

Unit 16: Airline and Airport Economics

Unit code:	Y/504/2290
QCF Level 3:	BTEC Nationals
Credit value:	7
Guided learning hours:	42

● Aim and purpose

The aim of this unit is to introduce learners to the commercial nature of airlines and airports and how they generate revenue to cover costs and remain commercially viable.

● Unit introduction

Supply and demand are the basics of economics and this is where this unit starts. Once the basics of supply and demand are understood, learners will be able to apply this knowledge to airports and airlines and ascertain what current or ongoing issues may affect or change both supply and demand within aviation.

Learners will then investigate the important role of costs for airports and airlines and the important role this plays in aviation organisations not only competing but remaining profitable in this dynamic industry.

Revenue strategies will be investigated and learners will appreciate how airports and airlines set their prices and the techniques they use to improve revenue streams to remain competitive.

● Learning outcomes

On completion of this unit a learner should:

- 1 Know the nature of supply and demand for airline services
- 2 Know the nature of supply and demand for airport services
- 3 Understand the factors that affect aviation costs
- 4 Understand how airports and airlines develop revenue strategies.

Unit content

1 Know the nature of supply and demand for airline services

Supply economics:

- supply curves and shifts
- elasticity
- factors affecting supply, e.g. economic activity, competition

Airline supply economics:

- aircraft type considerations, e.g. payload, range, operating costs, unit cost per seat
- supply planning, e.g. fares and conditions, service levels, route structures

Demand economics:

- demand curves and shifts
- elasticity

Determinants of demand:

- concept of derived demand
- factors affecting demand for airline services, e.g. price, competition, income levels, economic activity

2 Know the nature of supply and demand for airport services

Supply economics:

- supply curves and shifts
- elasticity
- factors affecting supply, e.g. population, competition

Airport supply economics:

- facilities available, e.g. to airlines

Demand economics:

- demand curves and shifts
- elasticity

Determinants of demand:

- concept of derived demand
- factors affecting demand for airports, e.g. location, catchment area, characteristics of the airport, competition

3 Understand the factors that affect aviation costs

Factors affecting airport costs:

- external issues, e.g. demand, terrorism, utilities
- internal issues, e.g. marketing and financial policies, airport development, staffing levels, cost control issues

Factors affecting airline costs:

- external issues, e.g. fuel price, demand, terrorism
- internal issues, e.g. aircraft acquisition, level of service, staffing levels, marketing and financial policies, cost control issues

Airline and airport development funding:

- share issue
- reserves
- loans
- public finance
- leasing

4 Understand how airports and airlines develop revenue strategies

Price setting – airports:

- government airport charging policy
- cost related
- competition related
- aeronautical and passenger related
- total income, e.g. commercial income

Price setting – airlines:

- pricing economics, e.g. price mechanism, price discrimination, price equilibrium, skimming, penetration
- fare structures, e.g. International Air Transport Association (IATA), low cost, charter
- cost related
- competition related

Revenue improvement strategies:

- airline yield and revenue management techniques
- airline interlining and code sharing
- airport charging techniques
- maximising airport commercial revenue

Assessment and grading criteria

In order to pass this unit, the evidence that the learner presents for assessment needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria for a pass grade describe the level of achievement required to pass this unit.

Assessment and grading criteria			
To achieve a pass grade the evidence must show that the learner is able to:	To achieve a merit grade the evidence must show that, in addition to the pass criteria, the learner is able to:	To achieve a distinction grade the evidence must show that, in addition to the pass and merit criteria, the learner is able to:	
P1 Describe the nature of supply for airline services	M1 Compare the supply and demand characteristics of different types of airports and airlines	D1 Analyse how the supply and cost factors of a specific airport are used to determine price	
P2 Describe the nature of demand for airline services			
P3 Describe the nature of supply for airport services			
P4 Describe the nature of demand for airport services			
P5 Summarise factors affecting airport costs	M2 Discuss how different types of airports and airlines control costs		
P6 Summarise factors affecting airline costs			
P7 Explain how airline and airport development is funded			
P8 Explain how airports set their prices	M3 Examine the use of pricing strategies to improve revenue for different types of airports and airlines		D2 Analyse the benefits of being part of an airline alliance in reducing costs and increasing revenue
P9 Explain how airlines set their prices			
P10 Review strategies taken to improve revenue [IE]			

PLTS: This summary references where applicable, in the square brackets, the elements of the personal, learning and thinking skills applicable in the pass criteria. It identifies opportunities for learners to demonstrate effective application of the referenced elements of the skills.

Key	IE – independent enquirers CT – creative thinkers	RL – reflective learners TW – team workers	SM – self-managers EP – effective participators
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Essential guidance for tutors

Delivery

Economics, in general, is about the relationship between supply and demand. This impacts greatly on both airports and airlines in matching their own supply to the market demand. Too much supply can be costly to the provider, too much demand can be an opportunity missed. A range of learning styles can be catered for in this unit, as much of the content may be covered practically, with supporting materials. Learners will need to understand economic theory and its practical application within the airport and airline industry. Airport or airline business simulations can be used as necessary to add a further dimension to delivery of this subject. Debates on topical issues and role play should be encouraged. Guest speakers and visits to airport and airline organisations would help learners to understand the practical application of economics in an airport and airline environment.

Learning outcome 1 looks at the nature of supply and demand and shifts in demand, for example after terrorist attacks committed in United State of America on 11th September 2001. These all affect airlines and influence what type of aircraft they operate, from which airports and at what price.

Learning outcome 2 shows that airports are affected in a similar way but this may be about what facilities they make available, given their location and catchment area, for the airlines they support. Learners can progress to the higher grades by comparing supply and demand for different types of airport and airline, for example comparing London Heathrow (LHR) with East Midlands Airport (EMA).

For learning outcome 3, learners need to know the factors that affect airport and airline costs. Learners should be given the opportunity to explore both external and internal issues and examine a range of examples. This learning outcome asks learners to explain the different methods of funding for airlines and airports. These can be the same methods for both. The higher grades can be achieved by discussing how the different airlines and airports control their costs. An example would be by 'hedging' when buying fuel – i.e. buy fuel in advance when prices are low or buy \$USs in advance to pay for the fuel when the exchange rate is to the airline's benefit. The distinction criterion requires an analysis of how the supply and cost factors of a specific airport are used to determine price. A good example would be LHR which has little or no supply available as it is currently working to capacity. This means that it does not have to offer incentives to attract business and, as there is a waiting list of airlines wanting to fly to LHR, its prices can remain the highest in the country.

Learning outcome 4 requires learners to understand how airports and airlines set their prices and what measures they can take to improve revenue. Examining how these measures are actually used by different airlines and airports will lead learners towards the merit. Learners need to be given the opportunity to analyse the benefits of being part of one of the three Global Airline Alliances and how this membership can help to reduce costs and increase revenue.

Outline learning plan

The outline learning plan has been included in this unit as guidance and can be used in conjunction with the programme of suggested assignments.

The outline learning plan demonstrates one way of planning the delivery and assessment of this unit.

Topic and suggested assignments/activities and/assessment
Introduction and overview of the unit and its four learning outcomes.
Review of the unit assessment methods, along with timescales and hand-out and hand-in dates.
Investigation and practical activities on supply and demand economics.
Class discussion into factors that affect supply for airlines.
Investigation into airline supply planning, economics and performance.
Class discussion into factors that affect demand for airline services.
Class discussion into factors that affect airport supply economics.
Small-group discussions investigating what creates demand for airports.
Preparation for assignment
Assignment 1: Airports and Airlines – Supply and Demand (P1, P2, P3, P4, M1)
Feedback on assignment
Investigation into factors affecting airport costs.
Group discussion to summarise factors that affect airline costs.
Tutor-led discussion to understand the different methods of development funding for airlines and airports.
Preparation for assignment
Assignment 2: Airport and Airlines – Costs and Funding (P5, P6, P7, M2, D1)
Feedback on assignment
Tutor-led investigation into how airports set their prices – aeronautical and commercial.
Investigation into different price setting economics for airlines and fare structures.
Tutor-led investigation into revenue improvement strategies.
Preparation for assignment
Assignment 3: Airport and Airlines – Pricing and Improving Revenue (P8, P9, P10, M3, D2)
Feedback on assignment

Assessment

There are a number of assessment opportunities presented by the subject matter in this unit. Suggestions include an assignment, a written report and a presentation.

P1 – P2 – P3 – P4 – M1

To achieve P1, learners need to describe the nature of supply for airline services, illustrating a supply curve, shift and elasticity and giving airline examples of what may cause the shift in supply, for example fuel prices. To achieve P2, learners need to describe the nature of demand for airline services, illustrating a demand curve, shift and elasticity and giving airline examples of factors which may affect demand, for example price and income levels.

To achieve P3, learners should describe the nature of supply for airport services, illustrating a supply curve, shift and elasticity and giving specific examples relating to supply for airports, for example size, facilities. To meet P4, learners should describe the nature of demand for airport services, illustrating a demand curve, shift and elasticity considering an airport's location, catchment area, competition and physical characteristics, for example runway length may affect size of aircraft capable of using airport thereby affecting demand. Learners should achieve P1–P4 by researching specific examples.

To achieve M1, learners need to compare the supply and demand characteristics of different types of airport and airline. This could be through creating comparative lists of plus points and negatives for two different types of airport and two different types of airline.

P5 – P6 – P7 – M2

To achieve P5, learners need to summarise the factors affecting airport costs, for example benefits of being part of a consortium such as BAA. Internal and external issues should be covered with a minimum of two examples of each.

To achieve P6, learners need to summarise the factors affecting airline costs, again both external and internal issues should be covered with a minimum of two examples of each.

To achieve P7, learners need to explain how airline and airport development is funded. The items in the unit content may apply to both airline and airport and there is no need for duplication if this is the case, but learners should cover all the unit content.

To achieve M2, learners should discuss how different types of airport and airline control costs. For an airport this may be contracting out some of their services, for example baggage handling or the marketing function, and for airlines this may be done within the pricing structure, for example scheduled low-cost airlines start with a base ticket price (minimal cost) and add on all extras whereas a scheduled full service airline may include the majority of these costs within their ticket price.

D1

D1 leads on from P1 to M2. To achieve D1, learners should analyse how the supply and cost factors of a specific airport are used to determine price for airlines and associated aviation companies, for example LHR has little supply but their costs for infrastructure, rates, and staff will almost certainly be higher than other parts of the country. These factors will contribute to determining prices.

P8 – P9 – P10 – M3 – D2

To achieve P8, learners need to explain the factors that contribute to an airport's pricing structure. These will vary from airport to airport, for example the Government Airport Charging Policy applies maximum charges that the major airports such as London Heathrow or London Gatwick can make but some of the smaller regional airports would not be competitive if they applied the same charges.

To achieve P9, learners need to explain the issues that could affect an airline's fares, again these will change for different types of airline, for example a scheduled low-cost airline has no minimum or maximum fare and will set their fares according to demand which may be affected by competition from another airline.

To achieve P10, learners need to review strategies used by airlines and airports to improve revenue. Learners must cover all those listed in the unit content, two strategies for airlines and two strategies for airports.

To achieve M3, learners should expand P10 to examine which type of strategy may be used by different types of airline and airport, for example full service scheduled airlines may use airline interlining and code sharing strategies and learners should consider how this airline uses these strategies.

To achieve D2, learners need to analyse how being part of a Global Airline Alliance can reduce costs and improve revenue. This is more than code sharing, for example it could be non-competitive schedules, sharing maintenance facilities or sales teams.

Programme of suggested assignments

The table below shows a programme of suggested assignments that cover the pass, merit and distinction criteria in the assessment and grading grid. This is for guidance and it is recommended that centres either write their own assignments or adapt any Edexcel assignments to meet local needs and resources.

Criteria covered	Assignment title	Scenario	Assessment method
P1, P2, P3, P4, M1	Assignment 1: Airport and Airlines – Supply and Demand	Working for an airport business development team; produce training materials for new corporate staff that may be new to aviation, to brief them on the supply and demand for both airports and airlines.	Report and presentation
P5, P6, P7, M2, D1	Assignment 2: Airport and Airlines – Costs and Funding	Working for an airport business development team; produce training materials for new corporate staff that may be new to aviation, to brief them on airport and airline costs and funding future development.	Report and presentation
P8, P9, P10, M3, D2	Assignment 3: Airport and Airlines – Pricing and Improving Revenue	Working for an airport business development team; produce training materials for new corporate staff that may be new to aviation, to brief them on the pricing of airport and airline services and the measures that can be taken to improve revenue.	Report and presentation

Links to other BTEC units

This unit forms part of the BTEC aviation sector suite. This unit has particular links with the following unit titles in the aviation suite.

Level 2	Level 3	Level 4
n/a	Unit 1: The UK Aviation Industry Unit 11: E-business for Airlines Unit 14: Airport and Airline Commercial Operations	n/a

Essential resources

Learners must have access to published resources and the internet.

Employer engagement and vocational contexts

The use of guest speakers, visits and relevant industry materials used will be invaluable to enhance the delivery of this unit.

Indicative reading for learners

Textbooks

Doganis R – *Flying Off Course: Airline Economics and Marketing, 4th Edition* (Routledge, 2009)
ISBN 978-0415447379

Doganis R – *The Airline Business* (Routledge, 2005) ISBN 978-0415346153

Graham A – *Managing Airports: An International Perspective* (Butterworth-Heinemann, 2008)
ISBN 978-0750686136

Journal

Flight International – Reed Business Publishing

PC games

Airport Simulator

Airline Tycoon

Websites

www.baa.com

BAA Airports – airport operator

www.britishairways.com

British Airways – airline

www.caa.co.uk

Civil Aviation Authority – UK aviation regulator

www.manchesterairport.co.uk

Manchester Airports Group (MAG) – airport operator

www.ryanair.com

Ryanair – airline

Delivery of personal, learning and thinking skills

The table below identifies the opportunities for personal, learning and thinking skills (PLTS) that have been included within the pass assessment criteria of this unit.

Skill	When learners are ...
Independent enquirers	planning, and carrying out, a review of strategies taken by airlines and airports to improve revenue.

Although PLTS are identified within this unit as an inherent part of the assessment criteria, there are further opportunities to develop a range of PLTS through various approaches to teaching and learning.

Skill	When learners are ...
Independent enquirers	investigating the nature of supply and demand for airline and airport services
Creative thinkers	illustrating the nature of supply and demand of airline and airport services including curves, elasticity and shifts in demand
Self-managers	managing their assessment.

● Functional Skills — Level 2

Skill	When learners are ...
ICT — Use ICT systems	
Select, interact with and use ICT systems independently for a complex task to meet a variety of needs	researching and presenting information on the nature of supply and demand for airlines and airports
Use ICT to effectively plan work and evaluate the effectiveness of the ICT system they have used	planning and carrying out a review of strategies used to improve revenue
Manage information storage to enable efficient retrieval	organising own work into folders to enable retrieval and development
Follow and understand the need for safety and security practices	logging in to a variety of systems securely and visiting trusted websites
Troubleshoot	as required
ICT — Find and select information	
Select and use a variety of sources of information independently for a complex task	exploring the nature of airline and airport supply and demand
Access, search for, select and use ICT-based information and evaluate its fitness for purpose	using appropriate search criteria to investigate the elasticity of supply and demand and shift factors
ICT — Develop, present and communicate information	
Enter, develop and format information independently to suit its meaning and purpose including: <ul style="list-style-type: none"> • text and tables • images • numbers • records 	entering and developing images, diagrams and text to describe the nature of airline and airport supply and demand
Bring together information to suit content and purpose	collating notes and research findings to present information coherently on supply and demand
Present information in ways that are fit for purpose and audience	presenting supply and demand information clearly and accurately for management staff
Evaluate the selection and use of ICT tools and facilities used to present information	selecting the most appropriate ICT tools to incorporate supply and demand curves into a report

Skill	When learners are ...
Mathematics	
Understand routine and non-routine problems in a wide range of familiar and unfamiliar contexts and situations	describing the nature of airline and airport supply and demand explaining how airports and airlines set their prices
Identify the situation or problem and the mathematical methods needed to tackle it	explaining how airlines and airports set their prices
Select and apply a range of skills to find solutions	
Use appropriate checking procedures and evaluate their effectiveness at each stage	
Interpret and communicate solutions to practical problems in familiar and unfamiliar routine contexts and situations	
Draw conclusions and provide mathematical justifications	reviewing strategies taken to improve revenue
English	
Speaking and listening – make a range of contributions to discussions and make effective presentations in a wide range of contexts	discussing the nature of airline and airport supply and demand
Reading – compare, select, read and understand texts and use them to gather information, ideas, arguments and opinions	reading research into factors that affect supply and demand for airlines and airports
Writing – write documents, including extended writing pieces, communicating information, ideas and opinions, effectively and persuasively	writing a report on revenue strategies used by airlines and airports