

International University of Applied Sciences
Bad Honnef – Bonn

Potential of Non-Aeronautical Revenues for Airport
Duesseldorf International

Supervisor: Prof. Dr. Hansjochen Ehmer

Jenny Jose Parappallil
Student ID: 3041806
Am Eschenhof 3
40882 Ratingen
Germany

Ratingen, March 23, 2007

Table of Contents

Table of Contents	2
List of Tables and Figures	3
List of Abbreviations	4
Abstract	5
1 Non-Aeronautical Services in the Context of Airport Development	6
1.1 Commercial Facilities of an Airport	8
1.1.1 Commercial Services (Airport Retailing)	8
1.1.2 Tourist (Leisure) Services	10
1.1.3 Conference Services	11
1.1.4 Logistics and Property Management	11
1.1.5 Consulting Services	11
1.2 Potential Customer Groups of a Modern Airport	12
1.3 Sources of Airport Revenues	13
1.4 Growing Importance of Non-Aeronautical Revenues	15
2 Introduction to Airport DUS and its Non-Aviation Facilities	18
2.1 Organisational Structure of DUS Airport	18
2.2 Non-Aviation Facilities of DUS Airport	18
2.2.1 Commercial Services	18
2.2.2 Tourist Services	22
2.2.3 Conference Services	23
2.2.4 Logistics and Property Management	23
3 Performance Evaluations of Duesseldorf Airport and Findings	25
3.1 Commercial Performance of Duesseldorf over the Years	25
3.2 Reasons for Non-Aviation Performance at Duesseldorf Airport	27
3.3 Suggestions for Improvements	32
3.3.1 Customer Portfolio of Duesseldorf Airport	32
3.3.2 International/Regional Brands versus Local Products	34
3.3.3 Airsides versus Landside Facilities	36
3.3.4 Pricing Strategy	38
3.3.5 Promotional Strategy	39
4 Future Outlook and Conclusions	42
References	44

List of Tables and Figures

1. Figure 1: The Service Package Offered by a Commercial Airport	7
2. Figure 2: Percent Share of Duty and Tax Free Sales at Airports 1990 –2005	8
3. Table 1: Airport sales by product category 2005 versus 2000	9
4. Table 2: Classification of airport revenue sources	14
5. Figure 3: Four Strategies to improve market shares in the airport business	17
6. Figure 4: Layout of DUS Airport Arkaden	19
7. Table 3: Shops based on product category in DUS	20
8. Figure 5: Comparison of car park rates to aircraft parking rates	21
9. Figure 6: Development of non-aviation revenues at DUS over the years	25
10. Figure 7: Non-Aviation revenue as a percent of total revenue for major European airports in 2003	26
10. Figure 8: Non-aeronautical revenue per WLU for selected German and BAA airports, 2003	27
11. Figure 9: Cost structures in percent at selected European airports, 2001	28
12. Table 4: Employee productivity of DUS and LHR, 2003	29
13. Figure 10: Hourly occupancy of terminal car parks at DUS airport	31
14. Table 5: Ideal placement of outlets within a terminal: airside versus landside areas	37

List of Abbreviations

1. ACI: Airports Council International
2. ALF: Airport Loyalty Program
3. AMS: Amsterdam
4. ATC: Air Traffic Control
5. BAA: British Airports Authority
6. CAA: Civil Aviation Authority
7. CGN: Cologne
8. dba: Deutsche BA
9. DFWC: Duty Free World Council
10. DUS: Duesseldorf
11. ETRC: European Travel Retail Council
12. FRA: Frankfurt
13. GDP: Gross Domestic Product
14. HAM: Hamburg
15. HLF: Hapag Fly
16. ICAO: International Civil Aviation Organisation
17. IT: Information Technology
18. LCC: Low Cost Carrier
19. LHR: London Heathrow
20. LTU: Lufttransport Union
21. MAW: Maximum Authorised Weight
22. MTOW: Maximum Take Off Weight
23. MUC: Munich
24. NRW: North Rhine Westfalia
25. STR: Stuttgart
26. SZG: Salzburg
27. TV: Television
28. UPS: United Parcel Service
29. VIE: Vienna
30. WDF: World Duty Free
31. WLU: Work Load Unit
32. WWW: World Wide Web
33. ZRH: Zurich

Abstract

This thesis examines the potential and scope of non-aviation for Duesseldorf International Airport. It also aims to evaluate the performance of the non-aviation facilities at the airport by comparing the results to that of similar European airports. The research concludes that the airport's non-aviation entity is under performing and seeks to find the reasons behind it and offers some practical suggestions for improvements. Over the years, non-aviation has caught the attention of many airports, both international and regional, and many of them have invested capital to develop their commercial facilities. The first chapter of the thesis gives a detailed theoretical understanding on the topic of non-aviation. Here, various terms and definitions are explained and aims to see non-aviation in the context of airport development. The second chapter gives an exhaustive description of the various non-aviation facilities offered at the airport. It starts by giving a short description on the airport, its capital structure and some general facts known about it. The third chapter follows this by presenting some performance evaluations, reasons for the present situations and suggestions for improvements. Finally, the concluding chapter aims to see the future outlook of the industry, with special references on DUS airport presenting experts opinion about the matter.

1. Non-aeronautical Services in the Context of Airport Development

In the recent years, there has been a serious attempt on the part of airports to increase their service value proposition. Airport managers, who had an eye on revenue maximisation, realised that a greater dependence on the airlines could hamper their revenue opportunities. The profit margins of major airlines became thinner as the industry matured through increasing competition and got worse as they became victims to the hazardous effects of the recent global events. The passengers, on the other hand, became more and more sophisticated through repeated travelling and thereby demanded greater services at the airports. This led to the trend towards airports throwing a wide range of ancillary services at the disposal of the passengers, normally clubbed together as “non-aeronautical” or “non-aviation services”. As the name suggests, non-aviation services do not relate directly to air traffic and hence are secondary to the product portfolio of an airport. As the idea was introduced in the industry, not many airports welcomed it and many of them realised its potential rather late.

An airport diversifying into non-aviation services may seem similar to a gas station offering burgers to the travellers or a cafeteria adding Internet facilities at its premises. However, the service portfolio offered here is varied and complex and the revenues obtained are in millions, calling for greater understanding of the topic and prudent management to achieve the desired results.

This opening chapter introduces the concept of commercial airport model and entails a clear understanding of the definitions, role and scope of non-aeronautical services and other items associated with it.

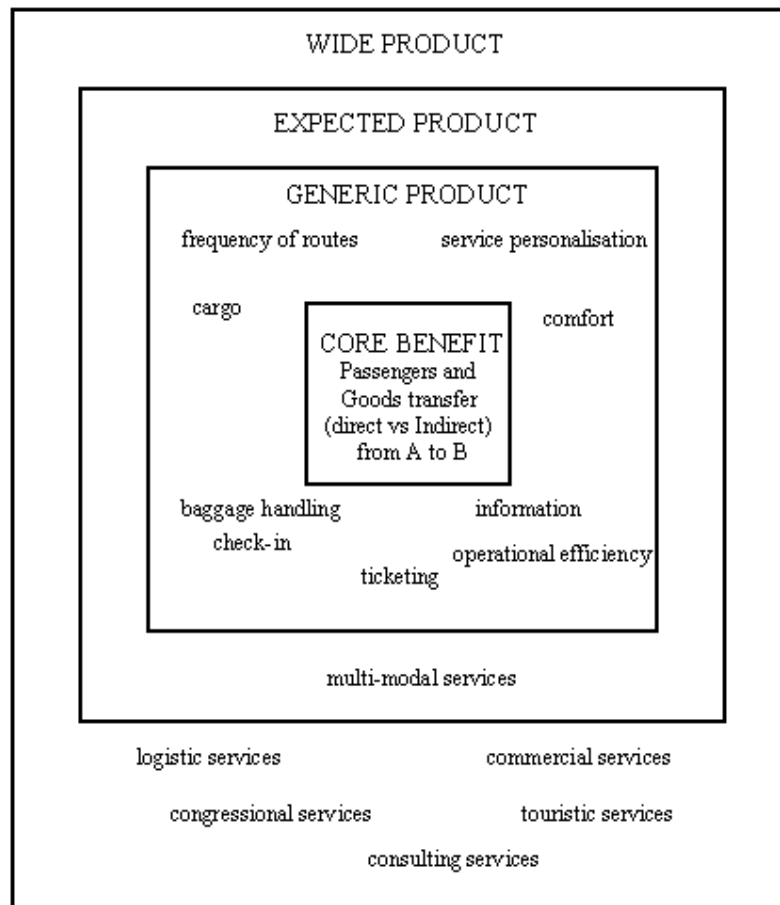
The commercialisation of airports was the aftermath of increasing competition, growing passenger volumes, and privatisation of airports during the mid 1970s. Under the commercial airport model, airports are no longer considered as a public utility with public service obligation. Instead, they were managed as a commercial enterprise with efforts made to generate revenues from activities, which are not directly related to air traffic.¹ Hence it is a shift from focusing only on its core activity of passenger and goods transportation to a more commercialised approach. Under the commercial approach, the airports diversified into various non-aeronautical activities, which was initially considered only secondary to its service portfolio. This is done with a view to reduce its dependency on airlines, and to differentiate itself

¹ Doganis (1992, p. 113)

from other similar airports in the region. The intention of the commercial airport is to maximise the airport's revenue by diversifying into any appropriate economic activity which is feasible and which has revenue potential. Following a commercial strategy, the airport expands its traditional market that involved basically the airlines to a wider market involving the passengers, visitors, airport employees, and the local communities. An innovative and result oriented airport marketing is crucial to the successful functioning of the commercial airport model. It also calls for timely and detailed forecasts to be undertaken to understand the traffic development so as to plan ahead for capital-intensive decisions such as expansion of terminals, construction of car parks, hotels, conference facilities and other commercial entities. To summarise, the commercial airport is managed under the guidelines of effective airport marketing, airport retailing and timely forecasts of traffic development. The following figure shows the diagrammatic expression of a commercial airport model.

Figure 1

The service package offered by a commercial airport



Source: Jarach (2005, p. 72)

1.1 Commercial Facilities of an Airport

The commercial airport model identifies five broad areas of activity where a commercial airport can generate substantial amount of additional revenue:²

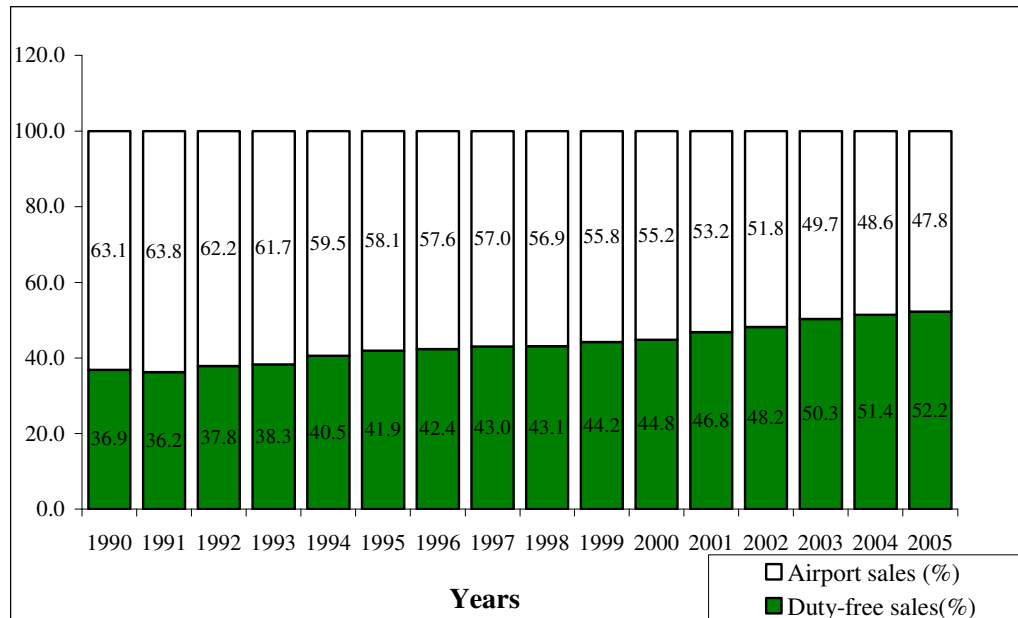
1. Commercial services,
2. Tourist services,
3. Conference services,
4. Logistic and property management services,
5. Consulting services.

1.1.1 Commercial Services (Airport Retailing)

The most important revenue generating services of airports commercial facilities is the airport retailing. “The Airports Council International (hereafter ACI) Airports Economics Survey 2004 confirms that the increase in non-aeronautical revenues during the past 12 years has been one of the most important trends in airport economics. A significant proportion of non-aeronautical revenue is derived from duty free and travel retail services”³.

Figure 2

Percent Share of Duty and Tax Free Sales at Airports 1990 to 2005



Source: Generation Databank 2006(as cited in DFWC, Sale at airports % share, 2007)

² Jarach (2005, p.72)

³ Duty Free World Council [DFWC] (2006, Significant increase in non-aeronautical revenue to airports)

As the term indicates, Airport Retailing includes all products and services of retailers that are offered on the airport premises that bring in additional revenue. Firstly, it includes all strictly commercial activities such as banks, car rentals, boutiques, duty free/tax free shops, tobacco retailers, newsstands and so on. Out of these, banks are the most common and widely used; however car rentals bring in more revenue.⁴ Gastronomy is another major source of commercial revenue for an airport. Under this broad title comes all restaurants, fast food centres, cafeteria, bars and likewise. London Gatwick has been particularly successful in this area. “Between 1992 and 1994, the airport has increased its food and beverage revenues by 70%. During this period, the number of operators grew from 4 to 18 and the number of outlets increased from 7 to 24.”⁵

Coming to the products sold, wine and spirits, perfumeries, tobacco goods, luxury goods, and confectionery and fine food comprise the product portfolio of any airport retailers⁶. However, gone are those days when tobacco and liquor dominated the airport retail market (see Table 1). Changing customer behaviour indicates that cosmetics have taken their place. High prices on tobacco and liquor have led the airport retailers to supply “less price-driven and more impulse oriented products such as cosmetics and confectionaries.

Table 1
Airport sales by product category 2005 versus 2000

	Sales 2005 (\$ mil)	Sales 2000 (\$ mil)	Growth (%) 00-05	Market share 2005	Market share 2000
Wine and Spirits	2,233	1,531	45.8	15.8	17.1
Perfumes and Cosmetics	5,042	2,670	88.8	35.8	29.8
Tobacco Goods	1,457	1,124	29.6	10.3	12.6
Luxury Goods ⁷	4,313	2,960	45.9	30.6	33.1
Confectionery and Fine Food	1,049	667	57.1	7.4	7.5
Total	14,096	8,954	57.4	100	100

Source: Generation Databank (as cited in Airport World, Dec 06 – Jan 07, p. 36)

⁴ Doganis (1992, p. 119)

⁵ Jarach (2005, p. 75)

⁶ Airport World (Dec 2006 – Jan 2007, p. 36 & 37)

⁷ Encapsulates variety of items ranging from watches, jewellery, toys, electronics, to fashion and accessories (Airport World (Dec 06 – Jan 07, p. 36))

Airports are also keen on selling spaces within the terminal boundaries for advertisements and banners of various brands. In this regard, airlines and travel agencies are particularly interested in displaying their brands in airport premises, as it is an easy and effective way of attracting passengers. Towards the last decade, airports were also targeted by various service providers such as hairdressers, religious services, ATM centres, health and fitness centres and so on. A good example in this regard is the Frankfurt International Airport, which is the only airport having a Synagogue in its terminal.

There has been a clear trend over the past decades that the airport retailing will continue to rise in the future. Geographically, Europe stands on top regarding global airport retail sales (50%), followed by Asia Pacific (28%), the Americas (12%), Middle East (8%), and Africa (2%)⁸. The British airports that excel in airport retailing than its competitors largely contribute to the high retail performance of Europe. This is mainly due to the fact that the British airports were the first to be fully privatised and since then matured into a modern, commercial airport. The elimination of duty-free sales within Europe in 2000 led to a decline in sales in Europe in the coming years⁹. For instance, non-aeronautical revenues dropped from 50% in 1998 to 45.7% in 2000 largely due to fall in retail revenues.

1.1.2 Tourist (Leisure) Services

Airports are increasingly viewed as “airport cities” due to their modern and state-of-the-art terminals and the various attractions/amenities offered by them. The tourist and leisure services offered by the airports target not only the passengers, but also visitors and airport neighbours. Apart from the revenue, they act as a catalyst in reducing the conflicts between a modern airport and its neighbours. The most and widely seen leisure services of the airport are the visitor terraces, an enclosed terrace giving view of departing and arriving aircraft. Visitors are also attracted to the various leisure facilities such as nightclubs, cinemas, indoor sport rooms etc. Gatwick airport gained in 1989 almost half a million pounds in revenue by its video game machines installed at its waiting areas¹⁰. Airports also rent out terminal space for

⁸ DFWC (2007, Sales at airports % share by region)

⁹ DFWC (2007, Significant increase in non-aeronautical revenues to airports, para. 1)

¹⁰ Doganis (1992, p. 119)

hosting various events, concerts, exhibitions, which bring in demand during off-peak times and boosts revenue for the retail sector.¹¹

1.1.3 Conference Services

Another potential source of revenue for the airports is the conference market. This offers a strong competitive edge for airports located within sprawling business centres. An airport may choose to provide conference facilities either within its terminal buildings or renting out sites within its boundary to hotels. The latter has an added advantage of offering the travellers overnight stay in the hotels and hence is a popular idea among the American airports. The target group consists of the business passengers, for whom an airport conference room helps in reducing travel time; and the local business communities, who may want to use the state-of-the-art technologies offered by an airport to host international meetings. Paris Charles de Gaulle airport is well known for its world-class conference services, which enhanced its competitive position beyond the marketing performance of Air France.¹²

1.1.4 Logistics and Property Management

Under property management, one sees an airport as a real estate where the economic possibilities of all the areas within the airport boundary is developed and exploited. One option widely discussed is that of an 'airport cargo city' where the airport offers warehousing facilities for cargo airlines and integrators. An example, in this regard, is the Cologne airport where UPS has already been based for years. Another option is renting out space for companies to set up their offices. This has a huge appeal among multi-national companies, as having their headquarters and/or branches near to airports would help them reduce travel time and personnel costs considerably.¹³ "Amsterdam Airport Authority has created a subsidiary, named Schiphol Real Estate, which is responsible for development projects, investment and building of new sites within the airport site together with some specific partners."¹⁴

1.1.5 Consulting Services

Established airports running profitably over the years offer their technical and management expertise to new and upcoming airports to develop their

¹¹ Jarach (2005, p. 80)

¹² Jarach (2005, p. 82)

¹³ Jarach (2005, p. 83 & 84)

¹⁴ Jarach (2005, p. 84)

infrastructure. The established airport gains from obtaining additional income and a better Balance Sheet position during the time of stiff competition and/or reduced traffic volume. The recipient airport benefits from obtaining the technical know-how of a major airport, which is harnessed to strengthen its competitive position in the market. BAA plc, the official manager of British airports, has offered its technical and managerial expertise for Budapest and Naples airports and eventually bought shares in the airport ownership. Particularly noteworthy is the case of Frankfurt International Airport, which supports several development projects of East European and Asian airports. This is done mainly through the implementation of management contracts.

1.2 Potential Customer Groups of a Modern Airport

Airport planners and experts in airport development identify a number of potential customer groups who use the airport's facilities. They are listed below in the following paragraph:¹⁵

1. The most important category of customers who make use of airport commercial facilities is the passengers. Compared to the other customer groups, they tend to be more affluent and may give in to spontaneous and impulse shopping.¹⁶ Of the departing passengers, the leisure passengers tend to shop more for souvenirs, reminders, gifts for friends and relatives and in general, tend to shop more. The business passengers are usually time constrained and may only do emergency shopping.¹⁷ However, they tend to use make high use of banks, car rentals, and airport hotels. The transfer passengers may shop only if they have sufficient transit time and if the prices are attractive. Finally, the arriving passengers can be understood to shop less as they are already tired and may only use the airside facilities to buy gifts and rent cars.
2. The second important categories of customers are the airlines. Their needs are very much work related. They may range from office space, check-in desks, lounges inside the terminals to maintenance, cargo facilities, flight kitchens etc. The airline employees and crews also make use of the airport retailing and other complimentary services for work or private purposes such as dry cleaning, shoe repair, hairdressers, tailors as well as other facilities.

¹⁵ Doganis (1992, p. 115) & Jarach (2005, p.73 & 74)

¹⁶ Doganis (1992, p.114)

¹⁷ Graham (2003, 2nd edition, p. 143)

3. Another major group of customers are the airport employees themselves. They shop for their day-to-day needs during their work breaks and hence would like to see more departmental stores, groceries, and food stores in addition to the normal retail shops in the terminals. Airport employees are an important sector for the airports retail market and many airports give discounts to their employees to do their shopping at the airport premises.
4. The so called 'meeters and greeters' do not come to the airport for shopping purposes. Their primary purpose is to escort the passengers to and from the airport, but if the prices in landside shops are attractive and/or the waiting time is high, they may give in to some impulse shopping at the eateries or the gift shops.
5. The local residents are also attracted to the airport's retailing section due to its wide range of shops and entertainment facilities. Since most airport shops open for longer hours during the day and even during weekends, they have an advantage over the street shops. However, good accessibility from the city centre to the airport is a crucial factor in attracting this segment. In addition, if the airport prices are too high compared to the downtown prices, this group could be lured to high street shopping.
6. The local business community may also avail of the airport facilities for good reasons. Firstly, the need for conference facilities is the primary requirement to access the airport. Secondly, their need for land, office buildings, and warehouses also could lead them to the airport.

1.3 Sources of Airport Revenues

The commercial airport derives its revenue from two major sources. They are the aeronautical revenues and the non-aeronautical or commercial revenues.

"Aeronautical revenues are those that arise directly from the operation and landing of aircraft, passengers or freight. They include aircraft-landing fees, passenger service charges, air-traffic control charges (if ATC services are provided by the airport authority), aircraft parking and hangarage fees, and charges related directly to the handling or cleaning of aircraft. Non-aeronautical revenues are those generated from non-aircraft related commercial activities in the terminal/s and on airport land".¹⁸

Non-aeronautical revenues can be generally categorised as "rents for office space and check-in desks; income from shopping concessions of various kinds; car parking fees;

¹⁸ Doganis (1992, p. 53)

recharges for tenants for services such as electricity, water and so on; revenue from catering...”¹⁹. Airport experts work with some educated assumptions when classifying particular revenue as aeronautical or vice versa.²⁰ For instance, when handling of aircraft, passengers, baggage and freight is provided by the airport, it is treated as aeronautical revenue and when it is provided by airlines or third party agents, then it is included under commercial revenue sources. Similarly, fuel throughput charge is sometimes treated as non-aeronautical revenue since airports receive rents from land used by fuel companies.

Table 2

Classification of airport revenue sources

Total revenues	
Aeronautical or traffic revenues	Non-aeronautical or commercial revenues
Landing fees	Rents or lease income (from airlines and other tenants)
Airport air traffic control charges	Recharges to tenants (for electricity, water, cleaning, etc)
Aircraft parking, hangerage and picketing	Concession income (from shops, catering, duty-free shops, banks, car parks, hotels, etc)
Passenger charges	Direct sales (shops etc operated by airport authority)
	Car park revenue (if operated by airport authority)
Freight charges	Miscellaneous (e.g. Interest earned)
Apron services and aircraft handling (if provided by airport authority)	Non airport related activities (e.g. land development)
	Fuel throughput surcharges
	Passenger, freight, baggage handling

Source: Doganis (1992, p.54)

¹⁹ Doganis (1992, p. 53)

²⁰ Doganis (1992, p. 53, pacem)

Coming to non-aeronautical revenues, rents and concessions forms the two major parts of commercial revenues.²¹ Rental income is obtained by leasing out airport space to either direct airport users such as airlines, freights forwarders, travel agents, tour operators, warehouses and so on and/or to indirect users such as hotels, caterers, banks, companies and so on. Rent is determined on the basis of the amount of space rented out and the facilities used by the tenants such as check in desks, lounges, staff kitchens etc.

On the other hand, concessions are charges collected by airports from various service providers for letting them use the airport facilities to sell their products. This is usually based on the amount of turnover of the concessionaires and not on the space occupied. Normally, concessionaires agree to pay a percentage of their turnover plus a minimum guaranteed sum to the airport.²² Hence it includes all retail businesses, car rentals, handlers, hotels and restaurants and so on.

Apart from rents and concessions, airports also make income by offering lot of activities themselves. The income from these activities is known as direct sales income. Unlike rents and concessions, all the profits made goes directly to the airport's account; however direct sales activities carry certain amount of risks²³ due to higher capital investment, labour costs, and lack of expertise on the side of airports. Some airports offer car-parking facilities, duty free and tax free shops instead of offering them through concessionaires.

Apart from the above-mentioned items, airports generate commercial income from other sources. Leisure facilities, advertising, taxi services, congressional services, sightseeing are some of the examples.

1.4 Growing Importance of Non-aeronautical Revenues

Over the decades, there have been a number of reasons for the growing importance of non-aeronautical revenues for airports. Studying the evolution of traditional airport to a more business-oriented, commercial airport, one may assume that this trend will continue into the future. As discussed in the beginning of this chapter, privatisation and commercialisation of airports have been the prime reasons for the growing importance given by the managers to develop the airport's

²¹ Doagnis (1992, p. 117, pacem)

²² Freathy & O'Connell (1998, p. 20)

²³ Freathy & O'Connell (1998, p. 20)

commercial facilities. Apart from these, there are also a couple of equally important reasons contributing to the commercialisation of airports:²⁴

1. Increasing competition and subsequent falling yields, together with the erratic world events have led the airlines to put pressure on the airports to reduce the level of landing charges levied. The airports had to adopt similar cost-cutting measures as that of the airlines to combat the consequences of 9/11. DUS airport reported a loss of about 15 million euros during the year of 2002²⁵. Subsequent reduction of aeronautical charges has caused the airports to expand its commercial operations to stay profitable
2. The air transport industry in North America and Western Europe has reached its maturity stage, making air travel more affordable and convenient for travellers. As a result, more and more passengers are making air travels for business and private purposes. This new breed of experienced travellers has shown an emerging interest in using the commercial amenities of a modern airport, thereby encouraging airport managers to emphasise more on commercial revenues.
3. Increasing competition between hub airports also contributed significantly to the commercialisation of airports. Although departing passengers choose an airport based on its air services and accessibility, transfer passengers may choose an intermediate airport based on its commercial amenities. Airports of Middle East such as Dubai, Abu Dhabi try to lure the passengers in using their hubs by advertising the duty free/tax free facilities of their airports.
4. Capacity constraints and environmental restrictions imposed upon the airports have also led the airport managers to shift their focus from air services to exploiting the non-aeronautical potential of their airports. This is especially true in the case of DUS airport, which faces stringent environmental restrictions such as a night ban (from 23:00 to 06:00) and movement restrictions on its two parallel runways. The matrix presented below summarises the four strategic options available to an airport to increase its market share (See Figure 3). Out of the four options, the market oriented ones namely, Better penetration of served market and New market development offer little comfort to the ailing situation in DUS due to lack of free slots and night restrictions. However, the value oriented options calls for diversification into non-aviation to boost market power of DUS in the NRW region.

²⁴ Graham (2003, 2nd edition, p.141)

²⁵ Schwarz (as cited in (Hamburg Aviation Conference 2006, p. 10))

Figure 3

Four Strategies to improve market shares in the airport business

New	<p>Developing by stretching the current value proposition (upgrade of the airport retailing offer)</p>	<p>Creative diversification (entertainment, logistic, conference businesses)</p>
VALUE OFFER	<p>Better penetration of served market (by improving satisfaction on KPIs)</p>	<p>New market development (by attracting new carriers)</p>
Current	Current	New

MARKET

Source: Jarach (2005, p. 102)

2 Introduction to DUS Airport and its Non – Aviation Facilities

This chapter introduces the airport DUS and gives an exhaustive description of the various non-aviation facilities offered at DUS and the future non-aviation projects.

2.1 Organisation and Structure of DUS Airport

Duesseldorf International is the gateway airport of the state North Rhine Westfalia (NRW). It is also the first partly privatised airport of Germany. It has a registered common stock of about 25,6 million euros, out of which 50% is held by the city of DUS and the remaining 50% by Airport Partners GmbH (40% Hochtief AirPort GmbH, 20% Hochtief AirPort Capital KgaA and 40% Aer Rianta plc.).²⁶

DUS Airport is the third biggest airport of Germany and transports about 16.6 million passengers annually. The airport is served by 70 airlines from 36 countries connecting 175 destinations in 45 countries²⁷. Lufthansa, LTU, Air Berlin, Condor, Hapag Fly, Emirates are some of the major airlines and Munich, London, Antalya, Palma de Mallorca, Berlin are some of the most frequently served destinations. DUS serves about 125 destinations in Europe and all the major cities in Europe are within 2 hours flying time from the airport. It also serves a sufficient number of international destinations, 17 in America, 9 in Asia and 15 in Africa²⁸.

2.2 Non-Aviation Facilities of DUS Airport

As explained in the first chapter, the non-aviation services of a modern airport are as follows:

1. Commercial services
2. Tourist services
3. Conference services
4. Logistic and property management services
5. Consulting services

2.2.1 Commercial Services

The shops and restaurants facilities of DUS are vast and varied. DUS offers shopping facilities not only within its terminals, but also in its railway station, arrival area, and its galleries. It also has its own shopping mall, namely, the Airport

²⁶ Duesseldorf International (2007, Media Center, Airport Corporate)

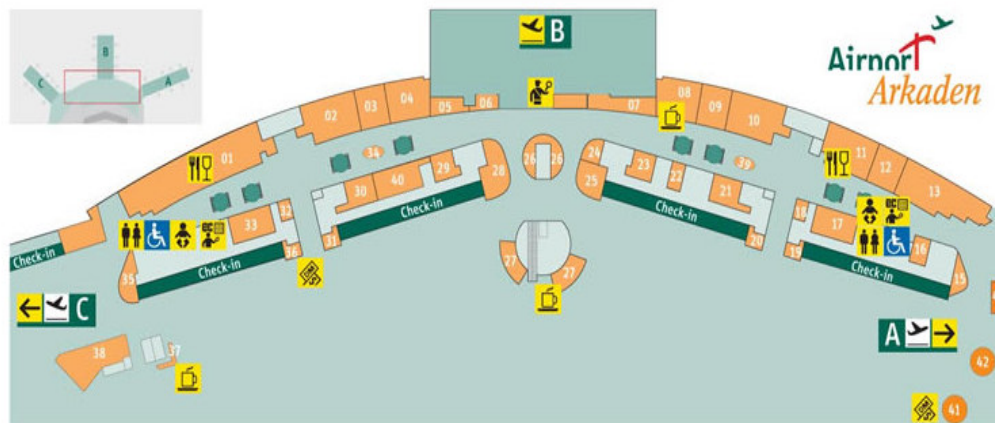
²⁷ Duesseldorf International (2007, Archives)

²⁸ Duesseldorf International (2007, Media Center, Facts & Figures)

Arkaden, located behind the check-in desks of the terminals (see Figure 8). Airport Arkaden is a shopping mall located centrally on the landside and is easily accessible to passengers, airport and airline employees and visitors. It was established around July 2001 and since then hardly a few shops had been closed. It offers around 40 shops and a multifaceted gastronomy²⁹ and is designed in such a way that the luxury shops and restaurants are located behind the Terminal A and the less luxurious ones towards Terminal B and Terminal C. This is done to facilitate the high-yield passengers of Lufthansa and its Star Alliance partners to the more luxurious shops. The success of Airport Arkaden lays perhaps in its flexible timings and easy accessibility. It is open 365 days an year, and the opening times are in tune with the airport flight plan³⁰. Since the airport is located near to the city of DUS and can be reached by about 30 minutes, thanks to the good motorway system in Germany, the demand from the native population is significantly high. The individual shops (outside the Airport Arkaden) plus the shops in Airport Arkaden total about 68 and comprise an area of approximately 6,800 square metres (m²)³¹. DUS's Gastronomy offers around 34 restaurants, bars and cafes and takes up about 6,500 m² of airport area. The Airport Arkaden alone takes about 2,200 m² of the airport vicinity.

Figure 4

Layout of DUS Airport Arkaden³²



Source: Duesseldorf International (2007, Airport Arkaden)

²⁹ Duesseldorf International (2007, Airport Arkaden)

³⁰ Duesseldorf International (2007, Airport Arkaden, para. 3)

³¹ Duesseldorf International (2007, Archives, pacem)

³² The dark green boxes denote the check-in counters, the orange ones stand for shops and the yellow ones for restaurants, banks, toiletries etc.

Like other contemporary airports, DUS offers a wide range of international and regional brands in its terminal facility. As one moves along its shopping areas, one could find hardly shops under the budget category. All major brands such as Hugo Boss, Marco Polo, Espirit, Tommy Hilfiger, Gant, Swarovski, Mont Blanc and many more have made their home in DUS airport. Through its multiple branded retail entity, the airport hopes to boost its image in the region³³. Apart from the contemporary products (see Table 6), one may also find floral shops, baby products, and shops for aviation enthusiasts (in the Galerie) inside the terminals.

Unlike other airports, DUS through its Airport Arkaden concentrates heavily on landside shopping facilities rather than airside facilities (see Table 3). This is done to attract the visitors and airport employees also to the shopping arena who does not possess an airline ticket. About 60,000 passengers, visitors, pick-uppers, business people, and airport employees visit the airport's shopping mall daily³⁴. With around 15,000 employees, and 240 companies in the airport area, the DUS's retail market show great potential to expand.

Table 3

Shops based on product category in DUS

	Shops	Airside	Landside
Wine and Spirits	5	5	nil
Perfumes and Cosmetics	7	5	2
Tobacco Products	3	nil	3
Luxury Goods	31	13	19
Confectionery and Fine food	17	6	11

Source: Duesseldorf International (2007, Shops and Restaurants)

Apart from normal shops and restaurants, DUS also offers a variety of ancillary retail services ranging from banks, car rentals, currency exchanges, ATMs, to laundries, pharmacies and blood pressure checking services. Coming to car rentals, arriving passengers have a wide range of options, namely, Avis, Sixt, Europcar, Hertz, Budget Deutschland and so on in the arrival hall at their disposal. Two banks have opened up their offices at the Departures area, one at the Gate A, and the other at Gate B. They offer currency exchange services and ATM services.

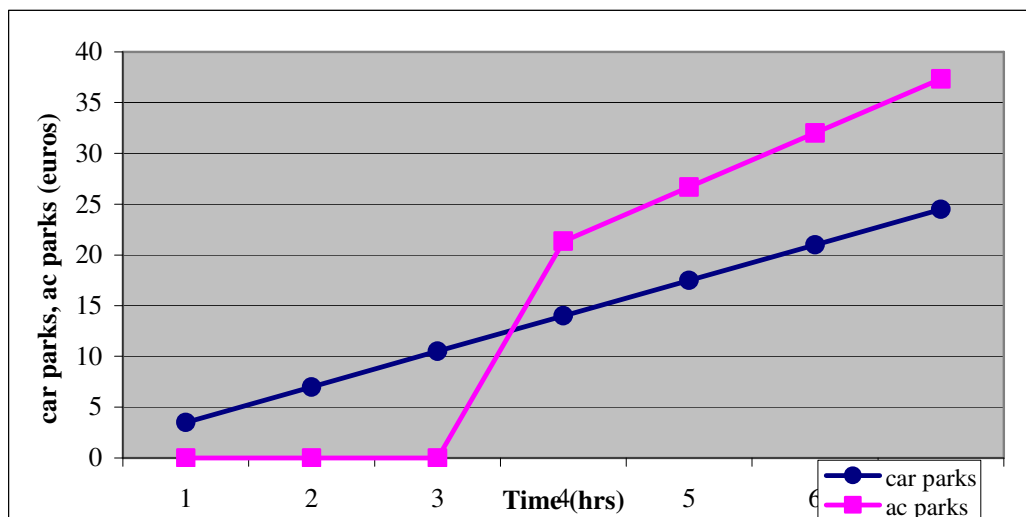
³³ Annual Report (2005, p. 16)

³⁴ Annual Report (2005, p. 13, pacem)

Car parks are another major retail services offered on airport ground. Apcoa GmbH is the company that operates the car parks and the airport leases the space to them. Apcoa Autoparking GmbH is the daughter company of Apcoa Group and is responsible for car park management for major airports in Germany. In DUS, they operate totally 13 park houses, which amounts to 14,320 parking places³⁵. Car parks are a potential source of non-aeronautical revenue for the airport. Forecasts show that about 60% of the people use private vehicles to reach the airport³⁶. About 21% of the travellers use public transportation and the rest 19 % take taxis to get to the airport. This is a clear signal of the future potential of the car parks. Moreover, when one compares the car park rates to aircraft parking rates (see Figure 4), one can easily conclude that car parks bring in more revenue than aircraft parking. In case of aircraft parking in DUS airport, the first 3 hours is levied no charge. After that, the charge increases substantially. However, since most aircraft turnaround within 45 minutes to 1 hour, substantial revenue is lost due to the free parking offer.

Figure 5

Comparison of car park rates to aircraft parking rates³⁷.



Source: Duesseldorf International (2007, Airport Parking) and Airlines.Net (2007, Aircraft Data and History)

³⁵ Duesseldorf International (2007, Airport Parking)

³⁶ Duesseldorf International (2007, Archives, pacem)

³⁷ Park house taken for calculation is P1, and the aircraft taken is A319. Aircraft parking calculated based on Maximum Take-Off Weight (MTOW)

2.2.2 Tourist (Leisure) Services

The tourist services of DUS airport are packaged and marketed under the name “Erlebnisswelt Flughafen”. Under this package, the airport promotes its shops and restaurants, its travel market and its two visitor terraces. The shops and restaurants of the airport have already been discussed under the commercial services

The travel market of DUS airport, with its more than 60 travel agencies is located in the second and third floor of the terminals³⁸. With the combined, synergic effect of all the individual travel agencies, the airport claims to have the “Germany’s biggest travel agency” in its premises. From bigger brands like Tui, Alltours, and Thomas Cook to smaller firms such as Aeroplus and Holiday Express, one has a variety of choices at his disposal. Open 365 days a year with longer day shifts, they are competent to meet the requirements of any traveller, say, business or private.

The two visitor terraces form a major ingredient of the package “Erlebnisswelt Flughafen”. The former is located in the roof of Gate B of the Terminal, from where one can get a good view on the ramp traffic and the ground handling.³⁹ The latter is located at the Railway station and covers the entire gallery area of the station. Here, one can get a fair view on the airport area, especially the two parallel runways. Since the two visitor terraces are located far from each other, a visitor has the possibility to take the Sky Train, which connects the railway station to the terminals. The two spectator terraces both with its favourable locations at the airport attract sightseers, both passengers and visitors alike. “Particularly on the weekends neighbours and visitors come due to the liberal opening times for shopping or for an excursion on the visitor terraces to the airport. It has developed thereby into a weekend-destination, which shows up in the retail revenue around 20 to 30 percent higher in the weekends.”⁴⁰

Another possible way of experiencing the airport closer that which also brings in additional revenue to the airport is taking an airport tour. Under a packaged tour price of € 238 for 20 participants, one can get to see the behind-the-scenes happenings at the apron more closely and on live⁴¹. An inclusive package price incorporates free entry into the visitor terraces, a ride on the Sky Train through the airport and the tour may last about 2 hours.

³⁸ Duesseldorf International (2007, Reisemarkt am Airport, pacem)

³⁹ Duesseldorf International (2007, Infos & Service, Zuschauerterrasse, pacem)

⁴⁰ Oechsle (2005, p. 208, translated)

⁴¹ Duesseldorf International (2007, Infos & Service, Airport Tours)

2.2.3 Conference Services

DUS airport has long since had market potential for conference services due to its strategic location in the Rhine Ruhr region and due to the growing number of business passengers at the airport. The airport has recognised that about 40 percent of all journeys undertaken through the airport had business intent. This means that out of an average 45,451 daily passengers traversing through the airport, about 18,180 are business passengers⁴². Hence, the airport holds great potential for the conference market.

DUS airport offers conference facilities at its terminals and also within the airport boundary. The former can be found at the third floor of the Terminal B, a 2,600 square metre conference and banquet centre with the airport ramp as its backdrop⁴³. Equipped with ultra modern technologies, the rooms are ideally designed for small meetings as well as meetings with about 250 participants. Apart from the facilities at the terminals, one can find conference facilities at the airport hotel, namely ArabellaSheraton. ArabellaSheraton is located at the roof of Park house 3 of the airport and offers conference facilities for about 230 guests.

2.2.4 Logistics and Property Management

Perhaps the most appealing and well-advertised non-aviation facility of DUS airport is its well known “Duesseldorf Airport City”. As far as the airport is concerned, it is an innovative way of harnessing the airport land to generate revenues and emerge as an economic power in the city. DUS Airport City can be best described as a “business park with a hotel and a conference centre”⁴⁴. It is a large and dynamic business complex, the business park alone engulfs about 230,000 square metres, with beautiful landscape giving a resort “feel” within the work environment. One can either construct one’s own offices according to one’s architectural tastes and business requirements, or rent office spaces that are already in-built. The latter has the advantage of having office spaces built according to the typical business nature of the company; however requires huge capital investment. On the other hand, the former offers instant and pre-designed buildings, which can be obtained by a fixed monthly rent. As claimed by the airport, the rents are affordable “considering its

⁴² Duesseldorf International (2007, Archives)

⁴³ Duesseldorf International (2007, Infos & Service, Conference Center)

⁴⁴ Duesseldorf Airport City (2007, p. 3)

prime location”⁴⁵. Efforts are being made to introduce an underground car parking facilities that can house about 1,850 vehicles⁴⁶. In addition, a project to construct a Maritim hotel at its vicinity embedding it to the business park and making it easily accessible to the terminals is also being undertaken. The Maritim hotel will have 533 rooms and suites and a conference centre with a capacity of about 5000 participants.

All in all, about 230 companies have already moved in to the DUS Airport City. So what makes DUS Airport City a unique alternative against the city-centre business complexes? Summarising everything what the airport has to say about its real-estate property, it could be understand in the following lines. First and foremost, it is the outstanding location of the Airport City that lures investors and businesses into this place. Major business gurus believe that their business location speaks of its credibility and make them easily available to their clients. The location advantages of the Airport City are very evident. Situated in the capital city of the NRW, one of the economically advanced regions of the world and in the heart of the airport, its location strengths can be challenged by a very few. The airport offers good rail connections to other German cities such as Cologne, Aachen, and Bonn with Intercity and urban S-trains traversing through the airport railway station. That the airport offers flight connections to about 170 destinations is itself a decisive factor for multi-national, globalised companies to move in to the airport premises. Like already mentioned under conference services, business people who wants to hold meetings are freed of the rush and traffic-jam of the city centre as they opt to convene in the airport premises. The Airport City is especially compelling to new generation service professionals such as commercial banks, IT specialists, insurance agents, and consultants who frequently fly and would like to open their offices at posh business settings that also facilitate easy and faster client contact. Its elegant architectural design and the presence of a star-category hotel help boost the corporate image of the companies. Nevertheless, companies are free to choose their own design, colours and logos to suit their company philosophy and vision/mission. The Airport Arkaden located nearby, with its shopping and entertainment facilities is yet another reason to choose the Airport City from other options available in the city.

⁴⁵ Duesseldorf Airport City (2007, p.5)

⁴⁶ Duesseldorf Airport City (2007, p.11 & p.3)

3 Performance Evaluations of DUS Airport and Findings

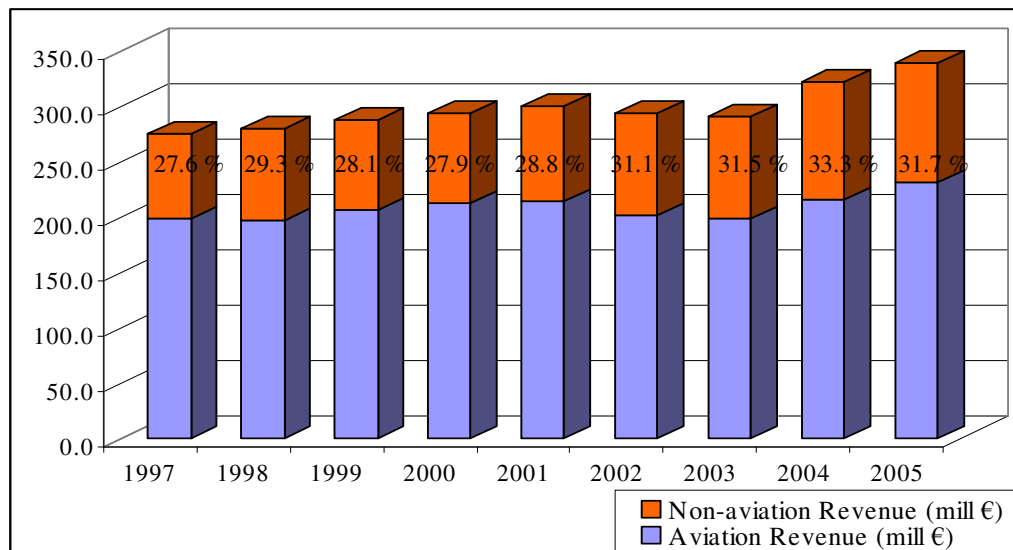
This chapter gives an analytical view on the economic performance of DUS airport's non-aviation facilities with results being compared to that of other airports in order to get a better understanding of the related issues. It also offers my reasoning as to the current results of the airport and finally also some suggestions for improvements.

3.1 Commercial Performance of DUS Airport Over the Years

There has been stability in the revenue development of Germany's third biggest airport over the past decade. Revenues have remained steady with growth minimal. The effect of 9/11 with the subsequent economic recession is manifested with the 2002 figure going slightly down than the previous years. However, growth has resumed again in the year 2004 and thereafter a steady revenue development. One can clearly see that aeronautical revenues comprise about 70% of the airport's revenue (see Figure 6). The percentage of non-aeronautical revenues has been on an average 30% over the years.

Figure 6

Development of non-aviation revenues at DUS over the years



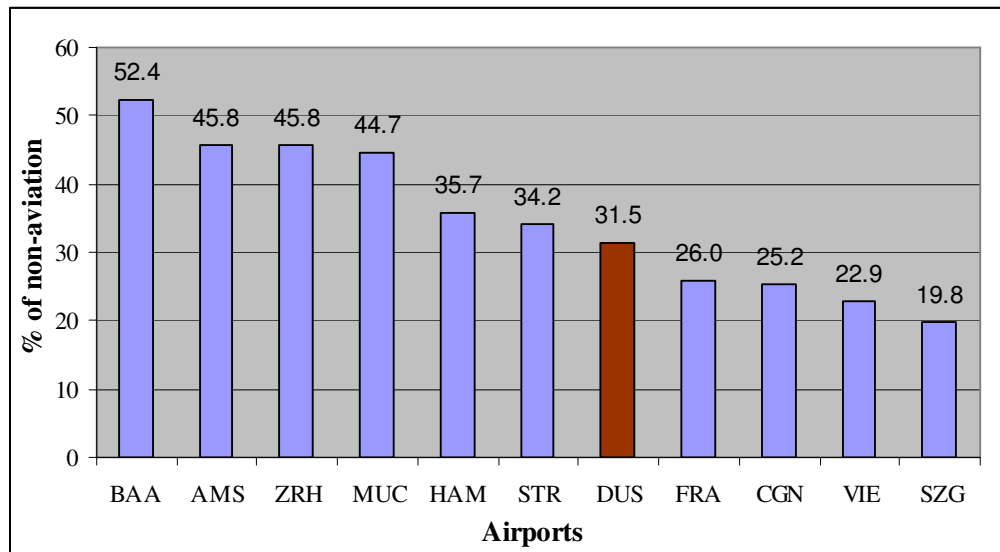
Source: Oechsle (2005, p. 209)

However, the position of DUS in the European market is significantly lower when compared to BAA and other major European airports. London Heathrow (hereafter LHR) airport obtains about 50% of its revenue from non-aviation related

activities.⁴⁷ A difference of about 20% points between BAA airports and DUS signifies scope for improvement in this sector.

Figure 7

Non-Aviation revenue as a percent of total revenue for major European airports in 2003.⁴⁸



Source: Oechsle (2005, p. 198, 194, 189, 175, 212, 218, 209, 178, 215, 206, 220)

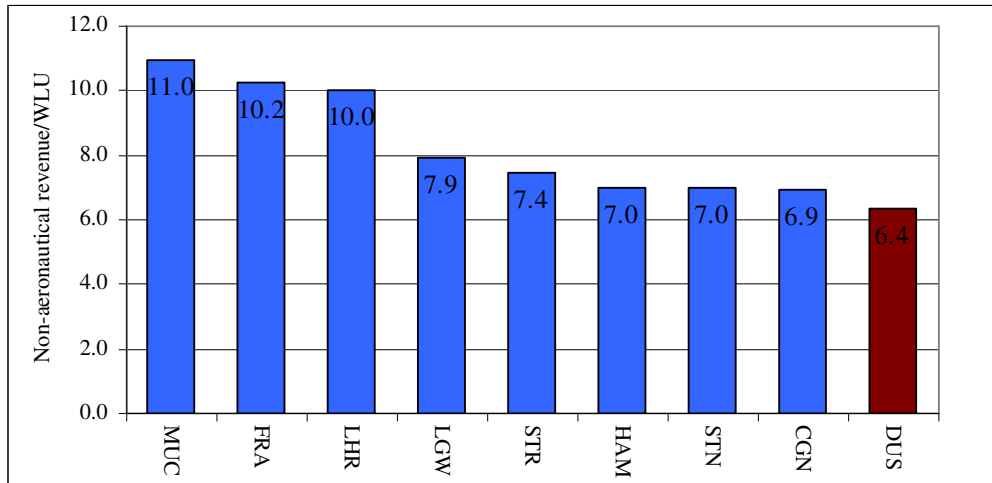
Further comparison with similar German and European airports denotes that DUS airport shows poor performance in the field of non-aviation. Below is the graph showing the non-aeronautical revenue per WLU where DUS occupies the last position among the airports taken for study (see Figure 8 in the following page).

⁴⁷ Oechsle (2005, p. 198)

⁴⁸ BAA stands for British Airports Authority and is the official managing company of British airports. The BAA airports included for calculations are London Heathrow (LHR), Stansted (STN), and Luton (LTN) and the average of the non-aviation percent of the three airports was taken for consideration. AMS stands for Amsterdam, ZRH for Zurich, MUC for Munich, HAM for Hamburg, STR for Stuttgart, FRA for Frankfurt, VIE for Vienna, SZG for Salzburg respectively. 2003 figures for Paris airports were not available.

Figure 8

Non-aeronautical revenue per WLU for selected German and BAA airports, 2003



Source: Annual reports 2005 and Oechsle (2005, p.175, 178, 198, 209, 212, 215, 218)

3.2 Reasons for Poor Non-Aviation Performance at DUS Airport

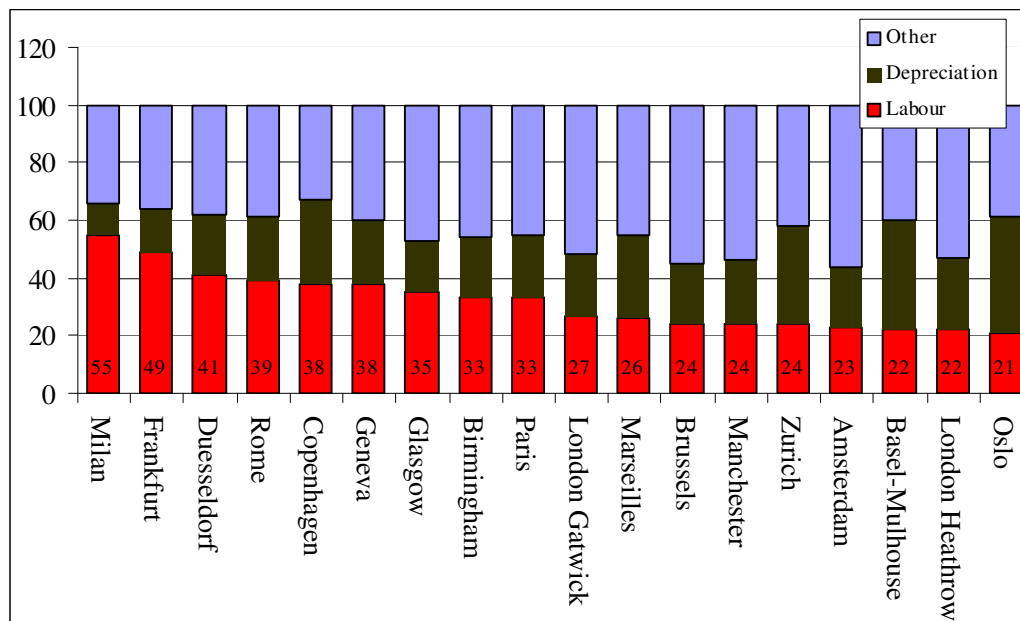
What could be the factors responsible for the poor performance of non-aviation in DUS airport? One could point out various factors that contribute directly or indirectly to the present non-aviation development in DUS. However, there are some basic factors, which are enlisted below:

1. **Privatisation:** One of the major reasons for the poor performance of DUS airport and increased efficiency seen at BAA airports is undoubtedly privatisation. BAA is the first airport company in Europe to be privatised, whereas, DUS airport is partly privatised with 50% held by the State. The evolution of airports from public service utilities to commercial enterprise is largely facilitated by privatisation. Privatisation opens the airport to commercial markets. It reduces government control of the company and gives greater freedom for the firm to diversify into related areas. In many countries, government-owned airports face restraints in the commercial activities they may engage in. Privatisation enables the firm to improve its efficiency, react to market changes quickly and become more consumer-oriented. Another significant advantage of privatisation is easy access to capital where the privatised company with substantial goodwill can obtain capital easily from the private sector.
2. **Employee productivity:** Airports are generally highly labour intensive industries. This is so either due to the services they offer directly or due to the businesses they indirectly attract. Apart from this, there is a high labour influx in

the airports due to the multiplier effect of airport's economic activity. Hence labour usually dominates the cost structure of an airport company. So is the case of DUS airport too where labour comprises about 41% of the company's total costs (see Figure 9). In airport retailing as well, labour represents the second or third largest overhead for the airport retailer, after the cost of merchandise and airport concession fee⁴⁹.

Figure 9

Cost structures in percent at selected European airports, 2001.



Source: Annual Reports (as cited in Graham, 2003, 2nd edition, p. 58)

The demands from an employee in airport's retailing sector differ very much from that of high street. The requirements to work longer hours, handling greater passenger numbers, coping with cultural and language differences, security issues etc make employee efficiency of central importance to the company. Good manpower management for the airport's commercial services should take into consideration issues such as number of staff to be employed, staff contracts, salary paid, selection and recruitment, training and employment. As people remain the key to good service provision in airport retailing, recruiting and retaining of good manpower should be the goal of any firm with the goal of profit maximisation. The measures for increasing employee productivity receive greater consideration

⁴⁹ Freathy, P and O'Connell (1998, p. 164)

from privately managed companies than from state-controlled or partly privatised companies. The degree of freedom exhibited by the managers in the area of manpower management issues is considerably higher in privatised companies. The following table shows the employee performance of DUS airport and London Heathrow (LHR) for comparison. The privately managed LHR shows better employee performance in all aspects of study.

Table 4

Employee productivity of DUS and LHR, 2003

	DUS	LHR
Passenger volume (in millions)	14.3	64.3
Number of employees ⁵⁰	2,394	4,000
Total revenues (in millions)	289.1	1264.5
WLU per employee (approximately)	597	1,608
Total revenues per employee	12,076	31,613

Source: Annual Reports and Oechsle (2005, p. 198, 209)

3. **Higher prices:** From the customer's point of view, high escalating prices are one of the major reasons for the poor commercial sales at the airport. The products displayed at the DUS airport are mainly superior brand items, which are normally high-priced. However, if these items are costlier at the airport than at downtown, passengers and other users are repelled from making purchases at the airport. It is widely accepted that the products sold at the airport could be obtained for cheaper rates at the city. Various factors account for high product prices at the airport retail outlets. One of the major reasons for the high prices is the high concession rate the tenants have to pay to the airport. Another major reason for higher prices is the high salespeople costs since the shops are operated from early mornings to late evenings. In addition, during the past few years as the German economy was going through a recession, Germans showed an overall reluctance to spend for consumer products. This was acute in airports where the passengers resorted to shopping only for emergency purposes. The vast numbers of retail shops were unexplored either because there were hardly any shops in the budget category or the prices were too unattractive.

⁵⁰ The employees taken for study is own employees of DUS and LHR airports and do not include the employees outsourced to other companies.

4. **Competition:** Competition from other service providers is also one of the reasons for substantial loss of non-aeronautical revenue for the airport. This is acute in the case of duty-free/tax-free shopping where the scheduled airlines normally offer duty-free sales on-board⁵¹. Charter airlines are also very aggressive in this aspect since the tourist airlines make significant revenues from on-board duty-free sales. Hence such duty-free sales of airlines compete directly with that of the airport. The latter has an advantage in that the passengers are more relaxed and have more time to view the products. Competition can also be seen in the catering section. In case where on-board catering is part of the airline ticket, the passengers would normally outgo buying food from the terminals. Even when on-board catering is not free (as in the case of low cost carriers), the airport faces a significant threat from these airlines, as the latter is very aggressive in promoting its catering services. It is very clear that low cost carriers obtain much of their revenues from in-flight catering sales. The non-aviation facilities of the airport come in direct competition with the high street retailers and other providers as well especially when the prices are cheaper in the streets. The major advantage of high street shopping over airport shopping is that the passengers are usually in the mood of shopping and they have time to spare. Off-airport competition is also found in other areas such as conference facilities, hotels and even car parks. In the case of DUS airport, the ease to reach the airport from the city centre may induce price conscious entrepreneurs to opt for cheaper hotels and conference facilities located in the cities. Thus we can see that the airport loses considerable amount of revenue due to the competition from downtown service providers.
5. **Volume of Traffic:** Another major factor responsible for an airport's level and structure of costs and revenues is the volume of traffic. The rule playing here is economics of scale i.e., the unit cost reduces as volume of production increases. This holds true in the case of airports as well. As an airport increases its traffic, the traffic costs per passenger handled (or WLU) declines. Studies at BAA airports showed that costs per passenger or WLU fell dramatically as the total traffic increased to 1 or 1.5 million passengers. At a traffic volume of 3 million passengers, the unit costs were flattened out⁵². Thus one can see that larger airports have a better cost position than smaller and regional airports. In addition,

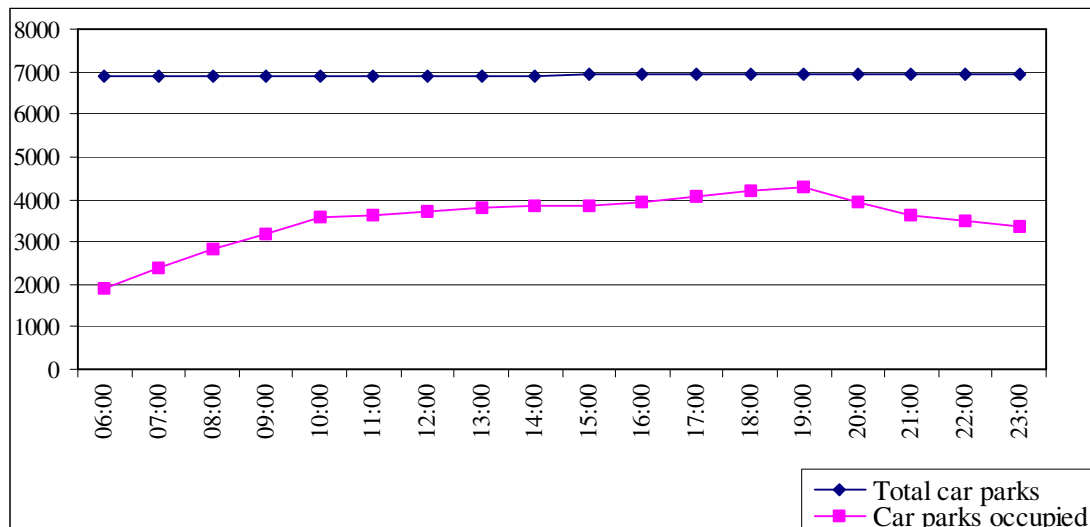
⁵¹ Doganis (1992, p. 157)

⁵² Doganis and Thompson 1973 (as cited in (Graham, 2003, 2nd edition, p. 59))

“larger airports are normally in a better position to provide a greater range of commercial facilities for passengers and other consumers and tend therefore to have a greater reliance on non-aeronautical revenues. The International Civil Aviation Organisation (hereafter ICAO) survey found that on average airports with more than 25 million passengers generated 58 percent of their revenue from non-aeronautical sources compared with the sample average of 36 percent.”⁵³ This is especially true in the case of DUS airport. If one assumes that on an average, a passenger at DUS spends \$8.5⁵⁴ at the terminals, then increased number of passengers brings in additional non-aeronautical revenue. An increased passenger number also will lead to better utilisation of other non-aviation facilities of the airport. Non-aviation facilities, which are mostly used by passengers, are the ones, which would expand with growing passenger numbers. They are mainly the car parks, car rentals, and conference facilities. An interesting example of car park facility at the airport can be used to understand this phenomenon. Presently, only about 51% of the terminal car parks are occupied per day (see Figure 12 in the next page).

Figure 10

Hourly occupancy of terminal car parks at DUS airport⁵⁵



Source: Duesseldorf International (2006, car parks)

⁵³ Graham (2003, 2nd edition, p. 60)

⁵⁴ Graham (2003, 2nd edition, p. 147). \$8.5 is taken as an average money spent by a European passenger from the graph ‘Non-aeronautical revenue per passenger at ACI airports by world region, 2001.

⁵⁵ The hourly car park occupancy was calculated for March 12, 2006, which was a Monday

6. **Other Factors:** There are a multitude of other external factors, which contributes to the success or failure of the airport's non-aviation management. Many of these external factors are beyond the control of airport operators; nevertheless knowledge of these factors helps one to better manage the company by minimising the risks arising from them. "One way of conceptualising these factors within an airport environment for airport retailing is via the function: $PB = f(TE, L, PT, RE, PV)$ where
- PB = propensity to buy;
- TE = tax environment (both direct and indirect taxation in the country of destination);
- L = lifestyle (culture, social class, disposable income, leisure time available);
- PT = product types (merchandise mix, range and depth, number of branded goods available);
- PV = perceived value (the utility that accrues to the individual by purchasing or owning the product);
- RE = retail environment (ambience of the airport, accessibility to retail outlets, store design and layout, staff attitudes, and product knowledge)."⁵⁶

3.3 Suggestions for Improvements

After an analysis of DUS airport's non-aviation performance, one would easily accept that there is much scope for improvement in this field. Every improvement is to be made keeping the end customer in mind and designing, marketing and promoting one's products according to his/her requirements.

3.3.1 Customer Portfolio of DUS Airport

As mentioned in Chapter 1, the potential customers of the airport making use of its non-aviation facilities are mainly passengers, airport employees, "meeters and greeters", local residents and the local business community. Out of these, the passengers dominate the market⁵⁷. They tend to be more affluent than the other groups and are prone to give in to shopping either to purchase some essentials or gift items or to dispose of their last foreign currency. At DUS airport, 40% of its passengers tend to be business travellers while the remaining 60% are leisure

⁵⁶ Freathy, P and O'Connell, F (1998, p. 101)

⁵⁷ Graham (2003, 2nd edition, p. 142, pacem)

passengers⁵⁸. Additionally, almost 66% of the passengers have their destination within Europe, 23% travelling to destinations within Germany and the rest 11% are international passengers. This is further confirmed by the travel statistics that show that the top five destinations from DUS airport in 2006 being Munich, Palma de Mallorca, Berlin, London and Antalya. Analysing the traffic structure at DUS airport, one finds that apart from Lufthansa (hereafter LH), the other major airlines operating from the airport are the tourist and low cost carriers. They are namely, LTU, Air Berlin, Deutsche BA (hereafter dba), and Hapag Fly (hereafter HLF). The passengers of these airlines are typical price-sensitive, low-income tourists and leisure travellers. The employees at the airport, which includes the airline employees, airport employees and employees of the companies stationed at the airport, also forms a potential market for the airport's non-aviation entity. Approximately 15,900 people are employed at the airport in more than 220 companies, which are stationed at the airport. The "meeters and greeters" escorting the passengers also contribute significantly to the airport especially by availing the airport's car parking facilities. Finally, the local residents including the visitors and business people tend to go for shopping and the conference facilities at the airport.

Among the travelling population, leisure passengers have shown to have a higher spending profile than business passengers⁵⁹. They tend to give in more to impulse buys and make higher use of catering facilities than the other groups. Within the leisure travellers, long-haul travellers have proven to be higher spenders than the short and medium-haul travellers. However, the new category of leisure passengers, namely, the low cost passengers tend to be more price conscious, therefore not so susceptible to airport shopping as the traditional leisure passengers. Since most low cost airlines do not provide in-flight catering, this group make use of the airport's catering facilities at a higher rate than the rest of the travelling population. The frequently travelling business travellers are the last among the others to go in for airport shopping, as they are usually time-constrained. Moreover, business and first-class passengers tend to make use of airport lounges very frequently and hence are discouraged to browse in retail entities. This fact usually contradicts with the female business travellers who have traditionally shown more interest towards duty-free and tax free shops. Business passengers, on the other hand, are in need of banks, car rentals, hotels and conference facilities. The buying behaviour of the passengers

⁵⁸ Duesseldorf International (2007, Archives)

⁵⁹ Graham (2003, 2nd edition, p. 143 & 144)

differs very much according to demographic factors such as age and nationality. Young travellers who travel frequently make higher use of airport retailing and are extremely brand-conscious. Older travellers, on the other hand, travel less frequently and have a higher disposable income and perfumes have been the favourite item for them. Coming to the spending behaviour based on nationality, the upcoming Chinese travellers have higher disposable income and have shown great demand for luxury products such as watches, jewellery, and perfumes. The Scandinavians are traditionally high spenders at alcohol shops as alcohol is highly taxed in these nations. Japanese travellers have traditionally browsed expensive gift and souvenir shops so as to gift their relatives and friends, however the young Japanese travellers tend to be more price-conscious than the older ones. Americans, although traditionally are driven to consumerism, have shown relatively less affinity towards airport shopping.

3.3.2 International/Regional Brands versus Local Products

Airports in general, especially DUS airport tries to project a clear identifiable image in the eyes of the customers to stay ahead of competition. Hence popular brands such as Tie Rack, Body Shop, Hugo Boss, Tommy Hilfiger have found permanent place in DUS's retail arena. There is a clear advantage in having branded retailers in the airport's shopping centre. Passengers who are not familiar with local customs would instantly recognise popular brands and would be triggered into shopping easily⁶⁰. This also helps the busy passenger by considerably reducing the buying time facilitating the passenger to move on with his other activities. International and regional brands are less price-elastic and hence it appeals to the upscale passengers who are not very price sensitive. They are also in a better position to afford the high concession rates levied by the airport and are not so adversely affected by lack of demand as the normal budget shops. The airport operator in turn is assured of a steady concession income at all times of the year. In addition to placing established and international branded retailers in the airport, the airport should also offer shops that provide a local flair among other retailers. This is particularly important to the airport of DUS, as most of its shops are located landside, which are frequently visited by visitors, pick-uppers and the local community. By providing a local flair of the city, the local residents could be easily attracted to the airport during weekends. Care should also be taken to provide shops of budget category alongside

⁶⁰ Freathy & O'Connell, F (1998, p. 73)

the international brands for passengers who are price sensitive. Since short-haul leisure passengers with a low spending profile dominate the passenger profile of the airport, having shops of budget category is of significant importance to maximise the airport's commercial revenue. DUS airport is also to have something unique for the more than 15,000 employees stationed at the airport if it were to increase its retail revenue considerably. The airport is in high need of departmental stores, food and general supermarkets, convenience stores etc for its employees who works daily at the airport premises. Departmental stores and supermarkets have found place in almost any airport as the airport operators see the employees as potential target market. Care should also be taken to offer sufficient discounts for the employees in order to lure them away from high street shopping. The catering section of the airport should also have a mix of expensive and cheaper entities. A good idea is to open up fast food chains such as McDonalds, Burger King, or Nord See at every terminal, which find acceptance from all income groups and especially appeals to lower income segment⁶¹. This should of course be supplemented by normal restaurants, coffee shops, juice stands etc along the way of passenger movement. The demand for airport catering will increase in future as the trend in Europe points toward increasing number of low-cost travellers who are not offered free in-flight catering. In a survey undertaken by BAA plc, it was seen that 70% of the travellers considered catering very important with the leisure market giving it a much higher rating⁶². A differentiated approach should be followed on the product category, which should be based on changing customer behaviour. A market research undertaken by Generation Databank 2005 shows that there is an increasing demand for perfumes and cosmetics, confectionary and luxury items but a declining demand for tobacco and alcoholic beverages⁶³. The airport presently offers only around 5 shops in the cosmetics category. Based on the findings of the research, one sees a greater demand for increased number of shops in this category.

In short, the objective of the airport should be to develop a balanced portfolio of branded as well as local products keeping an eye on all income groups. It should seek to maximise its retail revenue through a co-ordinated and well-planned retail mix. This means that the retailers who fail to produce sufficient demand should be regularly replaced by new retailers who show greater potential of profitability.

⁶¹ Doganis (1992, p. 147)

⁶² Graham (2003, 2nd edition, p. 142)

⁶³ Generation Databank (as cited in Airport World, Dec 06 – Jan 07, p. 36)

This can only be done by periodically checking the performance of the concessionaires as well as analysing the traffic forecasts, passenger data, changing customer behaviour etc to proactively manage the airport's retail entity⁶⁴.

3.3.3 Airside versus Landside Facilities

A major factor that determines the amount of retail revenue for the airport is the split of available retail space into airside and landside facilities. Airside refers to the area of the airport that is beyond the passport control that is only accessible to a departing passenger with a valid ticket. On the other hand, landside refers to the area before the passport control posing no entry barrier to passengers and visitors alike. To a large extent, this split into airside and landside is pre-determined by the terminal design with less degree of flexibility left for airport managers and retailers to convert it into retail space. It is also very much affected by the commercial strategy followed by the airport and the customer groups which it intend to target. DUS airport, for instance, concentrates heavily on providing landside-shopping facilities by placing its Airport Arkaden with around 40 shops just behind the check-in counters in the departure hall. There are hardly a few shops left in the airside and arrival section of the airport. In contrast, Amsterdam' Schiphol airport has hardly any retail shops prior to passport control⁶⁵.

There are specific advantages and disadvantages in strictly adhering to both of the above-mentioned strategies. The advantages for DUS include having been able to target a wider group of potential customers ranging from passengers, pick-uppers, airport employees, visitors and local residents to its shopping facilities. A steady flow of sales is ensured due to the less dependency on air-traffic at the airport. It is also proven that some retailers perform better when placed in the landside due to the wide range of customers. Nevertheless, it is the sales from the airside, which still accounts for greater amount of retail revenue despite the abolition of intra-EU duty free and tax-free sales. This fact is augmented with the increasing number of security measures imposed at the airports increasing the handling time per passenger considerably. As a result of these security measures, passengers are less likely to spend time browsing at the landside shopping facilities instead move on to the security checks. Once they are relieved of the passport control and security checks, they might go in for shopping provided they have time and options available at the

⁶⁴ Freathy, P and O'Connell, F (1998, p. 75)

⁶⁵ Doganis (1992, p. 137)

departure gates. “A study of fifteen airports of varying size in Europe in 1998 showed that on average landside shops occupied 37 percent of airport’s retail space but only 22 percent of total sales. Airside sales per square metre were 6.8 times greater than in landside shops, and sales per passenger were 32 times greater.”⁶⁶

Assuming that the security measures become more and more stringent in the future, it would be a wise decision for the airport to convert more of its airside space into retail areas. Care should also be taken to offer a differentiated product-mix between Schengen and Extra-Schengen areas of the airport. Luxury products such as jewellerys and boutiques are a good option for Extra-Schengen areas where the passengers are long haul and transit passengers with a higher spending profile⁶⁷. A crucial question arises about how much should be offered at the arrival area. Traditionally, the arrival halls offered banks, car-rentals, and hotel desks for arriving passengers, and sweetshops, and catering outlets for pick-uppers⁶⁸. There is an increasing awareness to offer more at this area. The table 5 gives a list of suggested items that could be offered at various sites at the airport.

Table 5

Ideal placement of outlets within a terminal: airside versus landside areas

Departure hall landside	Departure hall airside	Arrival hall
Gourmet shop	Duty-free shops	Pharmacy
Bars/restaurants/food court	Bars/restaurants	Bars/restaurants
Hairdresser	Last minute duty-free shops	Information point
Thematic shops (related to the distinctive products of the catchment area)	Jeweller	Hotel point
Fashion stores	Money changer	Bank
News-stand		Miscellaneous
		Florist
		Car rental

Source: Jarach 2002 (as cited in Jarach, 2005, p. 78)

⁶⁶ Graham (2003, 2nd edition, p. 146)

⁶⁷ Jarach (2005, p. 78)

⁶⁸ Doganis (1992, p. 139)

3.3.4 Pricing Strategy

The pricing strategy followed by the airport operators directly influences its non-aviation revenue. Airport pricing varies from country to country and from airports to airports and is influenced by a variety of factors such as margins negotiated by the suppliers, the prices of the competitors, and in case, where there is a heavy reliance upon a particular route, the prices at the destination⁶⁹. The concessionaires have to incur very high costs to do business at airports. A major portion of costs is personal costs arising out of longer opening hours many at times requiring two or three shifts per day⁷⁰. In addition, the retail shops have to be open on weekends and public holidays; this also leads to high staff costs for the concessionaire. Concessionaires also have to bear additional costs such as costs of merchandising, store layout and other operational costs, which have to be borne by them alone⁷¹. Although the airport operators traditionally provided all shop fittings, such practices are uncommon these days with the airport operator's main task being to rent out space. Apart from these facts, there exists a potential conflict of interest between the airport operator and the concessionaire regarding the retail pricing policy. The concessionaire tends to prefer higher prices and higher profit margins even if this means lower sales volume. The airport operator prefers to have high turnover and high sales volume since the concession fee is usually a percent of the sales. Due to these reasons, the customer normally is faced with very high prices often repelling him from airport shopping.

Price is the key reason for the non-willingness of the passengers to do airport shopping. There is a general perception among the people that airport shopping is nearly always more expensive than high street shopping. In Germany, landside shopping is considered expensive by many Germans due to the monopoly position the airports had over weekend shopping as high street retailers were forced to close on weekends⁷². In a survey undertaken by BAA plc on the factors for the non-willingness of the passengers for airport shopping, it was found out that the price played a key role in the passenger's decision shopping⁷³. 12% of the sample surveyed claimed that they would shop if the prices were reduced by a tenth. 47% of them, mainly comprising the leisure passengers, claimed they would shop if the prices

⁶⁹ Freathy & O'Connell (1998, p. 113)

⁷⁰ Doganis (1992, p. 145, *pacem*)

⁷¹ Freathy & O'Connell (1998, p. 51)

⁷² Freathy & O'Connell (1998, p. 113)

⁷³ Graham (2003, 2nd edition, p. 143)

were reduced by a quarter. A 22% of them would be induced into shopping if they had the prior knowledge of the prices.

Owing to the above-mentioned factors, DUS airport should ensure that the prices are low enough to stimulate demand for the customers. The airport should see to it that the prices of its landside shops and restaurants are not higher than the city centre shops⁷⁴. In the airside shops, the profits from duty-free and tax-free shops should be transferred to the passengers so as to give them good value for their purchases. The airport should also monitor the pricing policy of the concessionaires regularly in order to give the passengers the best possible deal. A competitive pricing policy is to be followed for other non-aviation entities of the airport, namely, the conference facilities, car parks, and logistic facilities of the airport. Here a lenient pricing strategy ensures a steady flow of business by enticing the customer to use the airport facilities instead of city centre facilities. This is especially true in the case of conference facilities where the airport faces stiff competition from other service providers such as Duesseldorf Messe. The new logistic project of the airport, i.e. the DUS Airport City would have to start off with lower rents to bring in more companies into using its property. As demand increases, the rents may be increased to stabilise the demand.

3.3.5 Promotional Strategy

The promotional strategy of an airport aims to communicate the value of an airport, and highlight its principal features to the target market and bring in additional financial return by stimulating sales. The airport operator has a range of options to promote its products to its end customer. These include advertising, publicity, packaging, direct selling, and so on. The promotional mix adopted by an individual airport depends upon the target market, the message it wants to convey, the costs involved, and the effective control and measurement of the outcome⁷⁵. Given below are some of the promotional measures that could be undertaken by DUS in order to maximise its commercial sales⁷⁶:

1. **Catalogues:** Catalogues with detailed information on the airport's retailing and other non-aviation offer are a significant way of informing the potential customers. They could be printed and mailed directly to the frequent travellers or

⁷⁴ Doganis (1992, p. 145)

⁷⁵ Crosier, 1994 (as cited in Freathy & O'Connell, 1998, p. 116)

⁷⁶ Freathy & O'Connell (1998, p. 118, 119, and 120, pacem)

distributed through the airport's information points, travel agents or the network offices of the home based airline. In this way, the potential customer gets prior information on the products and the prices that enable him to make buying decisions on time.

2. **Internet:** The vast usage of the World Wide Web (WWW) makes it an effective tool to promote the airport's products and services. The airport official website has been used to advertise its non-aviation products to the public. Apart from the product and location details, detailed information on the prices could also be given to facilitate the customer to make purchases. The aim of the airport should be that its online customers would spend greater amount of time browsing its website. Research shows that the more time a customer spend on the website of the company, the greater are the chances for him to buy the company's products. This could be done by keeping the online customers engaged by offering them online entertainment such as riddles, quizzes, puzzles etc where the winner could be awarded free shopping vouchers or special discounts from the duty-free shops.
3. **Billboards:** Billboards are a cheap and effective way of promotion and has a wider coverage than other promotional tools. They could be placed outside the terminals, inside the car parks, in the airport railway station and in the city centre and provide awareness to the general public on the airport's commercial facilities. Due to their huge sales impact, they also help to expand the commercial catchment area of the airport.
4. **Local media:** Local media comprising the local TV, radio, newspapers and magazines is undoubtedly the best way to inform the local community on the airport. The DUS airport magazine usually has a column on the airport's non-aviation offer and is an effective way to inform the travellers and the local residents. By increasing its circulation in the neighbouring communities, it could be used as a promotional as well as a publicity tool to bridge the gap between the airport and its neighbours.
5. **In-flight magazines:** Although expensive, the in-flight magazines of the airlines can be used to advertise the airport's commercial offers among the passengers. Since the airport's commercial facilities is many at times viewed by the airlines as an obstacle against timely boarding/unloading of passengers, this tool cannot be always relied upon by the airport. In spite of this, airports and airlines (especially low-cost carriers) are seen these days to combine some of their marketing efforts in order to obtain cost synergies for both the parties. The former gains by

attracting more passengers to the airport while the latter benefits from getting their marketing efforts financed partly by the airport.

6. **Indirect promotion:** The airport is able to indirectly communicate with the passengers through the travel agents and tour operators. Although travel agents are increasingly being replaced by Internet sales, the airport could still rely on them to market its products and services. This is because most of the corporate companies and businesses still book their tickets through their in-house travel management companies. Hence by combining the marketing efforts of the airports with them, the airport can easily communicate with the business people its retailing and conference facilities.
7. **Airport Loyalty Programs (ALPs):** Although a complex process, the implementation of an airport loyalty scheme or so-called ALPs has their sales advantages⁷⁷. Like all other loyalty programs, it aims to maximize sales by purchasing the loyalty of its potential customers. The airport ALPs are complex since they require the full co-operation of all the concessionaires who in most cases act on a stand-alone and conflicting basis. Nevertheless, when both the parties work together in a transparent and harmonious manner, the ALPs could be realized to bring in a win-win situation for them. The ALPs work by offering its registered members the chance to collect and redeem points in every point of shopping, car-rental services, lounges, car parks, visitor terraces and so on. Frequent travelers and other users of the airport could be encouraged to enroll for the ALPs who in turn be rewarded with a catalogue of gifts, free flights, free lounge access or other services based on the points collected. By winning the loyalty of these groups, the airport can influence its non-aviation revenue as well as differentiate itself from other competing airports.

⁷⁷ Jarach (2005, p. 92 and 93)

4 Future Outlook and Conclusions

Started in the 1980s, the diversification of airports into non-aviation areas has crossed two decades. Although initially, the idea was not received well by many airport managers, nowadays most airports have developed their own non-aviation facilities to supplement their core airport operations. The fact that smaller and regional airports also stepped into this lucrative market itself is a precise indicator that the overall trend in the industry tends to be towards increased involvement of non-aviation in airport operations. As mentioned in the previous chapters, growing passenger numbers, increasing passenger demands, and diminishing aeronautical revenues over the decades facilitate this shift towards non-aviation.

Duty-free and tax free shopping dominate the non-aviation revenues of the airports. Research undertaken by ICAO later compiled by ACI shows that non-aviation revenues where duty-free is a major component accounts for about 50% of the total revenues of Europe's gateways and 58% of North America.⁷⁸ This phenomenon is further affirmed by Mark Riches, managing director of World Duty Free (WDF)⁷⁹, "I think the overall trend in our industry is positive, it is a growth sector and is largely driven by the growth in the number of passengers traveling."⁸⁰

The importance of non-aviation cannot be underestimated for airport DUS. Ever since the proud airport of NRW lost its enviable position in Germany's air travel market and substantial revenue lost due to growing competition in ground handling sector, it has strived to enhance its non-aviation product. During the Hamburg Aviation Conference in 2006, this fact was stated clearly when the then CEO of DUS airport, Mr. Rainer Schwarz clearly declared non-aviation as one of its core competences of the airport and not an item to be outsourced⁸¹.

The airport DUS has a multi-faceted and varied non-aviation product portfolio. It has developed its services in almost every area of non-aviation market. The airport has everything from highly sophisticated retail market, abundant underground parking facilities, extensive travel market, visitor terraces to modern conference facilities and many more. The newly emerging DUS Airport City with its Maritim hotel promises significant revenues in the coming years. The fact that the

⁷⁸ Airport World (Dec 06 – Jan 07, p.32)

⁷⁹ WDF, the wholly owned subsidiary of BAA is responsible for running the duty and tax free shops in Heathrow, Stansted and Gatwick airports.

⁸⁰ Riches (2007, as cited in (Airport World, 2007, p. 32))

⁸¹ Schwarz (as cited in (Hamburg Aviation Conference 2006, p. 11))

airport has since long time engaged in active dialogues with the environmental groups proves that it can sell its expertise to similar ailing airports in this particular area.

However, the success of the airport's non-aviation is determined by various factors such as growing passenger numbers and by understanding the requirements of various groups in order to provide the right product mix. The expansion of non-aviation in the future is highly determined by the availability of floor space in the terminals or sites inside the airport boundary. Smaller airports with inadequate floor space have to often limit their activities to air traffic operations. Finally, "it all comes back to front line service levels".⁸² Therefore, the airport needs to invest in training and motivating their staff regularly to do well in the long run.

The growth of non-aviation is also not devoid of external threats. The present security issues are the biggest threat to the development of retail activities at the airports. Passengers who are unsure about what they can take on-board are usually reluctant to do airport shopping. Frank O'Connell, the President of European Travel Retail Council (ETRC) asserted that the security rules which lead to transit passengers having their tax-free goods confiscated is the greatest ever threat to airport retailing.⁸³

After studying the overall trend towards growing non-aviation importance for the airports, taking DUS airport as an example, it can be concluded that airports that ignore this opportunity and/or mismanage their non-aviation facilities do so at their peril. An appropriate emphasize given to this growing lucrative sector will ensure significant cash-inflows for the airports in the coming years.

⁸² Riches (2007, as cited in (Airport World, 2007, p. 34))

⁸³ O'Connell (2007, as cited in (Airport World, 2007, p. 34))

References

- Andrews, T. (2006, December-January). Nobody does it better. *Airport World*, 11.
- Doganis, R. (1992). *The airport business*. London: Routledge
- Duesseldorf International (n.d.). *Annual Report 2005*. Retrieved December 18, 2006, from http://www.duesseldorf-international.de/d/11_b_to_b/geschaeftsbericht/DUS_GB_2005_d.pdf
- Duesseldorf International (n.d.). *Shops and Restaurants*. Retrieved January 5, 2007, from http://www.duesseldorf-international.de/d/index.php?type=index&path=08_mediencenter
- Duesseldorf International (n.d.). *Infos & Service*. Retrieved January 5, 2007, from http://www.duesseldorf-international.de/d/index.php?type=index&path=04_infos_service&jumpto=Zuschauerterrasse
- Duesseldorf International (2007). *Duesseldorf International auf einen blick*. Retrieved February 1, 2007, from http://www.duesseldorf-international.de/d/index.php?type=index&path=08_mediencenter
- Duty Free World Council (2007). *Significant increase in non-aeronautical revenue to airports*. Retrieved February 7, 2007, from <http://www.dfworldcouncil.com/main.php?s=box4.htm>
- Duty Free World Council (2007). *Sale at airports % share*. Retrieved February 7, 2007, from <http://www.dfworldcouncil.com/main.php?s=slide8.htm&m=airports.php&cg=1&d=AIRPORTS>
- Duty Free World Council (2007). *Sale at airports % share by region*. Retrieved February 7, 2007, from <http://www.dfworldcouncil.com/main.php?s=slide12.htm&m=europe.php&cg=2&d=EUROPE>
- Ehmer, H. & Heidelmeier, T. (2006, October). *Environmental restrictions and efficiency of airports-the case of slot restrictions at Duesseldorf airport*. Retrieved December 30, 2006, from http://wip.tu-berlin.de/typo3/fileadmin/documents/infraday/2006/papers/ehmer-coair2006-praes-Environmental_restrictions-v01-04_10_2006.pdf
- Frankfurt Airport (n.d.). *Business*. Retrieved March 2, 2007, from <http://www.airportcity-frankfurt.de/cms/default/rubrik/9/9347.htm>
- Freathy, P. & O'Connell, F. (1998). *European airport retailing: Growth strategies for the new millennium*. Hampshire, United Kingdom: Macmillan Press Ltd.
- Flughafen Duesseldorf Immobilien. (n.d.). *Duesseldorf airport city: At the centre of success*.

- Graham, A. (2003). *Managing airports: An international perspective*. (2nd ed.). Oxford, United Kingdom: Butterworth-Heinemann.
- Hamburg Airport (n.d.). *Airport Plaza*. Retrieved March 2, 2007, from http://www.ham.airport.de/de/shopping_plaza.html
- IATA (n.d.). *The air transport industry since 11 September 2001*. Retrieved January 15, 2007, from <http://www.iata.org/nr/rdonlyres/92fc0755-1d63-4931-a983-847cc1ea897a/0/airtransportsince911.pdf>
- Jarach, D. (2005). *Airport marketing: Strategies to cope with the new millennium environment*. Hampshire, United Kingdom: Ashgate Publishing Limited.
- Kasper, D. M. (2002, March). *The aftermath of 9/11: Implications for airline industry structure and competition*. Retrieved January 15, 2007, from <http://web.mit.edu/airlines/www/conferences/DC-2002/documents/15-DC2002-Kasper.pdf>
- Koeln Bonn Airport (n.d.). *Annual Report 2005*. Retrieved December 18, 2006, from http://www.koeln-bonn-airport.de/data/files/downloads/geschaeftsbericht_dt.pdf
- Makinen, G. (2002, September). *The economic effects of 9/11: A retrospective assessment*. Retrieved January 15, 2007, from <http://www.fas.org/irp/crs/RL31617.pdf>
- Munich Airport (n.d.). *Municon: Tagen im flughafen Muenchen*. Retrieved March 2, 2007, from <http://www.munich-airport.de/DE/Areas/municon/index.html>
- Munich Airport (n.d.). *Visitors´ park*. Retrieved March 2, 2007, from <http://www.munich-airport.de/EN/Areas/Consumer/Erlebnis/Besucherpark/index.html>
- Oechsle, M. (2005). *Erweiterungen von geschäftsfeldern im non-aviation bereich an europaeischen flughaeften unter besondere beruecksichtigung des standorts Muenchen*. Munich: Herbert Utz Verlag.
- Schwarz, R. (2006, February). *Duesseldorf International airport: Managing Turnaround in times of severe slot shortage*. Retrieved December 30, 2006, from http://www.hamburg-aviation-conference.de/pdf/present2006/Session4b_Dr_Rainer_Schwarz.pdf
- Stuttgart Airport (n.d.). *Helicopter Tours*. Retrieved March 2, 2007, from http://www.flughafen-stuttgart.de/en/content.php?id=7048submenu_id=7