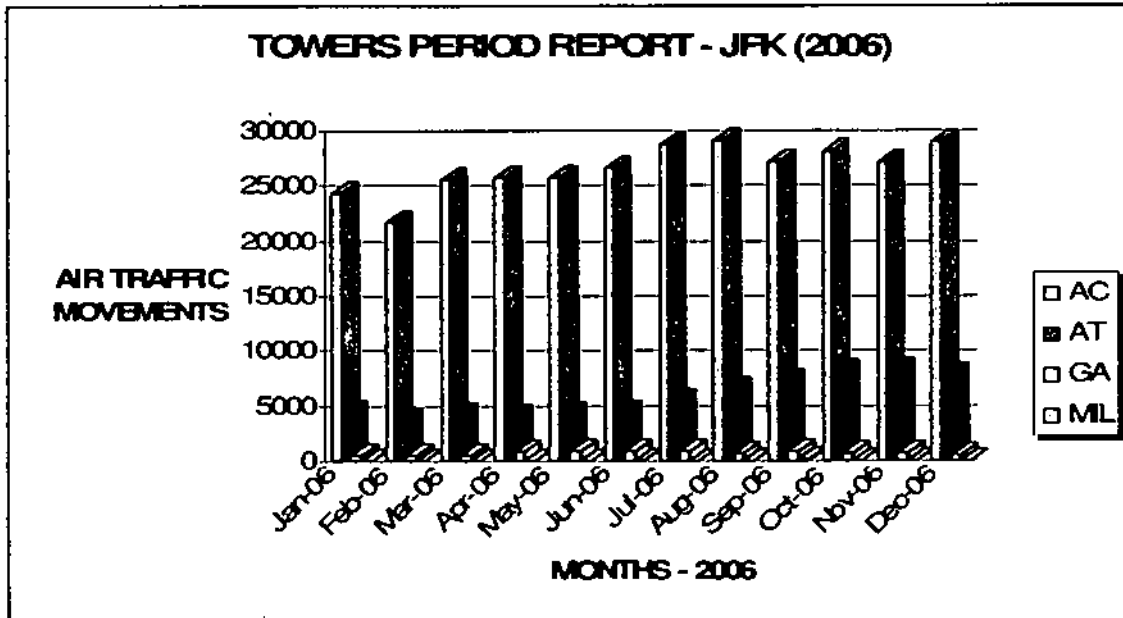
At the time of the HDR, Airline Scheduling Committees were tasked with allocating capacity to airlines. An impasse between stakeholders in 1985 informed an FAA decision to allocate grandfather rights to incumbent airlines and to implement the Buy-Sell Rule aimed at re-allocating slots to other airlines over time.

During 2000, Ms Smith stated that Congress enacted AIR-21 to create capacity for new entrant airlines that served small hubs and non-hub airports utilising a certain size of aircraft at O'Hare, JFK and LaGuardia. The operational impacts of this legislation was far-reaching in that it resulted in the phase-out of HDR Controls causing operational capacity to increase without regard for actual airport capacity. The FAA declared capacity at LaGuardia of 75 movements per hour, as well as 6 general aviation movements per hour. Exemptions were limited to a total of 159 cases per day and to ensure transparency, were allocated through a lottery system. This, Ms Smith contends, resulted in a substantial reduction in delays during April 2001, from 330 per day to 98 per day.

The expiration of HDR at JFK will, Ms Smith states result in a similar explosion of air traffic movements, once the limitations are lifted. JFK has been limited to five hours of peak trans-Atlantic demand from 15h00 to 19h59 local time; but she says has also evolved due to a significant increase in domestic movements per day. Scheduled traffic, according to Ms Smith increased by 41% between March 2006 and August 2007, resulting in demand exceeding airport capacity at specific times of the day. On-time arrivals where airlines arrived within 15 minutes of scheduled time decreased by 70% in the first ten months of the fiscal year due to lack of infrastructural capacity. Again, the FAA invoked 49-U.S.C § 41722 and arranged a Scheduling Reduction Meeting on 23 and 24 October 2007, where the FAA sought to realise agreement with domestic airlines on reductions and re-timings of operations

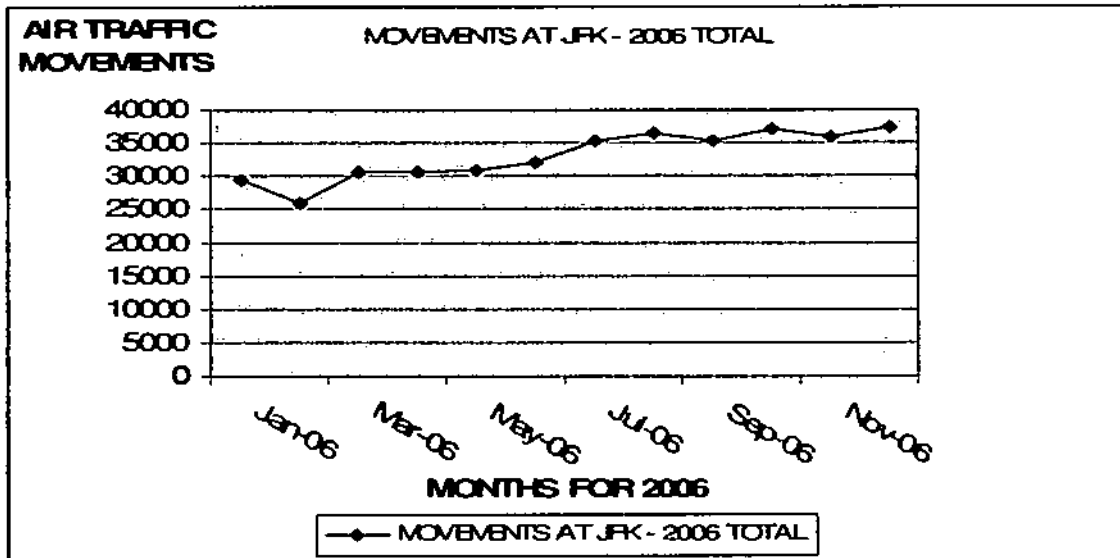
ANNEXURE T: INCREASED AIR TRAFFIC MOVEMENTS AT JFK AND ORD IN 2006

1) MOVEMENTS FOR DIFFERENT CLASSES OF AIR TRAFFIC OPERATIONS AT JOHN F. KENNEDY INTERNATIONAL AIRPORT



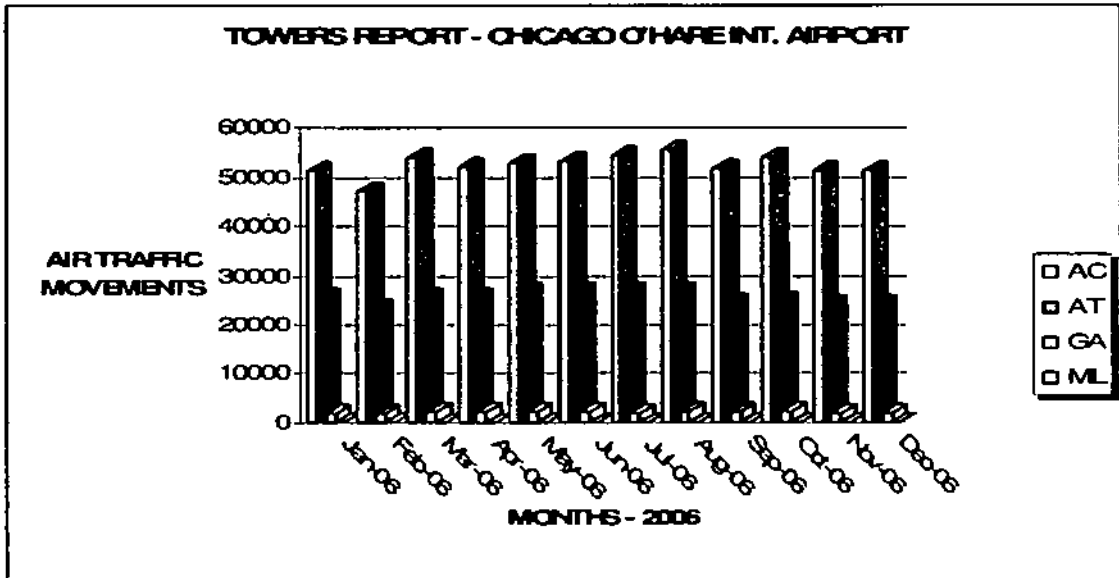
Source: FAA, 2007

2) TOTAL AIR TRAFFIC MOVEMENTS AT JOHN F. KENNEDY INTERNATIONAL AIRPORT FOR 2006



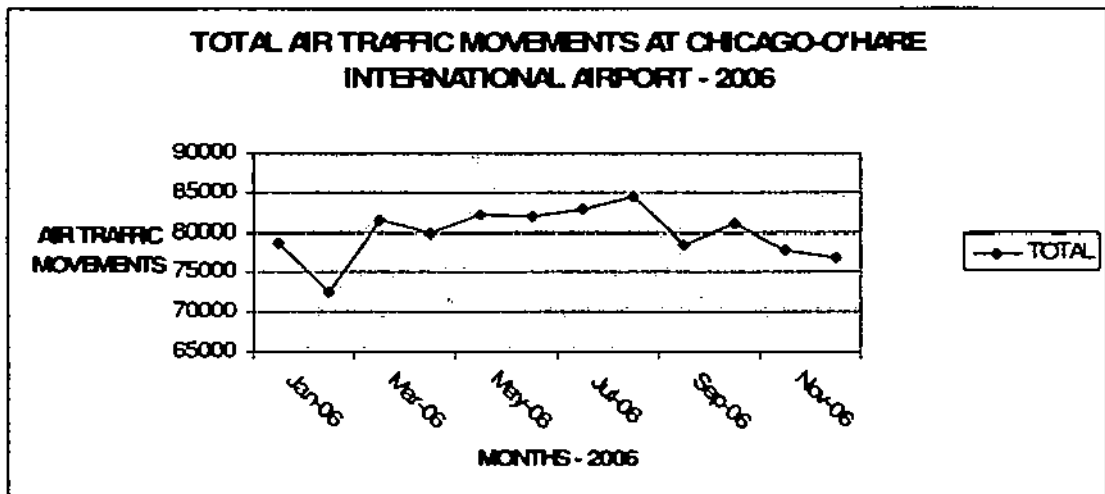
Source: FAA, 2007

3) MOVEMENTS FOR DIFFERENT CLASSES OF AIR TRAFFIC OPERATIONS AT CHICAGO-O'HARE INTERNATIONAL AIRPORT:



Source: FAA, 2007

2) TOTAL AIR TRAFFIC MOVEMENTS AT CHICAGO-O'HARE INTERNATIONAL AIRPORT FOR 2006



Source: FAA, 2007