

**HARARE INTERNATIONAL AIRPORT, A CENTRAL-SOUTHERN AFRICA
HUB IN WAITING OR OPPORTUNITY LOST**



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DECLARATION

I,,do hereby declare that this dissertation is a result of my own investigation and research, except to the extent indicated in the Acknowledgements, References and comments included in the body of the report, and that it has not been submitted in part or in full for any other degree to any other university.

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Student Signature

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Date

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Supervisor Signature

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Date

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ABSTRACT

Literature review on airline hubs generally conclude that the establishment of hubs results in economic benefits for the country and to the carriers whose home base is the airport in question. There has been no literature review on airline hubs done in Zimbabwe to date. This research thus aims at filling that gap by investigating the challenges that could be faced in establishing a hub at Harare International Airport. This research findings are aimed at benefiting the aviation industry, the country, the national carrier (Air Zimbabwe) and the academic community. The study was a case study based on a research done on Harare International Airport (HIA)

Face to face interviews using unstructured questions were held with Airport Managers, Managers of Foreign Airlines, Former Air Zimbabwe Managers, Ministry Officials in the Transport and Tourism Ministries. The data that was collected using a qualitative research methodology and then analysed using Data Displays and content analysis tables.

The study concluded that HIA has limited success in becoming a successful hub due to the poor local economic environment and the absence of a strong hub carrier with global alliances. The other challenges highlighted were perceived interference from the government in running the airport and negative perception the world holds about Zimbabwe,

In view of the conclusion, this research recommends that government as the major shareholder, should address the negative perception held by the world, invest in Harare International Airport infrastructure and technology to keep up with global trends, capacitate the national carrier and relax regulatory framework which incorporates adopting an open skies policy and participating in a uni-visa regime with neighbouring countries.

KEYWORDS: economic benefits, critical success factors, open skies and uni-visa policy, strong hub carrier.

TABLE OF CONTENTS

Declaration	ii
Acknowledgements	iii
Abstract	iv
Table of contents	v
List of tables.....	ix
List of figures	x
List of abbreviations	x
CHAPTER 1: INTRODUCTION.....	11
1.1 Introduction	11
1.2 Background	12
1.2.1 The Macro-environment	13
1.1.2 Background to the Case Study Organisation	13
1.3 Problem statement	16
1.4 Research objectives.....	17
1.5 Research Questions	18
1.6 Proposition	18
1.7 Justification for study	18
1.8 Scope of study	19
1.9 Limitations	19
1.10 Structure of study	19
CHAPTER 2: LITERATURE REVIEW.....	21

2.1	Introduction	21
2.2	Global Outlook of the air transport.....	21
2.3	Hub and spoke strategy versus the point-to-point traffic.....	22
2.4	Critical success factors of hubs.....	26
2.5	Economic effects of hubs.....	27
2.6	The future of the hub and spoke system	29
2.7	Case for a single hub network.....	30
2.8	Conceptual framework	33
2.8.1	Study variables	33
2.9	Chapter conclusion	35
CHAPTER 3:	RESEARCH METHODOLOGY.....	36
3.1	Research design.....	36
3.2	Research philosophy	36
3.3	Rationale for using a qualitative approach	37
3.4	Research Strategy	39
3.5	Data collection	41
3.5.1	Population and sample	41
3.5.2	Sampling strategy	42
3.6	Research instruments	44
3.6.1	Questionnaires	42
3.6.2	Personal interview	43
3.7	Data analysis	44
3.8	Chapter conclusion	44

CHAPTER 4:	RESEARCH RESULTS & ANALYSIS.....	45
4.1	Introduction	45
4.2	Part A: airport manager, former airport manager, foreign airline Manager, ministry of transport and ministry of tourism officials.....	45
4.2.1	Section A: Demographic information on respondents.....	45
4.2.2	Section B: Key success factors of establishing a hub	46
4.2.3	Section C: Constraints faced in the effective running of operations At Harare International Airport	49
4.2.4	Section D: The environment conducive for the successful establishment of a hub	53
4.3	Summary of findings	61
4.3.1	Hub establishment key success factors	61
4.3.2	Ability to handle increased traffic and larger aircrafts	61
4.3.3	Benefits of a successful hub	61
4.3.4	Operational constraints for HIA to become a hub.....	61
4.4	Conclusion.....	62
CHAPTER 5:	CONCLUSIONS AND RECOMMENDATIONS.....	63
5.1	Introduction.....	63
5.2	Conclusions	63
5.2.1	Political, economic, social, technological, legal and external Environmental influences on the establishment of a hub	63
5.3	Evaluation of proposition	64
5.4	Recommendations	64

5.5	Improvements needed to be done before Harare International Airport can convert into a successful regional hub.....	64
5.6	Study limitations and areas for further research	65
REFERENCE		66
APPENDIX		70

LIST OF TABLES	Page
Table 1.1 Airlines that fly into HIA and their destinations	14
Table 2.1 Various functional definitions of airline hubs.....	23
Table 2.2 Economic impacts of Cincinnati/Northern Kentucky International airport in 1998.....	28
Table 3.1 Relevant situations for different research strategies	40
Table 4.1 Demographic information of the respondents	45
Table 4.2 Geographic location of Harare International Airport.....	46
Table 4.3 How are local and regional economies conducive to the establishment of a hub at Harare International Airport	47
Table 4.4 The future capacity of Harare International Airport.....	48
Table 4.5 Challenges faced in using (running) Harare International Airport.....	49
Table 4.6 Harare International Airport's ability to address challenges	50
Table 4.7 Government assistance in running the Harare International Airport	51
Table 4.8 Actions that can be taken in addressing these challenges.....	52
Table 4.9 The political environment under which Harare International Airport is operating.....	54
Table 4.10 Areas that need improvement in political environment	55
Table 4.11 The effect of the economic environment.....	55
Table 4.12 The effect of the social environment.....	57
Table 4.13 The effect of the technical environment	58
Table 4.14 The effect of the legal environment	59
Table 4.15 The effect of the external environment	60

LIST OF FIGURES

Page

Figure 2.1 Conceptual framework33

LIST OF ABBREVIATIONS

HIA Harare International Airport

ORT Oliver Tambo Airport

MCT Minimum Connecting Time

HS Hub and Spoke

PP Point-to-Point

CHAPTER 1

INTRODUCTION AND BACKGROUND

1.1 Introduction

The general consensus of the literature on hubs is that there are requisite critical success factors that need to be met before an airport can establish a hub. These critical success factors include a central geographical location, strong hub carrier which is part of a global alliance, short minimum connection time, available options for future growth and availability of traffic rights (Bootsma, 1997)

The economic benefits that accrue from a hub are the creation of new jobs as new services are created and existing ones expanded to meet the new growth. These new jobs invariably lead to incomes from increased employment as a direct result of an airport hub status (Song Wei & Ma Yanji (2006).

Most of the literature review on hubbing has been concentrated more on Europe and Asia (Boeing, 2003). There is, therefore, no literature in this area relating to Zimbabwe. It is against this background that this investigation was conducted to fill this research gap by examining critical success factors of a hub from a Zimbabwean perspective through a study of the Harare International Airport (HIA).

In addition to this introduction, this chapter covers: the background to the case study, the problem statement, research objectives, research questions, research proposition, and justification of the study, scope of the research, study limitations, and the structure of the study.

1.2 Background

1.2.1 The Macro-environment

Business relations between Harare International Airport and the government are not healthy as the government has not been viewed as enabling but meddling with the flourishing of Harare International Airport.

Weak macroeconomic fundamentals with falling GDP and high unemployment rate and other social factors have witnessed low visitor arrivals as the global community waits for country to put its house in order.

Although the airport has a list of business concessions such as restaurants and shops and car rentals, these are not enough to cater for passengers who would go through the airport.

On the technological side with the advent of high requirements for instant communication through social networking groups like Facebook and Twitter necessitate high speed broad band which currently is still to reach adequate levels to cater for increased traffic should a hub status be contemplated or achieved. Lack of strong IT infrastructure and development support for operational applications is another drawback.

The absence of an open skies policy results in less air traffic between countries (Heymann, 2006). Open skies is an international policy that calls for the liberalisation of the rules and regulations of the international aviation industry especially commercial aviation in order to create a free-market environment for the airline industry (http://en.wikipedia.org/wiki/Open_skies accessed 24 July 2014). The objective of an open skies policy is to minimise government intervention to passenger and, all-cargo air transport, charter and scheduled services.

Furthermore, the airport has not highlighted its environmental strategy that would cater for the reduction of both noise and carbon emissions. Air India's Delhi Airport's environmentally friendly strategy include using natural daylight illumination to lower

electricity usage, battery powered vehicles to reduce emissions and planting a lot of trees in the airport vicinity (<http://www.businessdestinations.com/move/sustainable-travel/> accessed 24th July 2014).

1.2.1 Background to the Case Study Organisation:

History of Harare International Airport

HIA is the largest airport in Zimbabwe and serves as the base of Air Zimbabwe the national carrier. It is operated by the Civil Aviation Authority of Zimbabwe. Located 15 kilometres south of Harare City, it is the main gateway into Zimbabwe and alternate entry point into Central and Southern Africa.

The following section narrates the history of HIA and lists the facilities to be found at the airport (http://en.wikipedia.org/wiki/Harare_International_Airport and [http://www.caaz.co.zw/index.php?option=com_content&task=;](http://www.caaz.co.zw/index.php?option=com_content&task=) accessed 24 July 2014) HIA then known as Salisbury Airport was commissioned in 1956 and officially opened on 5 February 1957, at cost of £924'000 to build. The city's original aerodrome, Belvedere Airport, had proved to be inadequate and had to be abandoned. One of the reasons why it had to be abandoned was that Belvedere Airport had been built to accommodate the RAF Elementary Flying Training School whose building layout and designs were not particularly suitable for commercial aviation. There was thus a need to find a site that would be safer and more suitable for commercial activities. In 1949 the construction of the airport started on 2700 acres and on 1 July 1956 the Salisbury Airport was commissioned.

Air Rhodesia established its headquarters at the airport in 1967, and since Independence in 1980, Air Rhodesia's successor, Air Zimbabwe, has maintained the status-quo with its head office too located at the airport.

The airport's runway, at 4,725 metres (15,502 ft), is currently one of the longest in Africa. It is longer than all of OR Tambo International Airport in Johannesburg, South Africa runways, with the longest runway at OR Tambo measuring 4,418 metres (14,495 ft). The reason for this is that both are "hot and high" airports requiring long take-off runs. Harare International airport is currently refurbishing the current runway with lengthening that will result in it being the longest runway in Africa at over 5,000 metres (16,000 ft). The runway is used by both the civilian airport and the Air Force of Zimbabwe whose base is on the southern side of the runway. The runway is 46 metres wide and can take B777/B747 aircraft or equivalent. The terminal building can accommodate 500 departing and 500 arriving passengers per peak hour.

The table below shows the airlines that fly into HIA and their destinations.

Table 1. 1 Airlines that fly into HIA and their destinations

Airlines	Destinations
Air Botswana	Gaborone
Air Namibia	Lusaka, Windhoek
Air Zimbabwe	Bulawayo, Johannesburg-OR Tambo, Victoria Falls
Airlink	Johannesburg-OR Tambo
British Airways operated by Comair	Johannesburg-OR Tambo

Airlines	Destinations
EgyptAir	Cairo
Emirates	Dubai-International , Lusaka
Ethiopian Airlines	Addis Ababa , Lusaka
Fastjet	Dar es Salaam (begins 5 August 2014)
Kenya Airways	Lusaka , Nairobi-Jomo Kenyatta
KLM	Amsterdam , Lusaka
LAM Mozambique Airlines	Maputo , Beira
Malawian Airlines	Lilongwe , Blantyre
South African Airways	Johannesburg-OR Tambo
South African Express	Durban
TAAG Angola Airlines	Luanda

Source: Civil Aviation Authority of Zimbabwe

Because of a decline in tourism numbers, due to internal political conflicts since 2000, few major airlines now use the airport with KLM and Emirates being the only non-african users. At the time of preparing this document, the former had served notice of its intention to stop flying into Zimbabwe

The following section lists the facilities that are provided by HIA.

The airport provides the following facilities and services-

- 24hour operation;
- re-fuelling;
- aircraft parking and aerodrome docking;
- catering;
- aircraft, passenger and cargo handling services;
- fire and rescue services;
- shuttle buses;
- Wi-Fi;
- long term car park, short term car park,
- banking, post office, shops and restaurants.
- duty free shops
- smoking lounges
- medical services and pharmacies
- money changers (bureau de change)
- icdl training

1.3 Problem Statement

The introductory ssection1.1 above shows that literature indicates that establishing a hub will result in increased jobs, the expansion of services and increased employment. The other benefit is the ease with which passengers connect from one node to the other. At a macro level, a hub will boost the

economic activity of a country which can contribute to economic recovery. Literature lists central geographical location, strong hub carrier which is part of a global airline alliance, short minimum connecting time, one terminal concept, competitive visit costs. good landside accessibility, available options for future growth, availability of traffic rights, peak hour capacity to facilitate an efficient wave-system structure of the hub airline and good airport amenities as the key success factors for establishing a hub.

The background to the Case Study (Section 1.2.1) shows that HIA has a good runway that can handle big aircrafts and that it is centrally located in Southern Africa. This should result in a hub being established at HIA. However HIA does not exhibit features of a successful hub such as high traffic in terms passengers and aircraft, thriving airport retail activity, high volumes of cargo imports and exports.

The consequences of the current situation continuing at HIA are that the airport will continue losing business to other hubs such Johannesburg and the tourism industry will also be adversely affected. The research problem is therefore to establish how HIA can benefit from the establishment of a successful as recommended by literature.

1.4 Research Objectives

- 1.4.1. To establish whether HIA is enjoying the benefits of a successful hub
- 1.4.2. To ascertain if HIA has the success factors and prerequisites for a successful hub
- 1.4.3. To find out obstacles to HIA gaining the status of a successful hub
- 1.4.4. To recommend measures to improve the situation

1.5. Research Questions

- 1.5.1. How will HIA plan and implement the establishment of a regional hub?
- 1.5.2. What obstacles would HIA encounter in establishing a hub?
- 1.5.3 Does HIA possess the key success factors required for the establishment of a regional hub?

1.6 Proposition

HIA is not a successful hub because of the poor local economic environment and the absence of a strong hub carrier with global alliances.

1.7 Justification Of The Study

The primary benefits of establishing hubs are the immediate jobs created as new services are created and existing ones expanded to meet the new growth. The new jobs invariably lead to incomes from increased employment as a direct result of an airport hub status. (Song Wei & Ma Yanji (2006). The creation of jobs would lessen the unemployment burden in the country.

HIA would benefit from the upgrading of the facilities and expansion of the airport that will follow once a decision has been made to establish a hub.

The national airline, Air Zimbabwe will benefit from having an operational base that has competitive world class facilities, which would make it easier to court partners and join in global alliances with extensive networks once the hub has been established.

The academic community will benefit from this research in that this is the first study of its kind to explore the possibility of establishing a hub at HIA. The findings of such a study will add to the body of literature on airport hubs.

The researcher, an airline employee will benefit from such a study by enhancing her knowledge on regional hubs.

1.8 Scope Of The Study

The study will be based in Harare on a single case study of Harare International Airport.

1.9 Limitations

The financial implications of establishing a hub are not considered in this research.

The results of such a single case study may not be applicable to other airports.

1.10 Structure of the Study

Chapter 1

The introduction of the research is covered in this chapter. Also covered are the background of the study, background of the organisation the problem statement, objectives and justifications of the study.

Chapter 2

This chapter covers the literature review, carried out by other researchers.

Chapter 3

In this chapter the methodology used to carry out the research is outlined. An outline of the analytical framework of the research, the justification for using the case study method, the data collection process and data analysis are also detailed.

Chapter 4

In this chapter, data analysis and the study findings are discussed. The study's research questions are also answered in this chapter.

Chapter 5

This chapter outlines the conclusion drawn from the study and recommends areas of further study.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

Hart (1998) defines a literature review as the selection of documents (published and unpublished) on the topic which contain information, ideas, data and evidence written from a particular standpoint to fulfil certain aims or express certain views on the nature of the topic and how it is to be investigated, and the effective evaluation of these documents in relation to the research being proposed.

This literature review initially focuses on the global outlook of the air transport and it explores the hub and spoke strategy versus the point-to-point traffic. Incorporating key success factors for a hub, advantages emanating from a hub status for an airport culminating with a look at the case for a single hub airport like the Harare International Airport.

Lastly, the hub and spoke strategy and key success factors for a hub will be discussed in detail highlighting the two themes which form the basis of this study's research question – challenges to be overcome and a case for turning Harare International Airport into a regional hub.

2.2 Global Outlook Of The Air Transport

Eric Heyman (2006) mentions that aviation will remain on course for growth in the coming years. Citing the two aircraft manufacturers Airbus & Boeing, he states that revenue passenger kilometre volumes are poised to grow by about 5% each year on average over the next plus or minus 20 years. Driving demand is the progressive integration of the world economy, which according to Eric Heyman (2006) generates additional demand for business trips. Globalisation and international division of labour, (outsourcing and offshoring) lead to extra demand for mobility. The above according to Heyman (2006) holds true for both passenger and cargo traffic. Also as Asia and South America are becoming more strongly integrated into the international value chain, the consequence is flights over longer distances.

The growth of tourism evidenced by the demand for holiday trips supported by rising incomes remains a driver for air travel. Considering in many populous countries it is still in its infancy, routes to and from as well as within Asia are set to record the highest passenger growth rates, as stated in the paper by Heyman (2006). Traditional markets of Western Europe & North America will display moderate growth rates as they are relatively saturated.

Heyman (2006) also mentions liberalisation of air transport as stimuli for growth, with aircraft capacities expansion as well as ground services infrastructure being the main drivers. Record orders of aircraft by almost all major airlines and the announcements by nearly all the world's major airports of plans to expand. The Association of European Airlines (AEA) states that low cost carriers now claim a 30% market share of available seat-kilometres in Europe.

Heyman (2006) states that with international air transport market expected to undergo further deregulation in the future, that move could be a further driver for the sector's growth. He mentions that the bilateral agreements currently in place are likely to be replaced by multilateral agreements which are more open, and he even remarks could be abolished altogether. Heyman (2006) argues there could even be a relaxing of rules linking an airline's traffic rights to the nationality, of its owner, which in the past has been obstructing mergers.

2.3 Hub and spoke strategy versus the point-to-point traffic

Song Wei & Ma Yanji (2006) define a hub as one or more cities chosen by an airline as a regional collection point for passenger flows. They also state that a scheduled airline will feed into one airport, banks of flights that come from different origins via spokes, and then consolidate passengers onto outward flights to a wide range of destinations. Wells AT (1994) maintains that in a hub and spoke system a number of routes are connected to a central hub airport where passengers from feeder flights are collected, transferred to other flights on the same line and then flown to their ultimate destinations. At a hub airport, the traffic pattern consists of banks of arrivals and departures where passengers land and transfer to another flight within a short

period of time. Thus the efficiency of the hub and spoke system is dependent on the transfer time at the hub and the way the flights are routed.

Song Wei & Ma Yanji (2006) also indicate that operationally when looking at the concentration of airline activities, hubs are generally treated as airports through which a single or maybe two carriers operate synchronised waves or banks of flights. In these waves, the hub arrival times of aircraft, originating from cities at the ends of numerous spokes are coordinated into a short time period. This period is the hub's minimum connecting time, whereby passengers and baggage are redistributed to an equally large number of aircraft to depart to the spoke cities. The pattern is then repeated several times during a 24 hour cycle. This configuration creates a network whereby a large number of indirect connections replace point to point flights.

Bridget Ssamula (2008) defines hubs in two general ways, one denoting whether an airport represents a hub within a carrier independent system of air transport which would be at airport level and the other looking at the role of a hub within a carrier-specific network, which means it, would be at airline level. She further gives the example of OR Tambo International Airport in South Africa as a hub at both airport and airline level, as it serves as a focal point for intercontinental traffic, whilst at the same time a hub for the national carrier South African Airways. Bridget Ssamula (2008) also writes that empirical studies differ in criteria used to define what constitutes a hub (Button et al 2002). Table 1 shows the various definitions for hubs which depend on the function they perform.

Table 2.1: Various functional definitions of airline hubs

Functional definition	Explanation	Examples
<i>Scope</i> Operational	Merely an operational base No connecting services offered	London Stansted (Ryan Air, Easy jet) Frankfurt-Hahn (Ryan Air)
Marketing	Operational base Connecting services	London Heathrow (British Airways) Frankfurt, Munich (Lufthansa)
<i>Route Structure</i> Hinterland	Hub serves as a distribution point for air travel to and from its surrounding catchment area interface between short – and long-haul flights Directionalised routing (e.g. north-south, east-west)	Chicago (American Airlines) Dallas (American Airlines)
Hourglass		Vienna (Austrian Airlines) Helsinki (Finn Air); Madrid (Iberia)
<i>Strength of local Market</i> Weak	Relatively few originating passengers	Amsterdam (KLM) Reykjavik (Iceland Air)
Strong	Relatively many originating passengers	London-Heathrow (British Airways)

Category	Explanation	Examples
Size Primary	Most important airport of an airline Focus on intercontinental traffic (if applicable)	London Heathrow (British Airways) Frankfurt (Lufthansa)
Secondary	Second most important airport of an airline Focus on intercontinental traffic (if applicable)	Munich (Lufthansa)

Source: Schnell & Huschelrath (2004)

Song Wei & Ma Yanji (2006) identifies 2 forms of hubs, namely the directional or hourglass hub & the hinterland hub. The directional hub is where flights from one region e.g. west connect to flights from another region – the east. Such a hub eliminates backtracking or circuitous routes for the passengers. They also cite examples of major U.S. east-west hubs, which include Chicago and Dallas Fort Worth. In certain instances, an airline will operate a multi-directional hub, such as Atlanta by Delta airlines which connects to hubs in both the east-west direction as well as north-south. The hinterland hubs on the other hand link long distance international routes with the short-haul flights in the region or country, thus acting as feeder carriers to the long haul flights. According to Song Wei and Ma Yanji (2006), the principal aim of an airline hub operation is to maximise the number of journey possibilities that can be accomplished using the airline's network. It therefore becomes essential for an airline to have a schedule that links as many city pairs as possible whilst at the same time leaving passengers on the ground for a very short period, by creating a wave where flight arrivals at the hub are in a short time quickly followed by a corresponding wave of departures. In the same paper they indicate that in the 1990's Atlanta was the busiest single airline hub in the world, with around 600 daily departures by Delta Airlines.

Hub and spoke (HS) and point-to-point (PP) networks are related to both spatial and temporal concentration (Burghouwt and De Wit (2003). They maintain that spatial configuration is explained by the levels of concentration of an airline network around one or more central hubs.

According to Bootsma (1997) the temporal configuration is the number or quality of indirect connections offered by an airline or alliance by adopting a wave-system structure in the flight schedule. He defined the wave-system as a structure which “consists of a number of connection waves, which are a complex of incoming and

outgoing flights, structured such that all incoming flights connect to all outgoing flights...”

Reynolds-Feighan (2001) explains a hub structure as a network that is spatially and temporally concentrated in one or a few airports (hubs). From these hubs, flights schedules are organised in wave systems in order to maximise the number of flight connections. Hubs allow more cities to be served with fewer flights. Hubs create a situation where fewer flights lead to fewer aircraft which results in lower costs for airline operators.

The point-to-point (PP) network comes from one or more airports (bases). The carrier starts operating routes from these bases to the main destinations. Reynolds-Feighan maintains that although the number of routes may increase, they will never reach a configuration where all airports are connected to each other. The main reasons for this are:

- carriers may not obtain slots at all airports
- there may not be enough demand volume to justify profitable operations between all connecting cities and
- airlines may end up developing operational bases due to the high logistic costs of fleet rotation.

Therefore in a PP network, flights are not organised to establish connections.

In a HS system, air traffic is bundled at major hubs and flight plans are geared to optimise transfers between connecting passengers. Compared to the HS network, the PP network has the following advantages (NTFAC, 2002):

- passengers passing through a hub have a longer *trip duration*
- a hub and spoke *journey is longer* than a point to point flight and
- *longer flights* increase operating costs and the passenger’s travel time.

The following discussion focuses on the risks/disadvantages and advantages of the HS systems.

The following were listed as the risks and advantages of a hub and spoke services (Vermooten 2004):

- tendency to lead to wide variability in airport utilisation where many flights are scheduled to arrive and take off at the same time, leading to a higher average excess capacity at an airport
- in situations where the geographic dispersion of cities is not conducive to hub and spoke operations, a connecting service (through a hub), may not be an adequate substitute for a non-stop service.
- A hub and spoke operation increases the distance flown by passengers and thus raises the cost and time taken to complete a journey

According to Wells (1994):

- congestion and delay can occur during peak hours because of the tightly scheduled arrivals and departures.
- In times when there is bad weather, delays may be made worse. These delays may lead to missed connections and customer dissatisfaction.
- Janic (2008) states that merging traffic in a hub-and-spoke system implies a traffic structure consisting of high peaks at certain times of the day, which might necessitate additional capacity and infrastructure to cater for the peak demand. During off-peak hours where there is less traffic, terminal and airside facilities are utilised inefficiently or even idle.

2.4 Critical Success Factors of Hubs

According to literature there is a set of factors that would need to be in place for an airport to attain and maintain hub status (Bootsma 1997) and these are as follows:

- Central geographical location
- Strong hub carrier which is part of a global airline alliance
- Short minimum connecting time
- One terminal concept
- Competitive visit costs
- Good landside accessibility
- Available options for future growth

- Availability of traffic rights
- Peak hour capacity to facilitate an efficient wave-system structure of the hub airline
- Airport amenities

In a paper delivered by Mrs Maggie Kwok at The 1st Pan-Pearl River Delta Airport Cooperation & Development Forum on July 16th 2010 in Guangzhou China, Mrs Kwok cites the below as key success factors for hub development:

- a strategic geographic location
- strong local and regional economy
- strong home base carrier with extensive network
- capability to further expand to accommodate new demand
- a well-planned terminal design that allows efficient facilitation process for the transit passengers and their baggage with minimum connecting time even at peak traffic intervals.

The establishment of a hub involves large capital developmental costs. The Airports Council International estimated in 2009 that the average cost of developing a small hub would be 754 million dollars in 2013 while that of a medium hub would 2.201 billion dollars and a large hub would cost 10.977 billion dollars.

The Indian case is illustrative (SEO Netscan Connectivity Monitor). The Indian hubs were formed mainly to connect domestic market and India with the rest of the world. In the last decade, there has been substantial growth of hub connections in Mumbai and Delhi. In 2002 Mumbai had close to 1400 weekly hub connections compared to 500 in 2005.

2.5 Economic Effects of Hubs

Song Wei & Ma Yanji (2006) mention that in the U.S. major airports are mainly owned by city & county authorities, who compete against each other to become hubs, with the main focus to give the local economy a boost. The primary effect

therefore will be the immediate jobs created by such an airport status, as new services are created and existing ones expanded to meet the new growth. The new jobs invariably lead to incomes from increased employment as a direct result of an airport hub status. Local authorities according to the paper by Song Wei & Ma Yanji (2006, have made sizable investments to develop hubs in the U.S. an indication of the importance they place on hubs. An example is given of the State of Minnesota and the Minneapolis-St Paul city authorities, who in December 1991 organised a loan for Northwest Airlines in exchange for commitment from the airline that it would maintain service levels at the hub and in the process safeguard local employment. Pittsburgh also invested on a new terminal complex to strengthen its role as a main hub for US Airway (Hanlon 1999). That is not to say the strategy will always work and is risk free, as there have been cases of cities losing their hub status even after such investments have been made. Another example of the economic effects of a hub are cited in the case of Cincinnati-Northern Kentucky International Airport, a major Delta hub. In 1998, it was estimated that the overall economic impact was over 69 000 jobs There were also secondary effects of improved economic activity in the whole local economy, brought about over a long period of time by the on-going flow of income.

Table 2.2. Economic impacts of Cincinnati/Northern Kentucky international airport in 1998

	impact on business sales USD (000)	on household earnings USD(000)	overall economy USD(000)	jobs
Airport operation	925	1267	2193	38244
Visitor	1166	513	1680	30648
Airport construction	11	4	16	191
Total	2103	1786	3889	69083

Source: Centre for Economic Education, 1999.

There is a multiplier effect from the airport users expenditure, which creates higher levels of regional output, incomes and jobs downstream. Car hire companies, the airlines themselves and all other ancillary services all help to create an economic boom for the hub airport/city. In the case of Cincinnati/Northern Kentucky International Airport, there was also the aspect of bringing in visitors to the city each

year. These visitors directly and indirectly supported 30 648 jobs in the region. Expenditures therefore from the visitors on lodgings created even more jobs about 11400 of them and the food and beverage not only created but sustained 9075 regional jobs.

In a paper delivered by Mrs Maggie Kwok at The 1st Pan-Pearl River Delta Airport Cooperation & Development Forum on July 16th 2010 in Guangzhou China, Mrs Kwok highlights that with the recovery of the world economy post 2009 has been led by Asia-Pacific through strong passenger and cargo traffic in the region, ahead of other regions of the world. Citing double digit growth rates at some of the airports in that region. Beijing 32.7% up, Guangzhou 30.6% up, Hong Kong 15% up, Incheon 24.6% up, Kuala Lumpur 22.7% up, Singapore Changi 22.3% up, Narita 17.9% and Dubai 13.6% as at July 2010.

The International Civil Aviation Organisation (ICAO) (2007, page 4) reports that the “Middle East and the Asia/Pacific regions are expected to experience the highest growth in passenger traffic at 5.8 percent per annum through to the year 2025, followed by African and the Latin American/Caribbean regions with 5.1 and 4.8 percent annual growth rates, respectively”.

According to Heymann (2006), the revenue passenger-kilometre (RPK) volumes are posed to grow by about 5% per year on average until 2006. The main reasons for the growth are, globalisation which will lead to demand for extra mobility, increased tourism resulting from inexpensive offers from low cost carriers (LCCs), and the liberalisation air transport as the international air transport undergoes deregulation.

2.6 The future of the hub and spoke system

In spite of the above risks, hub and spoke operations have the following advantages as listed by different authors as listed by Burghouwt 2013:

- hubs “average out natural peaking of demand, can generate rents and provide opportunities for mixing prices” (Button 2002: Gillen & Morrison 2005)

- the advantages of hubbing become stronger with a growing network, as a result of the externalities and spill over effects of additional spokes (Nero 1999).

According to Burghouwt (2013), hubs provide local consumers with a wider network scope at higher frequency by generating connectivity and hub operations allow cities to grow beyond the size of their own local market in terms of connectivity. In summary, the main advantage of hubs is that they add value to an airline through “beyond market access”.

There are however some threats to the advantages of hubbing. These include market growth, low cost carriers and other transport nodes, congestion and noise and emissions in populated areas (Burghouwt, 2003).

2.7 Case for a single hub network

The following literature review lays down the rationale for developing an airport into a single hub airport. To fully appreciate the theoretical justification of such a decision, this section outlines the reasons why some airlines opt for a multi-hub network in certain cities. Conditions which favour a multi-hub network over a single hub network include the following:

- aircrafts are better utilised in a multi-hub network (Dennis 2005)
- capacity growth may force an airline to open a secondary hub (Goedeking 2010)
- airlines opt for multi-hubs when they want to increase spatial coverage and cater for thin markets (Treeway & Oum 1992).
- as the level of demand increases, airlines are forced to bypass initial hubs in order to save connection costs. This leads to the establishment of secondary hubs (Swan 2002).

However single hubs reach a natural ceiling when too many important transfer connections require excessive detours (Goedeking 2010).

The corner stone of the hub strategy is the economies of density (Burghouwt 2005). As hubs increase, the economies of density are reduced. As the number of hubs increase, complexity sets in and costs increase (Duedden 2006)

The Economy

- A hub provides direct air links to both international and domestic destinations that could not be justified by local demand alone - providing opportunity for increased levels of commerce and employment
- The host country becomes an attractive location for international businesses that value high quality international connectivity
- Direct flights to international destinations also facilitate trade with those countries.
- The local country could be missing a lot of revenue of trade per year due to poor connections
- A local hub could contribute millions of dollars to the fiscus each year through business rates, air passenger duty and other taxes
- A hub gives business easy access to markets and greater ability to reach potential customers
- A hub makes a city a natural place to set up global services industries because it is a destination that clients will pass through on their way to other destinations
- A hub makes it easier for businesses to attract global talent as it provides easy connections to many destinations
- A hub makes it easier for businesses to import and export goods quickly to a wide range of destinations.

Air passengers

- A hub provides direct travel opportunities that would not be possible without additional connecting passengers.

Without a successful hub, passengers from the local country have to connect via another country to access some destinations, making their journey longer and less convenient

- A hub also means passengers have access to more frequent services.

Local regions

- With a connection to the hub, local regions benefit from having access to an international route network that they couldn't sustain from their local airports alone.
- Having access to a successful local hub shortens journey times compared to travelling via a foreign hub
- International businesses that locate near a local hub usually have a local supply chain that brings benefits to the whole country

Local people

- Local people would benefit from increased employment opportunities at airport hotels, catering and transport companies based at the hub.

Tourism

- A hub would make it easier for tourists from long-haul destinations to visit the country.
- Tourism agencies and hoteliers work at hubs to promote opportunities for stop-over breaks for those passengers connecting through a hub.

The environment

- Additional hub capacity would add emissions to the local's CO2 footprint. There is also the possibility of increased noise pollution.

Local airlines and the airport operator

- A hub allows local airlines to augment local demand with connecting passengers, offering the opportunity of serving more routes, using larger aircraft and offering

greater frequencies. This can lead to improved economic and financial performance and increased competitiveness versus foreign airlines.

2.8 Conceptual Framework

The study is guided by the conceptual framework in Figure 2.3 below and the research methodology discussed in the next chapter.

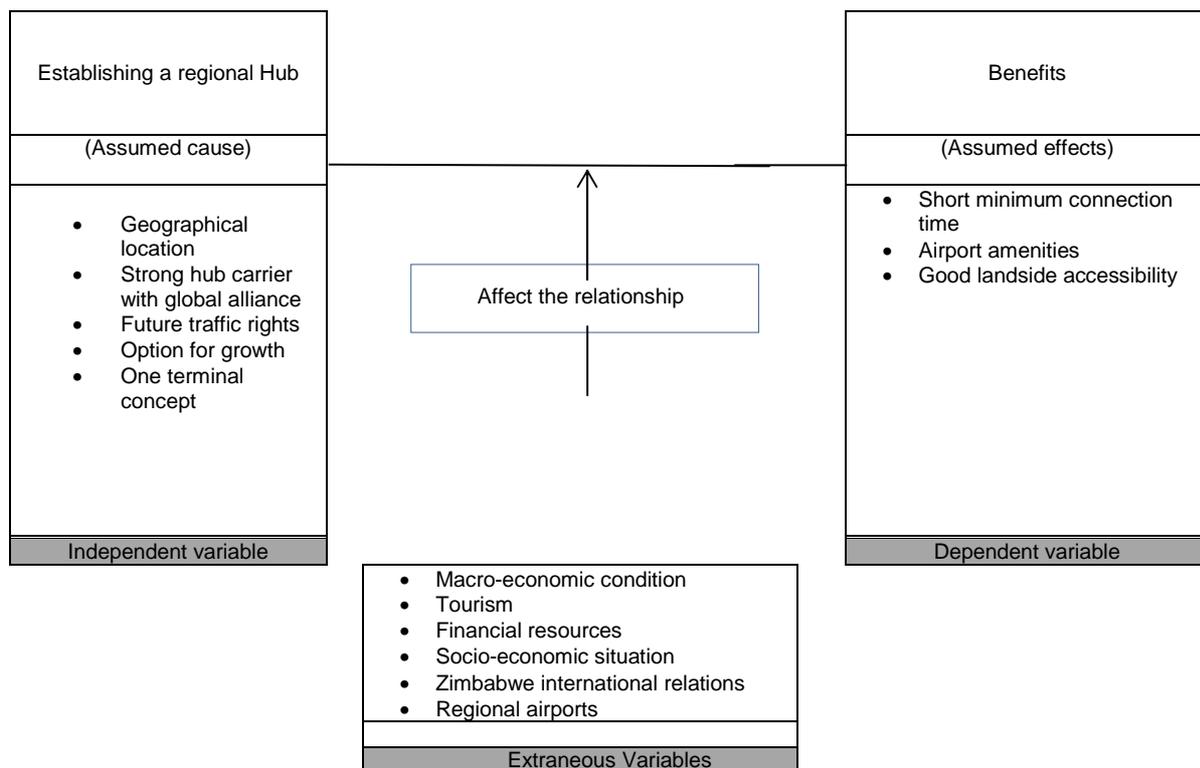


Figure 2.1: Conceptual Framework. Source: Adapted from Kumar (2011)

2.8.1 Study Variables

The section briefly explains the variables identified in Figure 2.1 above as follows:

Dependent Variables

- Short minimum connecting time which is critical, refers to the ability of quick and efficient transfer of passengers and baggage between flights, with the least hassles.

- Competitive visit costs for operating carriers that make the airport affordable to operate from.
- Good landside accessibility that ensures smooth traffic movement without congestion especially during the peak operating time of the airport.
- Airport amenities include airport terminal hotels, banks, restaurants and coffee shops, as well as ample parking space.

Independent Variables

- Geographic location – the centrality of a location favours natural hubbing tendencies as a point is easily within reach, without backtracking particularly when referring to hourglass or directional hub.
- Strong hub carrier in a global alliance is a critical factor,
- Strong local market which creates what is coined a captive hub by Jain (2010) is important, but not necessarily critical.
- Future traffic rights – these will ensure that the vacant “slots” are available for taking by future airlines that may have an interest in the hub.
- Options for growth, should demand for take offs’ and landing slots rise at an airport are critical if an airport is to grow into a hub.
- One terminal concept is usually cited as a key variable for hub success.

Extraneous Variables

- Macroeconomic conditions for Harare as derived from Zimbabwe – last 10 years economic meltdown and impact on travel
- Central Government policies and implementation thrust, can negatively impact a hub.

- Financial resources for airport authority to develop further can have an effect on whether an airport is able to develop into a hub or not.
- Zimbabwe international relations – issue of sanctions has an impact on trade and ultimately movement of people into and out of Harare.
- Regional airports with hub status potential or already hubs in close proximity to an airport have the possibility of destroying an airport's plans to become a hub.

2.9 Conclusion

The key areas covered in this chapter are global outlook of air transport, the hub and spoke strategy versus the point to point traffic, the key success factors for a hub and the case for a single hub network. A review of the critical success factors for hubs highlighted suitable location, minimum connection time, availability of traffic rights and available options for future growth as some of the necessary scaffolding for establishing a hub. A case for a single hub network drew its review from the Heathrow case study and covered a myriad of benefits ranging from increased tourism, economic benefits, and more employment opportunities for the local population among others.

The decision to establish a hub is thus both a political and economic decision as it involves committing large sums of money and the economic benefits are felt country wide. The above analysis outlines a convincing theoretical literature review that highlights favourable reasons for establishing a sustainable hub under suitable conditions. However the literature is weak because it cannot answer my research questions in Chapter 1, hence this study which examined airport hubs from a Zimbabwean perspective. The next chapter looks at the research methodology that was employed in the present study.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Research Design

Research design deals with a logical problem and not a logistical problem (Yin 1989, 29). Design research refers to the structure of an inquiry, which can also be referred to as the plan on how to conduct a research. Its main aim is to minimise the chance of coming to incorrect casual inferences from collected data. Thus research design ensures that the evidence that is collected enables the researcher to correctly answer the questions and to test the theories. It also provides the facility to approve and to disapprove the theories. Research design is not related to any particular method of collecting data or particular data. In theory research design can use both qualitative and quantitative data.

The research design for the hub establishment at the Harare International Airport involves a case study research strategy with data collection methods that include semi-structured questionnaires, interview (structured and loosely structures), observation and analysis of documents. The data analysis is a combination of Content Analytic Tables and detailed write-ups as recommended by Miles and Heberman (1994). Generally case studies are the prime examples of qualitative research, but Yin (1993) maintain that research design is not related to any particular method of data collection or any particular type of data.

3.2 Research philosophy

Qualitative and quantitative research methods differ in the following ways (Bernard 1995):

- their analytical objectives
- the type of questions they pose
- the type of data collection instruments they use

- the forms of data they produce
- the degree of flexibility built in the study design

The general frameworks of these two methods differ in that whereas quantitative research approaches seek to confirm hypothesis about phenomena, qualitative research seeks to explore phenomena. Quantitative research approaches uses highly structured methods like surveys, questionnaires and structured observation. Qualitative research methods use semi-structured methods like in-depth interviews, focus groups and participant observation.

The analytical objectives of the qualitative methods are to describe variation, to describe and explain relationships and individual experiences. The qualitative research methods seek to explain the variation, predict causal relationships and to describe the characteristics of a population.

Qualitative research uses an open-ended question format while quantitative research uses a closed-ended format. A numerical data format is used in quantitative research while a textual data format (observations from field notes) is used in qualitative research. The study design is more flexible in qualitative research than in quantitative research. The flexible aspects of the study include additions, exclusions or wording of particular interview questions; questions asked can be changed in response to responses from participants. Furthermore in qualitative research, the study design is iterative in that data collection and research questions can be adjusted according to what is learned. In contrast, the quantitative research study design is stable from beginning to end, participant responses do not influence or determine how and which questions researchers ask next. The study design is subject to statistical assumptions and conditions.

3.3 Rationale for Using a Qualitative Approach

Merriam (1998, pp. 6-8) lists the following characteristics as the rationale for choosing a qualitative research approach:

- 1) A qualitative approach aids in understanding the meaning people have constructed from their world and their experiences. For this study qualitative

research is useful in that it explores what the stakeholders in the aviation industry view and consider being the likelihood of establishing a hub at Harare International Airport.

- 2) A qualitative approach often focuses on gaining an insider's perspective into phenomena of interest in order to develop deeper understanding. This means attempting to identify study subjects that are intimately familiar with the focus of the research in order to learn the most pertinent information from them rather than relying on preconceived concepts and beliefs generated by the researcher or other outsiders.
- 3) The researcher usually becomes the primary instrument for data collection and analysis in most qualitative researches. In contrast machines are used to collect and to analyses data in quantitative research. In this study the researcher intends to collect data that may not necessarily be easily analysed using a computer and in the process will gain valuable insight into the area of study.
- 4) The use of fieldwork and data collection in a face-to-face interaction with the subjects enables the research to become familiar with the subjects at a deeper level. This interaction with the subjects is vital for this study in that the researcher is able to observe the subjects as they answer the questions and get more information from their body language. In this study the research intends to use observation (body language, and the ease with which the respondents communicate on different topics) to glean more into that the respondents would be saying.
- 5) Qualitative research uses an inductive research strategy. Unlike a deductive `research, which seeks to find data that matches a preconceived explanation of phenomenon, qualitative or inductive researchers try to explain a phenomenon according to their data. The appropriateness of an inductive strategy for this study is found in the fact that this study seeks to find out more about the suitability of the Harare International Airport as one of the major hubs in Southern Africa.

- 6) A qualitative approach utilizes a study design that is emergent and flexible, responsive to changing conditions of the study in progress. Since this study is exploratory, a qualitative approach allows the researcher to follow promising leads and unexpected digressions that surface while talking to respondents. Having the freedom to adapt the study in a reflexive manner can aid in the development of a more complete understanding.
- 7) Qualitative research employs small purposeful samples. This study is suited for this trade off as the views of those involved in aviation in Zimbabwe and literature review is considered adequate to provide a representative opinion about the whole industry, which is very limited in number. Therefore, a smaller sampling of cases provides the most reasonable opportunity for gathering the types of data and detail necessary for answering the study's questions.

Merriam 1998 p.45 concludes that a qualitative approach is particularly valuable in achieving many of the purposes of such a this study because “qualitative research is designed to inductively build rather than to test concepts, hypotheses, or theories” (1998 p. 45).

3.4 Research Strategy

Appropriateness of the Case Approach

As indicated in Table 3.1 below, Yin (1992) lists the case study, the survey, experiment, archival analysis and history as the main research strategies. However, for reasons given below, this study employed the case study approach. There is no single agreed definition of a case study (Simons 2009). Merriam (2009) maintains that the case study strategy has been described as research design, data collection, research method and a teaching technique and that the term case study is used to describe any design that does not fit into a clear category like experiment or survey. According to Yin (1992), although case studies are classified as qualitative research, quantitative data may also be collected.

Table 3.1: Relevant situations for different research strategies

Strategy	Form of research question	Requires control of behavioural events	Focuses on contemporary events
Experiment	how, why?	Yes	Yes
Survey	Who, what, where, how many, how much?	No	Yes
Archival analysis	Who, what, where, how many, how much?	No	Yes/no
History	how, why?	No	No
Case study	how, why?	no	Yes

Source: Yin (2003)

“A case study is an in depth exploration from multiple perspectives of complexity and uniqueness of a particular project, policy, institution, programme or system in real life context” (Simons 2009).

Simmons (2009) cites advantages of case studies, which include the following:

- 1) Case studies include multiple perspectives by collecting information from a range of different stakeholders. The different stakeholders in this study would be the aviation industry players, airline officials, central and local government and travel consultants.
- 2) Case studies have flexibility in what data is collected and how it is collected. This method of combining data from different sources is called triangulation and it has been used as a way of demonstrating the validity of qualitative research. This study will benefit from such flexibility in that the amount of

information needed to justify the establishment of a hub will be determined by what the experts determine to be the key success factors.

According to Yin (2003) and as depicted in Table 3.1 above, although the case study relies on the same techniques as a history, its distinguishing features are the observation of the studied events and the interviewing of the persons involved in the events. Yin (2003), maintains that the case study is the preferred method for examining contemporary events in situations where relevant behaviours are not manipulated. Furthermore, Yin (2003) maintains the view that the case study's unique strength is that it deals with various forms of evidence that include among documents, artifacts, interviews and observations. Table 3.1 shows that the case study relies on the "how" and "why" questions. This study is a contemporary examining of the challenges that could be faced in establishing a hub at the Harare international Airport. It explores the reasons (why) and the methods (how) for establishing a hub.

The main limitation is that from the case study method it is impossible to generalise from a single case (Simmons 1996, Flyvbjerg 2006). However given the benefits and disadvantages of the case study, the benefits far outweigh the limitations. The case study looks suitable for the exploratory stages of research. This study explores the possibility and challenges of establishing a hub at the Harare International Airport and the case study method meets this exploratory design.

3.5 Data Collection

3.5.1. Population and Sample

Fink (1995) states that the population of a study is the entire group from which answers to questions could be asked. The population then becomes the universe to be sampled. Sommer and Sommer (1991) note, that because it is not possible to test the whole universe, a selection of subjects has to be done in an unbiased way. From a sample generalizations about the populations are made. For this study the population is made up of management and employees of airlines that fly into

Zimbabwe and the Civil Aviation Authority of Zimbabwe as well as officials from the ministries of transport and tourism.

3.5.2 Sampling Strategy

Approaches used to determine samples are the probability and nonprobability sampling (Sommer and Sommer 1991). For Sommer and Sommer (1991 p.228), probability samples are those in which we know the probability for the inclusion of any given individual while, nonprobability samples are samples in which the likelihood of selection is not actually known. Limitations of sampling are that there is hardly a sample that is perfectly representative.

Judgmental sampling is used where the researcher uses his knowledge and professional judgment to select a sample (Denzin and Lincoln, 2005). It is thus sometimes known as purposive sampling or authoritative sampling. It is most suited for situations in which a small number of individuals possess knowledge about the subject of study and where the researcher knows a reliable professional or authority capable of assembling a representative sample (Neuman,2000). The limitations of the judgmental sampling relates to the reliability bias in the sampling technique in that it is difficult to evaluate the reliability of an expert and the sampling process is biased because there is no randomisation used in obtaining the sample members of the population. This limits the generalisation of the results of the study.

In spite of the above limitations, this study uses judgmental sampling because of the availability of few authoritative aviation experts (like senior management in the Civil Aviation of Zimbabwe and senior airline officials) who were able to give insights into the objectives of the study.

3.6 Research Instruments

3.6.1 Questionnaires

A semi-structured questionnaire will be used and distributed both by hand and through email. Because of the limited number of potential respondents, the researcher is able to visit them and personally administer the questionnaire and

solicit responses. Semi-structured questionnaire has the following benefits and limitations. According to Bernard (1998) the advantages of a semi-structured interview are that; the questions are prepared ahead of time, the respondents are allowed to express their views in their own terms and that it provides reliable, and comparable qualitative data. Langley (1987), lists the advantages of semi-structured interviews as:

- the researcher can adjust the questions and change the direction as the interview progresses
- respondents answer questions in as much detail as they want
- the informal atmosphere encourages respondents to be open and honest.

Both open and closed questions were in order to get a balanced and more reliable data collection. Saunders et.al (2007) maintains that open questions are used when a researcher is “unsure of the response such as in exploratory research when you require a detailed answer or when you want to find out what is uppermost in the respondent’s mind”. According to Dillman,(2000), closed questions provide a number of alternative answers from which the respondent is instructed to choose.

These questionnaires, by their nature are meant to be administered personally; to collect rich data via probing and explaining anything the respondent may not understand Dillman, (2000). Probing will be done by asking questions like “how do your colleagues see it?” and “why do you think a hub would be the best alternative outcome?”

The down side of the semi-structured interviews are that only a small number of respondents can be interviewed because each interview takes a long time, it is difficult to compare results as each interview is unique, a small sample leads to a less representative population and it is time consuming in both data analysis and data analysis Dillman (2000). The researcher used an interview guide that included both open-ended and closed questions.

3.6.2 Personal Interview

The use of personal interviews is ideal for this research in that more information will be gathered by further probing of respondents, which can only happen during a face-

to-face interview (Salant and Dillman, 1994). Probing allowed the researcher to inquire further and get clarity on issues that were raised by the respondent. The face-to-face interaction between the researcher and the respondents also allowed the researcher to observe the non-verbal responses and come with conclusions that would otherwise not have been possible in a mail interview.

The interviews were conducted with Civil Aviation of Zimbabwe senior management, Ministry of Transport officials and senior airline representatives.

3.7 Data Analysis

Nueman (2006) maintains that there is no standard format in data analysis in qualitative research. Data collection involved assigning meaning to the words and deciding the effect it would have on the research topic (Miles and Huberman, 1994). The analysis of research notes began in the field, during observations and interviews, as the researcher tried to get more meaning from the interactions with the respondents. Simply reading the notes or transcripts is an important step in the analytic process (Miles and Huberman 1994). This study uses content analysis or data displays in its data analysis (Miles and Huberman, 1994).

3.8 Chapter Conclusion

This chapter explored the research design of the study, the determination of the population and the sample and the data collection methods and the justification of selecting each method. The chapter ended with a look at the data analysis, which was largely based on data displays and detailed write-ups.

CHAPTER 4

RESULTS AND FINDINGS

4.1 Introduction

In this chapter the researcher presents the research findings from in-depth interviews and uses content analytical data tables to analyse the. The results in the tables were explained followed by a discussion of the implications and the link to literature. The study uses the PESTLE analysis in formulating questions asked in the face-to-face interviews.

4.2 Part A: Airport Manager, Former Airport Manager, Foreign Airline Manager, Ministry of Transport Official and Ministry of Tourism Official

Table 4.1 lists the demographic information of respondents who participated in the face-to-face interviews. All the respondents were senior employees who have direct influence on the strategic decisions made in their organisations. Furthermore, the respondents had extensive experience and were able to comment on the possibility of establishing a hub at Harare International Airport.

4.2.1 Section A: Demographic information on Respondents

Table 4.1 shows a summary of the respondents (who were interviewed) demographic information.

Table 4.1 Demographic Information of the respondents

Position of Respondent	Respondent age in years	Educational/Professional background	Years with current Employer	Years In Current Position
Airport Manager	Above 56	Aeronautical Engineer	15	12
Airport Manager	46-55	Aviation Management	35	4
Airport Manager	46-55	Diploma Salesmanship	37	4

Former Air Zimbabwe Manager	46-55	MA Strategic Management	39	20
Foreign Airline Manager	46-55	BA Economics	5	10
Foreign Airline Manager	Above 56	IATA	10	7
Foreign Airline Manager	Above 56	IATA	6	8
Ministry of Transport Official	46-55	Masters in Business Administration	8	2
Ministry of Tourism Official	Above 56	Masters In Tourism	15	10

Each respondent had been in the aviation industry for more than a decade. The respondents were all in the age group 45 and above which means that they were mature people who could give reasoned answers to the research questions.

4.2.2 Section B: Key Success Factors of Establishing a Hub

The questions that were and the answers from the respondents and these analyses to the answers are listed in the tables below.

Question 1(a): What are the key success factors for establishing a hub at an airport?

Observation: All respondents welcomed this question and were quick and eager to give answers.

Table 4.2: The geographic location of Harare International Airport

Respondents	Summary of responses
Airport Managers	HIA is centrally located for the establishment of a hub and most airports within SADC are within 1-2 hours reach. HIA is better situated than ORT.
Former General Manager of Air Zimbabwe	HIA has an ideal geographic location to establish a regional hub
Manager of a foreign Airline	HIA is strategically positioned in the Southern African region and is suited for being the regional hub of Southern Africa.
Ministry of Tourism Official	HIA could not have been more strategically placed for hub status
Ministry of Transport	The geographic location of HIA is within 5 hours of most airports in

Official	Central, Southern, Eastern and West Africa.
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All respondents were agreed that the geographical location of an airport is one of the key success factors for establishing a hub. Table 4.2 shows the similarity of the respondent's answers. One of the Airport managers expressed the view that HIA was better situated than ORT. The responses are in line with the literature which lists geographical centrality of a location as one of the key success factors for the establishment of a hub.

Question 1(b): How are the local and regional economies conducive to the establishment of a hub at HIA?

Observation: All respondents welcomed this question and were quick and eager to give answers.

Table 4.3: How are the local and regional economies conducive to the establishment of a hub at Harare International Airport?

Respondent	Response
Airport Managers	Zimbabwe is at the centre of the SADC region –surrounded by strong economies Zambia (copper); DRC (diamonds), Mozambique (coal) Botswana and Namibia (diamonds) and South Africa is a member of BRICS.
Former Airport Managers	South Africa has a competing hub which has a strong economy Regional economies can support HIA and there is the advantage of access to spill over traffic from South Africa
Foreign Airline Managers	HIA would serve the SADC and COMESA markets effectively by virtue of its location Strong regional economies create a conducive environment for the airline and the airport.
Ministry of Tourism Official	There is a positive correlation between strong economies and improved air travel
Ministry of Transport Official	With SADC picking up momentum in terms of development, the whole region is a great source of support for HIA as a hub

Table 4.3 shows that the respondents had a good understanding of the regional economies and were able to explain the effect of a strong economy on the existence of a hub. All the respondents were agreed that the regional economies will be able to provide the necessary traffic flows into Harare International Airport. These responses are in line with the literature as a strong economic base of the surrounding areas is essential for a continued existence of a hub. One of the airport managers itemised the minerals as the basis for the strength of the regional economies. He highlighted the fact a hub at HIA would be guaranteed a long life as the exploitation of these minerals was still in its infancy.

Question 1(c): How do you foresee HIA coping with future demand for capacity expansion and the arrival of new bigger aircrafts?

Observation: All respondents welcomed this question and were quick and eager to give answers.

Table 4.4: The future capacity of Harare International Airport

Respondent	Response
Airport Managers	HIA has excess capacity after undergoing capacity expansion in the last 10 years. In the long term, there is a need for massive infrastructural development and expansion to handle bigger aircrafts and increased frequencies.
Former Airport Managers	There would a need to update facilities to meet the new requirements There is a need to build an airport hotel There is a need to build more duty free shops
Foreign Airline Managers	HIA by virtue of its design, lacks the capacity to handle many Airbus at one given time, but would cope if slots are well managed. HIA has sound infrastructure, but needs to expand handling facilities and equipment HIA has inadequate facilities; shortage of equipment, incessant breakdown of carousels; Address them by; purchase/upgrade of equipment, and expanding the airport, Other constraints include: negative publicity of Zimbabwe by the western world, economic meltdown and ORT is seen as the preferred hub of Southern Africa.

Ministry of Tourism Official	There is need for an airport hotel, and more facilities around the airport
Ministry of Transport Official	There is need to upgrade the airport handling equipment and also increase the number of air bridges to cater for increased landings

Table 4.4 shows that the respondents did not agree on the capacity of Harare International Airport to support an increased traffic and bigger aircrafts. Foreign airline managers indicate that HIA did not have adequate capacity and infrastructure to handle bigger aircrafts. Former and current Air Zimbabwe Managers were of the view that HIA has excess capacity both in the short and medium term. However, all respondents gave similar answers on the need to upgrade the facilities and equipment. Literature lists the ability of a location to expand its capacity in line with the growth in traffic and aircraft size as some of the prerequisites for establishing a successful hub.

4.2.3 Section C: Constraints faced in the effective running of operations at Harare international Airport.

Question 2 (a): What are the challenges faced in running the airport? What challenges have you faced in using Harare International Airport?

Observation: The Zimbabwean residents (nationals) looked timid or unsure in giving answers to the question.

Table 4.5 Challenges faced in using (running) Harare International Airport

Respondent	Response
Airport Managers	Constraints are caused by national factors outside the domain of the airport. Low traffic leads to reduced revenues. Operational and maintenance costs are not matched by the low revenues
Former Airport Managers	Challenges include: limited facilities, need to upgrade infrastructure, check-in facilities, equipment and lighting.

Foreign Airline Managers	Inadequate facilities; shortage of equipment, incessant breakdown of carousels; Other constraints include: negative publicity of Zimbabwe by the western world, economic meltdown and ORT is seen as the preferred hub of Southern Africa. Power cuts are a major set-back. Back-up power is slow and at times not even available.
Ministry of Tourism Official	The lounges at the airport offer very limited services for travellers, like showers, fast internet
Ministry of Transport Official	Low traffic has resulted in reduced revenues to maintain existing facilities. So with wear & tear of equipment over the last 10 years, there is need to inject resources into the airport to bring up standards.

Table 4.5 shows that all the respondents concurred that there were a myriad of challenges in both running and using Harare International Airport. The challenges ranged from operational costs to shortage of equipment and incessant power cuts. The Airport Managers blamed the external forces (Government) and economic factors (high operating costs and depressed revenue) for the challenges faced in running the airport. The Ministry of Tourism official viewed the lack of suitable amenities as the main challenge that would affect the visiting tourists. The foreign airline managers added the incessant power cuts to the list of challenges expressed by the airport managers. These challenges are in line with the literature review findings that a steady flow of traffic and an commercially run airport is a requisite for the establishment of a hub.

Question 2 (b): How can these challenges be addressed?

The responses are shown in Table 4.6 below.

Table 4.6 Harare International Airport's ability to address challenges

Respondent	Responses
Airport Managers	Creation of a positive country image that will help in attracting increased traffic inflows and investment.
Former Airport Managers	Resources are need to upgrade the facilities There is a need to separate the regulatory and commercial operators

Foreign Airline Managers	Address them by; purchase/upgrade of equipment, and expanding the airport, The airport should be in a grid that does not experience frequent power cuts. Generators should be at the right power levels.
Ministry of Tourism Official	Investment by the main stakeholder i.e. government to upgrade facilities
Ministry of Transport Official	Nurture the national carrier and ensure it has a strong network, either on its own or with some alliance(s), to drive HIA as a transit airport.

From Table 4.6 the responses indicate that the continued power cuts and the lack of a reliable backup system are challenges that respondents consider critical to the smooth running of an airport. Former Airport Managers were concerned about the fact that there is no separation of roles between the regulatory authority and the operator. Foreign airline managers would like to see airport equipment being upgraded and the power shortages resolved as ways of addressing the challenges.

Question 2 (c): In your view what support do you think the government should give to assist running the Harare International Airport?

Several communication methods were stated, responses are summarised in Table 4.6 below.

Table 4.7 Government assistance in running the Harare international Airport

Respondent	Response
Airport Managers	Upgrade equipment and ancillary facilities.
Former Airport Managers	The Government should give to the following: <ul style="list-style-type: none"> • Let professionals run the airport • Provide finance to upgrade the airport • Encourage enabling Visa policies

	<ul style="list-style-type: none"> • Improve customs procedures
Foreign Airline Managers	<p>The Government should help in the upgrading of the equipment and ancillary services</p> <p>Government should set up strong infrastructures and allow professionals to run the airports.</p> <p>Airports are proving to be viable businesses worldwide especially those supported by hubs.</p>
Ministry of Tourism Official	Fix the adverse publicity the country is experiencing, through the services of an experienced PR organisation
Ministry of Transport Official	Benchmark policies with those in the region with regards to aviation to ensure it creates an enabling environment for the operators

The former airport managers and ministry officials were in agreement that the government should let the professionals run the airport, provide finance for equipment upgrades, and have enabling policies to improve customs procedures and friendly Visa policies. Citing daily challenges in running the airport, the Airport Managers would like to see the passengers handling equipment and ancillary facilities upgraded. These responses are in line with the above literature on hub establishment which requires that there be an enabling environment that allows easy movement of traffic especially tourists.

Question 2 (d): What other factors in your view have negatively affected the success and effectiveness of Harare International Airport? Explain

Table 4.8 below summarises the response from the respondents.

Table 4.8 Actions that can be taken in addressing these challenges.

Respondent	Response
Airport Managers	The economy, lack of traffic information sharing and joint marketing/promotion with other stakeholders.
Former Airport	The economic environment is not conducive to sustainable business,

Managers	there is global negative perceived risk, the political environment is polarised and does not give clear direction to foreign investors. There is no transit hotel for passengers to use.
Foreign Airline Managers	Negative publicity and perception of Zimbabwe by the West, economic meltdown during the previous years, O.R.Tambo has been seen as the preferred hub of Southern Africa. The economy. Lack of regional (except South Africa) traffic, lack of direct flights between UK & Zimbabwe, poor marketing strategy and the subdued tourism sector.
Ministry of Tourism Official	Solicit input from all stakeholders involved in travel/airport/tourism and ensure the gathered information is utilised to effect change that is meaningful and beneficial to HIA.
Ministry of Transport Official	Engaging government with representation on the required resources to upgrade HIA, and show that the investment is able to pay back the investor

Once again the Ministry Officials emphasised the need for the Government to provide an enabling environment to allow businesses to transact with minimum interference. They also highlighted the lack of an inter-ministerial effort come up with investment to upgrade the facilities at HIA. The foreign airline managers noted that lack of regional traffic (apart from South Africa) and good marketing strategies to boost the tourism sector. Literature, as outlined above, is clear in that a hub results in economic benefits that benefits the whole country hence the need for an inter-ministerial task force.

4.2.4 Section D: The environment conducive for the successful establishment of a hub

Question 3 (a): In your view, is the political environment in which HIA is operating conducive for the successful establishment of a hub?

Observation: Most Zimbabwean respondents were taken aback by this question judging by their facial expressions a summary of their responses are shown in Table 4.8

Table 4.9 The political environment under which the Harare International Airport is operating.

Respondent	Response
Airport Managers	The domestic political environment is perceived as not peaceful and therefore is not conducive for development. The Western nations perception of Zimbabwe is negative
Former Airport Managers	Yes the political environment is conducive, with the Government mending relations with the outside world. The Visa regime is relaxed, although there is still more to be done
Foreign Airline Managers	There is a need for a UNI-Visa for the Southern African region and free movement of people in the region. HIA can be an alternative hub to ORT. The current political dispensation cannot support the establishment of a hub.
Ministry of Tourism Official	The hosting of the UNWTO was a great showcase to dispel the negative perception the country has, but more still needs to be done.
Ministry of Transport Official	The peaceful hosting of elections in 2013 following on from the government of national unity attests to a peaceful political environment with opposition that is active, which is a good thing for any democracy.

The ministry officials said that the political environment was peaceful, with the tourism official citing the hosting of the UNWTO and the transport official citing the holding of the 2013 elections as proof. However, the airport managers said that the rest of the world holds a negative perception on Zimbabwe's political situation. The former airport manager expressed a similar view when he said that the political environment was not conducive to the successful establishment of a hub

All the respondents were agreed that the current political dispensation is not conducive to the establishment of a hub.

Question 3 (b): What areas would you want to improved, by whom and how?

Table 4.10 Areas that need improvement in the political environment.

Respondent	Response
Airport Managers	Government of Zimbabwe should portray Zimbabwe as a safe destination for investment.
Former Airport Managers	Separate the roles between the government and operators.
Foreign Airline Managers	<p>Improve relations with the rest of the world and clearly define the indigenisation policy.</p> <p>The solution can only come from the Government.</p> <p>Improve the political environment by making it inclusive of all citizens regardless of political persuasion.</p> <p>Policy framework must allow business to flourish</p> <p>Separation of Authority CAAZ from Airports Companies</p>
Ministry of Tourism Official	Separate policy makers from implementers, and reduce interference from politics
Ministry of Transport Official	Have structures that allow for the businesses to be run as such with necessary support from the government

Table 4.10 shows that the respondents urged the Government to portray Zimbabwe as a safe destination for investment and to clarify the indigenisation policy.

Question 3 (c): In what ways would successful operations of a hub be affected by the Zimbabwean economic environment? Explain

The responses are in Table 4.11.

Table 4.11 The effect of the economic environment

Respondent	Response
Airport Managers	<p>The free movement of merchandise in and out of Zimbabwe.</p> <p>Boost internal economic activity by reviving industry through relaxed economic policies.</p> <p>Increased economic activities will attract increased passenger and freight movement and increase air traffic.</p>

Former Airport Managers	Zimbabwe has a strong national carrier; it also has very attractive tourist destinations.
Foreign Airline Managers	<p>A strong economy drives tourism and traffic. Zimbabwe needs a strong economy.</p> <p>There is a strong correlation between the economic performance and hubbing success.</p> <p>The successful lobbying by the UNWTO</p> <p>A hub needs a natural flow of domestic traffic, economic success of the business environment and a strong domestic (local) airline.</p>
Ministry of Tourism Official	Tourism is one of the sectors that can assist in quick economic turnaround for the country, therefore policies that support increased visitor traffic to Zimbabwe would assist
Ministry of Transport Official	The economy has to grow more to sustain HIA without having to rely on government for support

Like with the political environment, the respondents indicated that the government should create an enabling economic environment would attract larger traffic inflows into the country. The Ministry of Transport official expressed the view that HIA should rely more on a growing economy than on government support, while the Ministry of Tourism official said that government should assist the growth of tourism sector as increased tourism leads to increased visitor traffic. The former airport managers expressed the same view that a strong economy drives tourism and traffic. This is in line with literature in that a robust domestic economy is essential for the successful operation of a hub.

Question 3 (d): In what ways would successful operations of a hub be affected by the Zimbabwean social environment? Explain

The respondents' answers are in Table 4.10 below.

Table 4.12 the effect of the social environment

Respondent	Response
Airport Managers	Hub development s more driven by economic activity than by social activities.
Former Airport Managers	The diaspora effect – enables increased traffic
Foreign Airline Managers	The Zimbabwean society is hungry to travel by air.
Ministry of Tourism Official	Tourism is not be a preserve of high disposable incomes earners Communal/ecotourism initiatives to reach rural communities and so alleviate poverty
Ministry of Transport Official	Investment is made in HIA, should lead to increased local employment Ancillary industries to be developed should create a multiplier effect and improve the social standing of more than just those directly involved in aviation.

The Ministry of Transport official said that with competing requirements for resources from central government, it is critical that once investment is made in HIA, the benefits should flow downstream in terms of local employment and development of ancillary industries to create a multiplier effect and improve the social standing of more than just those directly involved in aviation.

The Ministry of tourism official said that tourism does not have to be a preserve of those with high disposable incomes, but through communal/ecotourism initiatives, it is possible to take it to the rural communities and so address the issue of poverty in communal areas as the community owns preserves and “sells” its environment in return for sustained income.

The respondents were agreed that the social environment could increase traffic inflows if the Zimbabwean society can be made to be hungrier for travel. The foreign airline managers expressed the view that Zimbabweans in the diaspora promote increased traffic flows when relatives visit each other, while one airport manager said that hub development is more driven by economic development than by social activities. All these responses highlight the correlation between increased traffic,

increased tourism, economic development of a country and a successful hub operation.

Question 3 (e): In what ways would successful operations of a hub be affected by the Zimbabwean technical environment? Explain

Table 4.13 gives a summary of responses to the question.

Table 4.13 the effect of the technical environment

Respondent	Response
Airport Managers	Aviation is highly a techno sensitive industry - so there is need for continuous improvement of aircrafts, radar equipment, and ancillary infrastructure.
Former Airport Managers	There is need for an airport kiosk, more automated vendor machines, and internet broad band
Foreign Airline Managers	At the moment Harare International Airport needs up to date equipment and capacity to process passengers smoothly. Good landing aids and monitoring of airspace is required Self-check in and adoption of high tech equipment for passenger processing Wi-Fi friendly airports are popular with younger travellers/
Ministry of Tourism Official	Offer free Wi-Fi to travellers, have self-service kiosks self-check in, bag drop-off zones for those who have checked in online and other facilities that require connectivity
Ministry of Transport Official	There is a great need for upgrading the technology at and around the airport in terms of operating systems upgrade, internet access, and reduction in communication costs generally so that aeronautical costs can be brought down

The Ministry of tourism official said he would like to see the introduction of self-service kiosks and on-line and self-checking facilities. The Ministry of Transport official said he would also like to see HIA upgrade its internet access. The airport

managers said they would like the government to upgrade the radar equipment and to introduce automated teller machines at the airport.

The upgrading of facilities and improvements of amenities, are some of the key requirements listed in the literature for a successfully run hub.

Question 3 (f): In what ways would successful operations of a hub be affected by the Zimbabwean legal environment? Explain

Table 4.14 the effect of the legal environment

Respondent	Response
Airport Managers	The legal environment should facilitate the following: <ul style="list-style-type: none"> • Ability to easily remit investment proceeds • Allow new airlines to fly into Zimbabwe • More relaxed import and export procedures • Reduced taxation on profits
Former Airport Managers	Stringent Visa requirements forces people to use other hubs. Zimbabwe Government should conform to ICAO and also let airport operations be run by professional people.
Foreign Airline Managers	The introduction of the Uni-Visa regime Introduction of the open skies policy Transparency plays a role in legitimising any business. Zimbabwe should adopt a transparent legal environment.
Ministry of Tourism Official	A uni-visa system for the SADC region, that enables the region to be packaged as a whole when competing with other tourist regions would drive traffic dramatically into Zimbabwe
Ministry of Transport Official	The issue of bilateral agreements with would be source markets for traffic to Harare need to be streamlined. Proper allocation of landing slots at HIA would greatly assist in pushing traffic up

Responses from the Ministry Officials emphasised the need for bilateral agreements, availability of traffic rights and a uni-visa system. The airport manager's responses

dealt with operationalizing the legal environment by allowing investors to remit profits and allowing new airlines to fly into Zimbabwe. All respondents were in agreement that the legal environment was an enabler in ensuring the successful establishment of a hub. Some of the enablers that the respondents highlighted were the need to relax import and export procedures, allow investors to remit their investment proceeds and to have an open skies policy. This is in line with the success factors of establishing a hub in that global alliances are an essential requirement in supporting a hub.

Question 3 (g): In what ways would successful operations of a hub be affected by the Zimbabwean external environment?

The responses are in Table 4.13 below:

Table 4.15 the effect of the external environment

Respondent	Response
Airport Managers	Hubs are driven by the global economy. HIA might operate effectively as a sub-hub to ORT.
Former Airport Managers	Zimbabwean perception by the outside world has to improve and be seen as peaceful and accommodating. Government has to resolve the problem of sanctions and engage the global community.
Foreign Airline Managers	HIA should establish positive correlation with Global trends. External environment can ensure that traffic is channelled to Zimbabwe. Unfriendly sanctions have a negative impact on a country's economy.
Ministry of Tourism Official	World tourism has to be on the upward trend for HIA to enjoy the effects of such a wave.
Ministry of Transport Official	Perception is key in travel, and the negative view painted of the country has to be removed to encourage travel to Zimbabwe

All the respondents were in agreement that the perception the world had of Zimbabwe is crucial to the successful establishment of a hub. As indicated under the success factors needed to establish a hub, involvement of global partners is one of

the key factors. The external environment can support the hub by channelling the traffic to a hub.

4.3 Summary of Findings

4.3.1 Hub establishment key Success factors

The first major findings were that HIA does not have most critical success factors needed for the establishment of a successful hub in that although HIA has the ideal geographical location, and strong regional economies for the establishment of a regional hub, it does not have a strong hub carrier with global alliances and that the airport amenities need upgrading

4.3.2 Ability to handle increased traffic and larger aircrafts.

The other findings were that in the long term, HIA needs to expand its capacity and infrastructure to handle increased traffic and to handle larger aircrafts. The study also found that traffic rights are not readily available and that HIA lacks a well planned terminal design that allows efficient facilitation process for the transit passengers and their baggage with minimum connecting time even at peak traffic intervals.

4.3.3 Benefits of a successful hub

The study found that HIA does not enjoy the benefits of a successful hub, as it has not created jobs and services that are found in other hub cities(Song Wei & Ma Yanji, 2006).

4.3.4 Operational constraints for HIA to become a hub

Yet another significant finding was that HIA had many constraints that would make it impractical to establish a hub unless they are addressed. These constraints include limited technological infrastructure (no self-check facilities, and self service kiosks) and incessant power cuts and lack of reliable power backup equipment. Another

operational constraint is the lack of separation of government's role as policy maker and operator of HIA, which resulted in less than optimal performance of HIA.

4.4 Conclusion

This chapter presented the research findings and summarised the different views expressed by the respondents. Conclusions to the research will be made in the next chapter together with suggestions for further studies.

CHAPTER 5

Conclusions and Recommendations

5.1 Introduction

This chapter builds on the previous chapter by making inferences from the findings that were reported in the last chapter. An attempt will be made to review the objectives of the research and determine the extent to which these objectives were achieved. Finally, recommendations for further research are suggested.

5.2 Conclusions

The first conclusion is that Harare International Airport has the right geographical location which is strategically central for the establishment of a regional Central-Southern African hub. The other success factors for the establishment of a hub need further development and refinement before their benefit is realised.

5.2.1 Political, economic, social, technological, legal and external environmental influences on the establishment of a hub?

The study also concludes that the political environment under which HIA operates is not favourable to the establishment of a hub. This is concluded on the basis that there is need for the government to foster better relations with the global community.

A further conclusion is that the local economic environment is poor leading to limited success in HIA becoming a hub.

Finally on the technological environment, the study concludes HIA does not have up to date technology and facilities to successfully operate a hub.

The study concluded that the legal environment is too stringent for the establishment of a hub. This is concluded on the basis that the government is yet to implement the uni-visa regime and an open skies policy.

On the external environment, the study concludes that there is a general global perception that Zimbabwe is not a safe tourist destination, leading to low tourist traffic needed to sustain a hub operation.

5.3 Evaluation of Proposition

The study proposes that the limited success of HIA in becoming a successful hub is due to the poor local economic environment and the absence of a strong hub carrier with global alliances. The study confirms the proposition in that all of the critical success factors needed for the establishment of a hub (listed above) except one, the geographic location, needs to be improved upon before HIA can attain a hub status.

5.4 Recommendations

From the findings of the study, it is recommended that if Harare International Airport wishes to convert into a regional hub, it should implement the recommendations in section 5.5 below.

5.5 Improvements needed to be done before Harare International Airport can become a successful regional hub.

The Zimbabwe government must let HIA be run on a commercial basis by professionals and encourage direct foreign investment which is hoped will revive the economy. The political environment must be managed to reflect an accommodative society which is based on transparent legal policies. The Government support should encourage tourism development, and liberal traffic rights. The national carrier Air Zimbabwe should embark on a program of infrastructure development and capacity expansion. The regulatory authorities should have an effective slot management

procedure and upgrade its passenger handling and check-in equipment including introducing self-check-in facilities whilst also improving the power supply to the airport.

5.6 Study limitations and areas for further research

This study was limited by the amount of time in which it was meant to be completed as prescribed by the university. The other limitation was the fact that this study was done for academic purposes and was not as comprehensive as it could have been had it been a funded research undertaken to judge the commercial viability of establishing a hub.

Another limitation stems from the sampling technique that was used. Judgemental sampling has inherent limitations as has already been explained, some of which are the size and selection of the sample which are all determined by the researcher.

This research was limited to a single case study, The Harare International Airport. This could be different if more airports in Southern Africa had been considered. In this regard, the result of the study may be inconclusive.

Future research may consider a detailed study of the costs involved in establishing a hub. Furthermore, the key success factors were not ranked to determine which ones are most critical in establishing a hub, or which ones should come first. Further research may be needed to consider what might be considered the bare minimum success factors needed to establish a hub.

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APPENDIX 1

INTERVIEWED GUIDED QUESTIONS

INTERVIEW GUIDE FOR AIRPORT MANAGERS, FOREIGN AIRLINE MANAGERS, GOVERNMENT OFFICIALS AND FORMER AIRLINE MANAGERS

SECTION A: BACKGROUND OF THE RESPONDENTS

a. In which age category do you fall?

- 0-35years 36-45years 46-55 above 56

b. What is your professional/academic background?

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c. When did you join the aviation industry?

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d. For how long have you been the manager of your organisation?

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SECTION B: KEY SUCCESS FACTORS OF ESTABLISHING A HUB

1. What are the key success factors for establishing a hub at an airports?

a. In your own view, is Harare International Airport strategically located geographically to facilitate the successful establishment of a regional hub?. Explain.

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b. How are the local and regional economies conducive to the establishment of a hub at Harare International airport? Explain

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c. How do you foresee Harare International Airport coping with future demand for capacity expansion and the arrival of new bigger aircrafts? Explain.

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SECTION C: CONSTRAINTS FACED IN THE EFFECTIVE RUNNING OF OPERATIONS AT HARARE INTERNATIONAL AIRPORT.

1. What are the constraints faced in running the airport?

a. As a Manager/ (of a foreign airline), what challenges have you been facing in using the Harare international Airport? Explain.

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b. In your own view, how can these challenges be addressed?

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c. To what extent are you guaranteed of renewing a policy when it expires?

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d. In your view what other factors have negatively affected the success and effectiveness of Harare International Airport? Explain

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SECTION D: THE CONDUCTIVENESS OF THE ENVIRONMENT FOR THE SUCCESSFUL ESTABLISHMENT OF A HUB

1. Is the environment under which the Harare International Airport is operating conducive for the establishment of a hub?

a. In your own view , is the political environment in which Harare International Airport is operating conducive for the establishment of a hub? Explain

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b. What areas would you want to see improved by whom and how?

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c. In what ways would successful operations of a hub be affected by the Zimbabwean economic environment? Explain

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d. In what ways would successful operations of a hub be affected by the Zimbabwean social environment? Explain

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e. In what ways would successful operations of a hub be affected by the Zimbabwean technological environment? Explain

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f. In what ways would successful operations of a hub be affected by the Zimbabwean legal environment? Explain

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g. In what ways would successful operations of a hub be affected by the Zimbabwean external environment? Explain

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CONCLUSION

End of Questionnaire

Thank You for Your Valuable Time and Support.